Planning Application for a Large-scale Residential Development (LRD) Land at Former Ford Distribution Site, fronting onto Centre Park Road, Ballintemple, Cork



VOLUME III LRD EIAR

PART 02 of 02

Appendices 9.1 – 14.1

McCutcheon Halley
CHARTERED PLANNING CONSULTANTS

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APPENDIX 9.1

Surface Water Assessment

Glenveagh Properties PLC
Block C,
Maynooth Business Campus,
Straffan Road,
Maynooth,
Co. Kildare

Our Ref: 40000324.L03.A0
24 October 2024
CONFIDENTIAL

To whom it may concern,

Glenveagh Marina Quarter - Surface Waters Assessment

1.0 INTRODUCTION AND BACKGROUND

WSP Ireland Consulting Limited (WSP) has been engaged by Glenveagh Properties PLC (Glenveagh) (the "Client") to provide environmental consultancy support for the Marina Quarter residential development at Ballintemple, Cork City, Co. Cork (the "Site").

The proposed development will occur at a site on the eastern end of the South Docklands, bounded to the north-west by Centre Park Road, to the north-east by Lee Rowing Club, and the Marina Road, to the south-west by Marquee Road, and to the south-east by Marina Park. The site is located within the former Ford Distribution Site.

The Project includes the development of the following:

The proposed development will consist of 1002 residential units, and ca. 4,500 sq.m. of mixed uses, in 12 blocks, ranging in height from four to fourteen storeys. Blocks one to twelve include commercial and community facilities, including the provision of five retail units, one Montessori school, one creche, a medical centre, bar, café, venue and performance area, two community resource spaces and ancillary signage.

As part of this work WSP completed water monitoring across the Site and at down gradient surface water receptors i.e. the Atlantic Pond and Cork Harbour (River Lee). The monitoring was completed over the period August 2023 to September 2024, in accordance with requirements set down in proposal 40000279.P1.V0 dated 02/06/23 and 40000324.P2.V0 dated 16/02/24. The monitoring programme was designed to complete surface water monitoring of the receiving waters over the enabling (earth works) programme to monitor for potential impacts during these works. The monitoring programme was scheduled prior to, during and after the enabling works.

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Registered in Ireland No. 302231 - Statutory Directors: M Naysmith (British), M Barnard (British), J Hughes (Irish) and C Hodgson (British)

2.0 SITE SETTING

The Site is located within the Cork city docklands area, circa 2.4 km east of Cork city centre, approximately 50m from the River Lee at its most Northern Point. The Site location and the surrounding water courses are shown on Drawing 01. The Surface water monitoring locations are also shown on Drawing 01.

3.0 SCOPE OF WORKS

The agreed scope of works is as follows:

- Complete surface water monitoring at the Site, and at nearby receiving waters; and
- Complete a report that outlines the surface water quality on Site and at receiving waters and presents a baseline of the surface water quality prior to, during, and after the enabling works for the Site.

4.0 SURFACE WATERS SAMPLING

A WSP Environmental Scientist attended Site in August and September 2023 to complete an initial surface water assessment and a quarterly assessment thereafter. Surface water monitoring was completed at 11 locations between August 2023 and September 2024 as per Drawing 01 (Appended).

The Site is located approximately 50m from the River Lee at its most Northerly point. Multiple Locations were chosen on the River Lee, both up and down gradient of the Site, to determine whether run off from the Site is entering this surface water and to determine the movement of potential contaminants towards the River Lee. At each location the following scope was completed:

- A Grab sample was collected using a telescopic sampler
- Field measured parameters were recorded using a calibrated water quality meter (including visual and olfactory evidence of contamination.

The sample was recovered directly into laboratory supplied sample containers. Samples were collected using single use nitrile gloves, which were changed between each sample location. The sampler was decontaminated and rinsed in triplicate between each sample location.

Samples were stored in a chilled cool box and dispatched to ALS Laboratories (UK) Limited for analysis with an appropriate chain of custody.

Samples were analysed for a range of Contaminants Of Potential Concern (COPC) that may have been associated with the operation of a vehicle distribution centre, and from COPC identified in historical investigations, comprising:

- Metals;
- Volatile Organic Compounds (VOC);
- Total Petroleum Hydrocarbons (TPH CWG) ;
- Extractable Petroleum Hydrocarbons (EPH);
- Polycyclic Aromatic Hydrocarbons (PAH); and
- Inorganic compounds.

5.0 RESULTS

Field Observations

The following was observed in relation to field observations during the monitoring:

- The colour for each sample across all dates was noted as 'clear';
- The turbidity for each sample across all dates was noted as 'clear';
- No odour was noted across all samples; and
- Non Aqueous Phase Liquid (NAPL) was not observed for any sample, except for SW202 on the 15/12/2024, noted as a 'sheen' and SW206 on the 10/09/2024, noted as a 'slight sheen'.

Full field observations are presented within the EQS screening tables in the Appendix.

5.1 Field Measured Parameters

The field measured parameters for the samples are within the EQS screening tables, **Appended below**. The water quality readings vary over time, this is likely due to the tidal influence on the waters within the Site. This tidal influence resulted in changes in conductivity readings across all samples with values between 384 and 45,027 µS/cm.

The Oxidation Reduction Potential (ORP) of the water had values ranging from -99 to 266.30 mV. SW201 to SW205 and SW209 shows variation between positive and negative potentials across these locations. SW301 to SW304 show positive ORP results across all samples taken ranging from 48.1 to 266.30 mV.

Dissolved Oxygen (DO) readings varied across samples and date but were generally in excess of 4 mg/l. Eight readings were recorded below this level, all located within SW204, SW205, SW206 and SW209. These locations are the open surface water drains located around the Site boundary.

5.2 Laboratory Analytical Results

The surface water quality on, and adjacent to, the Site was assessed against the EQS other surface water limits as set out in the European Communities Environmental Objectives (surface waters) Regulations 2009 as shown in the **Appendix below.** The results are summarised by sample location.

UPGRADIENT SAMPLE LOCATIONS

SW206

There was a slight exceedance of the EQS dissolved metal; Zinc at 44 ug/l and 41.8 ug/l on the 21/08/2024 and 19/09/2024 respectively (compared to the EQS of 40 µg/l). Zinc is not a known contaminant of potential concern for the Site. The Polycyclic Aromatic Hydrocarbon (PAH); Fluoranthene did not exceed the EQS MAC, but the Annual Average (AA) was exceeded at 0.0519 ug/l (Compared to the EQS of 0.0063 ug/l). The Polycyclic Aromatic Hydrocarbon (PAH); Benzo(a) pyrene did not exceed the EQS MAC, but the Annual Average (AA) was exceeded at 0.01715 ug/l (Compared to the EQS of 0.00017 ug/l).

SW206 is located where waters are primarily received from upgradient of the Site. Some waters are received from a drainage ditch located on the site by Centre Park Road, meeting at this monitoring point.

SW209

The Polycyclic Aromatic Hydrocarbon (PAH); Fluoranthene did not exceed the EQS MAC, but the Annual Average (AA) was slightly exceeded at 0.00644 ug/l (Compared to the EQS of 0.0063 ug/l). SW209 is located upgradient of the Site.

SAMPLE LOCATIONS WITHIN SITE BOUNDARY

SW204

SW204 is located within an open ditch within the Site boundary. The sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

SW205

These sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

SAMPLE LOCATIONS DOWNGRADIENT OF SITE

SW301

SW301 is located immediately downgradient of the Site in Marina Park. The Polycyclic Aromatic Hydrocarbon (PAH); Fluoranthene did not exceed the EQS MAC, but the Annual Average (AA) was exceeded at 0.0294 ug/l (Compared to the EQS of 0.0063 ug/l).

SW302

SW302 is located downgradient of the Site in Marina Park. The Polycyclic Aromatic Hydrocarbon (PAH); Fluoranthene did not exceed the EQS MAC, but the Annual Average (AA) was exceeded at 0.02095 ug/l (Compared to the EQS of 0.0063 ug/l).

SW303

SW303 is located downgradient of the Site at the inflow to the Atlantic Pond. These sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

RIVER LEE SAMPLE LOCATIONS

SW201

These sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

SW202

These sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009. WSP notes that on the 17/07/2024, there was a total TPH detection of 1,180 ug/l.

SW203

The sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

SW304

These sampling conducted at this location did not exceed any EQS other surface water limits set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

5.0 DISCUSSION

The main COPCs for this site as identified in the WSP site investigation and risk assessment reports are VOCs (particularly TCE, cDCe and VC) and petroleum hydrocarbons. The Discussion is again grouped by sample location i.e. upgradient of the site, on Site and down gradient surface water sample points.

River Lee (Cork Harbour (Downgradient)

Sampe points SW201 – SW203 inclusive are taken at the River Lee directly downgradient of the Site. COPCs were not detected in any of the samples collected from the River Lee throughout the monitoring programme with the exception of a detection of TPH in SW202 on 17 July 2024. This result is considered spurious as TPH compounds were not detected in any of the other on site or off site monitoring locations sampled on this date.

Atlantic Pond (Downgradient)

Samples SW303 sample location is at the inlet of the Atlantic Pond and SW304 is close to the eastern side of the pond. TPH compounds were not detected in the Atlantic pond during any monitoring round. Occasional trace detections of chloroform are noted in the samples from the Atlantic pond Sample SW303 only. These detections are only slightly greater than the limit of detection (maximum concentration detected is 1.72 µg/l (25 April 2024) compared to the method detection limit of 1.0 µg/l. Chloroform was not detected in any of the soil samples collected as part of the WSP site investigation (with the exception of a single trace detection at the limit of detection

in soils). The detection of chloroform in surface water samples whilst not significant is not considered to be sourced from the Marina Qtr Site.

Samples SW301 represents a stream sample including waters from upgradient and site drainage and sample SW302 is further downstream of that point prior to discharge to the Atlantic Pond.

Chloroform is also detected in the samples in SW301 and SW302. It is noted that during each monitoring round the upstream sample (SW301) has a higher concentration that the corresponding downstream sample. As discussed above the detections of chloroform in the surface water samples are not considered to be sourced from the Marina Qtr Site.

Detections of cDCE and chlorobenzene are noted in these surface water samples at trace concentrations. Generally, the concentration of COPCs in SW301 is slightly higher than that of SW302. There were no detections of these COPCs in either sample location in July and September 2024 monitoring rounds which may indicate an improvement in water quality due to remedial excavation of COPCs at the Site.

On site open drainage pathways

Samples SW204 – SW206 and SW209 represent samples from the Site. it is noted that samples SW209 and SW206 contain a mix of waters from upstream of the Site also. Thes sample locations show minor detections of VOCs in samples at trace limits on occasion only.

Sample SW206 reported an increased concentration of COPCs cDCE (91.9 µg/l) and VC (23.7 µg/l) in April 2024 monitoring only. These COPCs were not detected in either the July or September 2024 monitoring rounds. The detections maybe related to groundworks disturbance during earthworks.

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6.0 SUMMARY & CONCLUSIONS

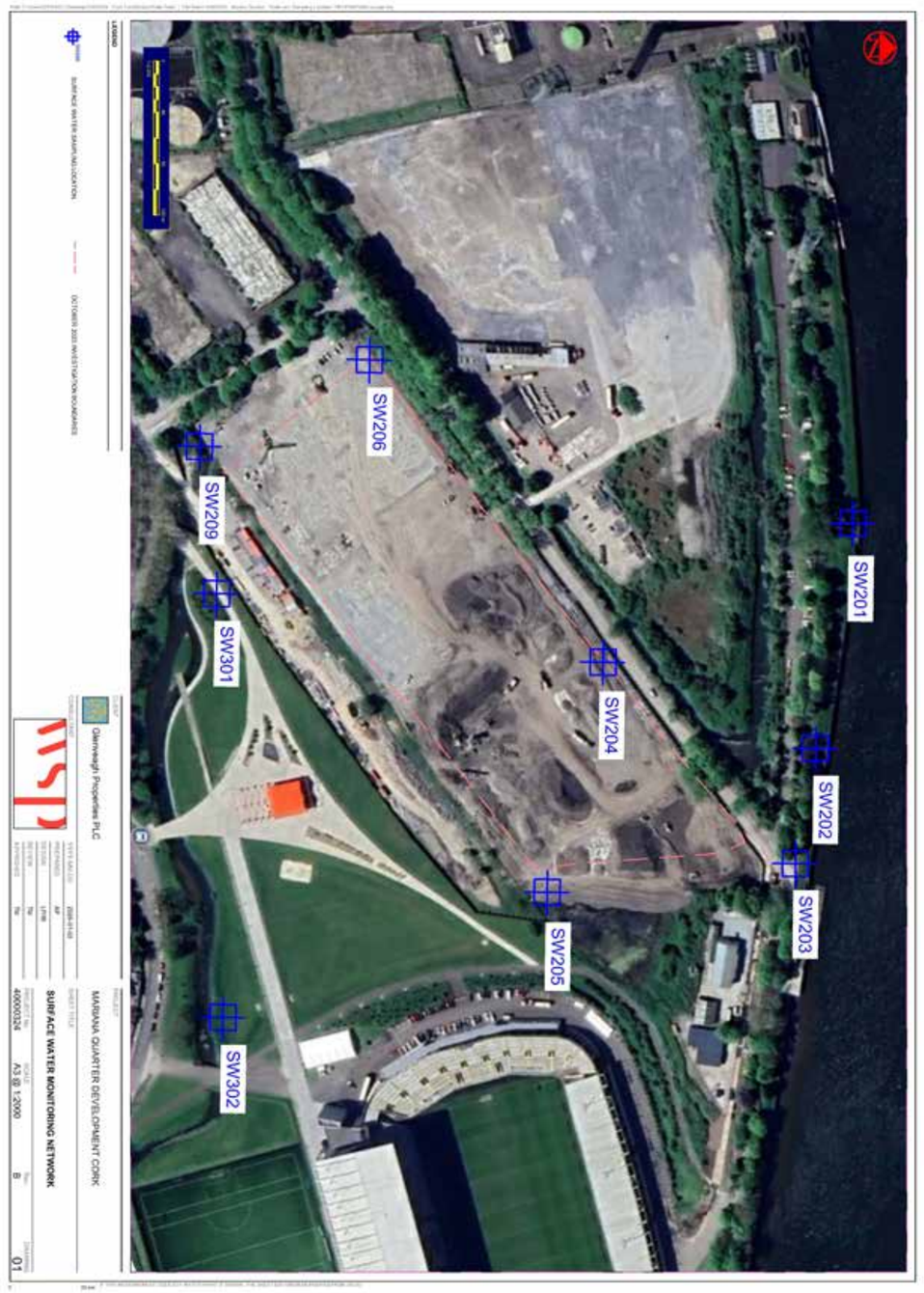
WSP collected surface water samples from eleven locations on and adjacent to the Site between August 2023 and September 2024. The samples were sent for analysis for the environmental parameters specified protective of surface waters. The results of the laboratory analysis were screened against the EQS set out in the European Communities Environmental Objectives (surface waters) Regulations 2009.

The results of the laboratory screening during the earthworks programme demonstrate that the construction activities on site have not had a significant impact on surface water quality at or downgradient of the Site.

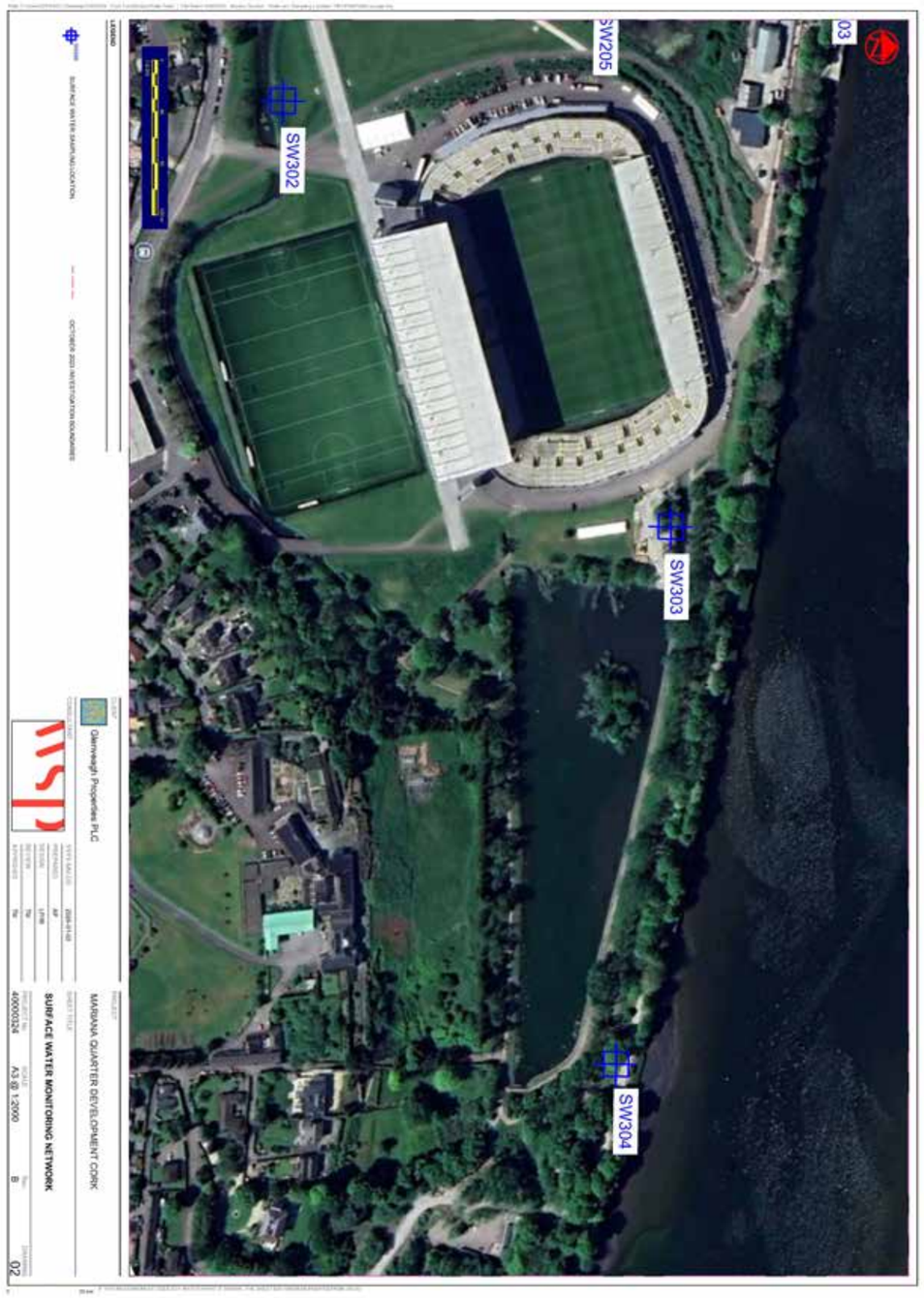
Yours sincerely

Ian Byrne
Environmental Scientist
IB/tm Byrne, Ian (IEIRB001) Digitally signed by Byrne, Ian (IEIRB001) DN: cn=Byrne, Ian (IEIRB001), ou=Active, email=Ian.Byrne@wsp.com Date: 2024.10.24 13:42:45 +01'00'

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Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 389/2015 and S.I. No. 77/2019				Monitoring Point	SW201	SW201	SW201	SW201
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	Date Sampled	21/08/2023	19/09/2023	15/12/2023	17/07/2024
Field Parameters										
Specific Conductivity	µS/cm		--		--		4391	3008	2225.3	1277
pH			--		--		8.14	7.84	7.97	8.54
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >110%-120% saturation				7.53	4.6	9.74	8.53
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone				18.5	17	9.42	17.5
Oxidative Redox Potential (ORP)	mV		--		--		-99	-86	49.2	205.4
Colour							clear	clear	clear	clear
Turbidity							clear	clear	clear	clear
Odour							none	none	none	none
NAPL							none	none	none	none
Laboratory Parameters										
Metals										
Dissolved Aluminium	ug/l	-	-	-	-		12.5	<100	-	-
Dissolved Antimony	ug/l	-	-	-	-		<1.0	<1.0	-	-
Dissolved Arsenic	ug/l	25	20	-	-		3.53	<1.0	-	-
Dissolved Barium	ug/l	-	-	-	-		8.34	13.9	-	-
Dissolved Boron	ug/l	-	-	-	-		319	2000	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)		<0.08	<10	<0.08	-
Dissolved Calcium	mg/l	-	-	-	-		45.2	216	-	-
Dissolved Cobalt	ug/l	-	-	-	-		<1.0	<1.0	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-		1.14	<1.0	0.942	-
Total Dissolved Iron	mg/l	-	-	-	-		0.0391	<0.1	-	-
Dissolved Magnesium	mg/l	-	-	-	-		95	619	-	-
Dissolved Manganese	ug/l	-	-	-	-		32	178	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07		<0.01	<0.01	<0.01	-
Dissolved Molybdenum	ug/l	-	-	-	-		<1.0	<1.0	-	-
Dissolved Nickel	ug/l	4	8.6	34	34		<1.0	<1.0	0.574	-
Dissolved Potassium	mg/l	-	-	-	-		25.3	200	-	-
Dissolved Sodium	mg/l	-	-	-	-		734	4210	-	-
Dissolved Strontium	ug/l	-	-	-	-		497	3620	-	-
Dissolved Titanium	ug/l	-	-	-	-		<1.0	<1.0	-	-
Dissolved Vanadium	ug/l	-	-	-	-		<1.0	<1.0	-	-
Dissolved Lead	ug/l	1.29	1.3	14	14		<0.2	<0.2	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40	-	-		2.9	<1.0	8.53	-
Volatile Organic Compounds (VOCs)										
cis-1,2-Dichloroethene	ug/l	-	-	-	-		<1	<1	<1	<1
Chloroform	ug/l	-	-	-	-		<1	<1	<1	<1
Bromodichloromethane	ug/l	-	-	-	-		<1	<1	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-		<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-		<1	<1	<1	<1.00
Benzene	ug/l	10	8	50	50		<1	<1	<1	<1
Toluene	ug/l	10	10	-	-		<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-		<1	<1	<1	<1
Chloromethane	ug/l	-	-	-	-		<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-		<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)										
EPH Range >C10 - C40		-	-	-	-		-	-	<100	<50.0
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	ug/l	-	-	-	-		<0.020	<0.010	<0.020	0.0162
Fluorene	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Phenanthrene	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Anthracene	ug/l	0.1	0.1	0.1	0.1		<0.020	<0.010	<0.020	<0.020
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12		<0.020	<0.010	<0.020	<0.020
Pyrene	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Chrysene	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Acenaphthylene (as)	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Benzo(a)anthracene (as)	ug/l	-	-	-	-		<0.020	<0.010	<0.020	<0.020
Benzo(b)fluoranthene (as)	ug/l	Footnote 10[24]	Footnote 10[24]	0.017	0.017		<0.020	<0.010	<0.020	<0.020
Benzo(k)fluoranthene (as)	ug/l	Footnote 10[24]	Footnote 10[24]	0.017	0.017		<0.020	<0.010	<0.020	<0.020
Benzo(a)pyrene (as)	ug/l	0.00017	0.00017	0.027	0.27		<0.020	<0.010	<0.020	<0.020
Naphthalene	ug/l	2	2	130	130		<0.1	<0.1	<0.1	<0.1
Indeno(1,2,3-cd)pyrene (as)	ug/l	Footnote 10[24]	Footnote 10[24]	-	-		<0.020	<0.010	<0.020	<0.020
	ug/l	-	-	-	-		-	-	-	-
Total PAHs	ug/l	-	-	-	-		<0.200	<0.100	<0.20	<0.200
Inorganics										
Fluoride	mg/l	0.5	1.5	-	-		<0.5	0.526	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-		0.056	0.15	-	-
Sulphate as SO4	mg/l	-	-	-	-		196	1310	-	-
Chloride	mg/l	-	-	-	-		1460	10000	-	-
Nitrate as NO3	mg/l	-	-	-	-		5.43	0.509	-	-
Nitrite as NO2	mg/l	-	-	-	-		0.067	0.064	-	-
Sulphide	mg/l	-	-	-	-		-	-	-	-
Ammoniacal Nitrogen as N	mg/l		*High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)				0.228	0.356	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-		-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-		-	-	-	-
TPH Criteria Working Group (TPH CWG)										
GRO >C5-C12	ug/l	-	-	-	-		<20	<20	<20	<20
Aliphatics >C5-C6	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C12-C16 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C16-C21 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Aliphatics >C21-C35 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Total Aliphatics >C12-C35 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-		<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-		<10	<10	<10	<10
Aromatics >EC12-EC16 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Aromatics >EC16-EC21 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Aromatics >EC21-EC35 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Total Aromatics >EC12-EC35 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (as)	ug/l	-	-	-	-		<10	<10	<10	<10
Notes:										
"-" Denotes where data is not available										

"<" Denotes results that are less than the limit of detection.

18/10/2024

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Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW201	SW202	SW202	SW202
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	10/09/2024	21/08/2023	19/09/2023	15/12/2023
Field Parameters									
Specific Conductivity	µS/cm		--		--	31402	14087	31361	2544
pH			--		--	6.96	7.76	7.84	7.96
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile <80%-85% saturation >115%-120% saturation			7.6	8.05	4.81	9.65
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			16.3	19	17	9.52
Oxidative Redox Potential (ORP)	mV		--		--	180	-77	85.3	46
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	sheen
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	--	<100	<100	-
Dissolved Antimony	ug/l	-	-	-	-	--	<1.0	<1.0	-
Dissolved Arsenic	ug/l	25	20	-	-	--	0.966	<1	<0.5
Dissolved Barium	ug/l	-	-	-	-	--	12.6	13.7	-
Dissolved Boron	ug/l	-	-	-	-	--	993	2010	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	<0.08	<10	<0.08
Dissolved Calcium	mg/l	-	-	-	-	-	100	245	-
Dissolved Cobalt	ug/l	-	-	-	-	-	<0.5	<5	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	1.25	<5	0.833
Total Dissolved Iron	mg/l	-	-	-	-	-	0.0436	0.0169	-
Dissolved Magnesium	mg/l	-	-	-	-	-	266	609	-
Dissolved Manganese	ug/l	-	-	-	-	0.245	46.6	182	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	<0.01	<0.05	<0.05
Dissolved Molybdenum	ug/l	-	-	-	-	-	<0.5	<5	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	0.416	<5	0.468
Dissolved Potassium	mg/l	-	-	-	-	-	101	198	-
Dissolved Sodium	mg/l	-	-	-	-	-	2410	4170	-
Dissolved Strontium	ug/l	-	-	-	-	-	1840	3620	-
Dissolved Titanium	ug/l	-	-	-	-	-	2.21	<5	-
Dissolved Vanadium	ug/l	-	-	-	-	-	<1	<100	-
Dissolved Lead	ug/l	1.26	1.3	14	14	-	<0.1	<10	<0.1
Dissolved Zinc	ug/l	8, 50 or 100	40			-	9.21	<10	7.09
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<5	<5	<5	<5
Chloroform	ug/l	-	-	-	-	<5	<5	<5	<5
Bromodichloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Chlorobenzene	ug/l	1.5	25	-	-	<5	<5	<5	<5
Bromoform	ug/l	-	-	-	-	<5	<5	<5	<5
Benzene	ug/l	10	8	50	50	<5	<5	<5	<5
Toluene	ug/l	10	10	-	-	<5	<5	<5	<5
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<5	<5	<5	<5
Dibromochloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Vinyl chloride	ug/l	-	-	-	-	<5	<5	<5	<5
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	<10.0	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	<0.5	0.521	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	0.187	0.186	-
Sulphate as SO4	mg/l	-	-	-	-	-	668	1340	-
Chloride	mg/l	-	-	-	-	-	5030	10300	-
Nitrate as NO3	mg/l	-	-	-	-	<0.1	0.437	<0.1	-
Nitrite as NO2	mg/l	-	-	-	-	0.067	0.095	0.093	-
Sulphide	mg/l	-	-	-	-	<0.01	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			0.234	0.271	0.495	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C5-C6	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C6-C8	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C8-C10	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C10-C12	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC5-EC7	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC7-EC8	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC8-EC10	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC10-EC12	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Notes:									
*: Denotes where data is not available									

*<n: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW202	SW202	SW202	SW203
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	25/04/2024	17/07/2024	10/09/2024	21/08/2023
Field Parameters									
Specific Conductivity	µS/cm		--		--	7671	12369	31349	5669
pH			--		--	7.76	7.79	6.96	7.96
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile <80%-85% saturation >115%-120% saturation			9.84	8.47	7.77	8.06
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			11.3	17.6	15.9	18.4
Oxidative Redox Potential (ORP)	mV		--		--	155.4	197	181.2	-88.3
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	-	--	12.4
Dissolved Antimony	ug/l	-	-	-	-	-	-	--	-
Dissolved Arsenic	ug/l	25	20	-	-	-	-	--	0.598
Dissolved Barium	ug/l	-	-	-	-	-	-	--	8.09
Dissolved Boron	ug/l	-	-	-	-	-	-	--	411
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	-	<0.08
Dissolved Calcium	mg/l	-	-	-	-	-	-	-	56.6
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-	<5
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	-	1.2
Total Dissolved Iron	mg/l	-	-	-	-	-	-	<0.0100	0.0368
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-	120
Dissolved Manganese	ug/l	-	-	-	-	-	-	<5.0	<5
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	-	-	<0.05
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	<5
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	-	0.409
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	36.3
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	942
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	641
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	<5
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	<100
Dissolved Lead	ug/l	1.26	1.3	14	14	-	-	-	<0.1
Dissolved Zinc	ug/l	8, 50 or 100	40			-	-	-	7.55
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<5	<5	<5	<5
Chloroform	ug/l	-	-	-	-	<5	<5	<5	<5
Bromodichloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Chlorobenzene	ug/l	1.5	25	-	-	<5	<5	<5	<5
Bromoform	ug/l	-	-	-	-	<5	<5.3	<5	<5
Benzene	ug/l	10	8	50	50	<5	<5	<5	<5
Toluene	ug/l	10	10	-	-	<5	<5	<5	<5
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<5	<5	<5	<5
Dibromochloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Vinyl chloride	ug/l	-	-	-	-	<5	<5	<5	<5
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	<10.0	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	<0.5
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	0.067
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	252
Chloride	mg/l	-	-	-	-	-	-	-	1900
Nitrate as NO3	mg/l	-	-	-	-	-	-	-	6.11
Nitrite as NO2	mg/l	-	-	-	-	-	-	0.098	0.063
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)				-	0.209	0.213
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C5-C6	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C6-C8	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C8-C10	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C10-C12	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<100	572	<100	<100
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<100	572	<100	<100
Aromatics >EC5-EC7	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC7-EC8	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC8-EC10	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC10-EC12	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<100	610	<100	<100
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<100	610	<100	<100
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<100	1180	<100	<100
Notes:									
*: Denotes where data is not available									

*<n: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW203	SW203	SW203	SW203
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	19/09/2023	15/12/2023	25/04/2024	17/07/2024
Field Parameters									
Specific Conductivity	µS/cm		--	--	--	3039?	3173	833?	12441
pH			--	--	--	7.72	7.97	7.8	7.89
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile <80%-85% saturation >115%-120% saturation			4.78	9.49	9.93	8.4
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			17	9.94	11.5	17.5
Oxidative Redox Potential (ORP)	mV		--		--	-68.2	30.1	161	172
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	<100	-	-	-
Dissolved Antimony	ug/l	-	-	-	-	<10	-	-	-
Dissolved Arsenic	ug/l	25	20	-	-	<1	0.71	-	-
Dissolved Barium	ug/l	-	-	-	-	13.8	-	-	-
Dissolved Boron	ug/l	-	-	-	-	2010	-	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	<0.8	<0.08	-	-
Dissolved Calcium	mg/l	-	-	-	-	211	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	<5	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	<5	0.869	-	-
Total Dissolved Iron	mg/l	-	-	-	-	<0.05	-	-	-
Dissolved Magnesium	mg/l	-	-	-	-	613	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	<20.0	<20.0	<20.0	<20.0
Dissolved Mercury	ug/l	-	-	0.07	0.07	<0.01	<0.01	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	<10	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	<5	0.455	-	-
Dissolved Potassium	mg/l	-	-	-	-	203	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	4280	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	3620	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	<10	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	<10	-	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	<10	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40	-	-	<20	7.11	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<5	<5	<5	<5
Chloroform	ug/l	-	-	-	-	<5	<5	<5	<5
Bromodichloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Chlorobenzene	ug/l	1.5	25	-	-	<5	<5	<5	<5
Bromoform	ug/l	-	-	-	-	<5	<5	<5	<5
Benzene	ug/l	10	8	50	50	<5	<5	<5	<5
Toluene	ug/l	10	10	-	-	<5	<5	<5	<5
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<5	<5	<5	<5
Dibromochloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Vinyl chloride	ug/l	-	-	-	-	<5	<5	<5	<5
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	<0.05	<0.05
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.05	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	0.537	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	0.147	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	1325	-	-	-
Chloride	mg/l	-	-	-	-	19400	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	<0.1	-	-	-
Nitrite as NO2	mg/l	-	-	-	-	0.066	-	-	-
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			0.357	-	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<50	<50	<50	<50
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
*: Denotes where data is not available									

*<n: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW203	SW204	SW204	SW204
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	10/09/2024	21/08/2023	19/09/2023	02/02/2024
Field Parameters									
Specific Conductivity	µS/cm		--	--	--	3091?	-	4922? 1	3511?
pH			--	--	--	7.58	-	7.76	7.89
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile <80%-85% saturation >115%-120% saturation			7.58	-	3.24	7.22
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			16	-	17.5	8.93
Oxidative Redox Potential (ORP)	mV		--		--	165.7	-	75.5	7.22
Colour						clear	-	clear	clear
Turbidity						clear	-	clear	clear
Odour						none	-	none	none
NAPL						none	-	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	--	<100	<100	-
Dissolved Antimony	ug/l	-	-	-	-	--	<10	<10	-
Dissolved Arsenic	ug/l	25	20	-	-	--	-	1.67	-
Dissolved Barium	ug/l	-	-	-	-	--	167.3	14.7	-
Dissolved Boron	ug/l	-	-	-	-	--	2810	2960	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	<0.48	<0.09	-
Dissolved Calcium	mg/l	-	-	-	-	-	280	705	-
Dissolved Cobalt	ug/l	-	-	-	-	-	<5	<5	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	<5	0.773	-
Total Dissolved Iron	mg/l	-	-	-	-	-	<0.05	0.0207	-
Dissolved Magnesium	mg/l	-	-	-	-	-	855	847	-
Dissolved Manganese	ug/l	-	-	-	-	-	80.7	118	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	<0.01	<0.01	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	<10	6.92	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	<5	0.704	-
Dissolved Potassium	mg/l	-	-	-	-	-	201	205	-
Dissolved Sodium	mg/l	-	-	-	-	-	7400	6730	-
Dissolved Strontium	ug/l	-	-	-	-	-	4280	5140	-
Dissolved Titanium	ug/l	-	-	-	-	-	<10	7.56	-
Dissolved Vanadium	ug/l	-	-	-	-	-	<10	1.04	-
Dissolved Lead	ug/l	1.26	1.3	14	14	-	<10	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40	-	-	-	<20	6.94	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<5	<5	<5	<5
Chloroform	ug/l	-	-	-	-	<5	<5	<5	<5
Bromodichloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Chlorobenzene	ug/l	1.5	25	-	-	<5	<5	<5	<5
Bromoform	ug/l	-	-	-	-	<5	<5	<5	<5
Benzene	ug/l	10	8	50	50	<5	<5	<5	<5
Toluene	ug/l	10	10	-	-	<5	<5	<5	<5
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<5	<5	<5	<5
Dibromochloromethane	ug/l	-	-	-	-	<5	<5	<5	<5
Vinyl chloride	ug/l	-	-	-	-	<5	<5	<5	<5
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	-	<0.05
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	0.0109	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	0.0126	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	0.68	0.793	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	0.219	0.389	-
Sulphate as SO4	mg/l	-	-	-	-	-	1760	2020	-
Chloride	mg/l	-	-	-	-	-	14100	13600	-
Nitrate as NO3	mg/l	-	-	-	-	-	<0.1	<0.1	-
Nitrite as NO2	mg/l	-	-	-	-	0.064	0.096	0.099	-
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			0.219	0.451	0.381	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<50	<50	<50	<50
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
*: Denotes where data is not available									

*<n: Denotes results that are less than the limit of detection.

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW204
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	25/04/2024
Field Parameters						
Specific Conductivity	µS/cm		--		--	1009
pH			--		--	8.16
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile >80%-85% saturation <115%-120% saturation			8.75
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			14.1
Oxidative Redox Potential (ORP)	mV		--		--	65
Colour						clear
Turbidity						clear
Odour						none
NAPL						none
Laboratory Parameters						
Metals						
Dissolved Aluminium	ug/l	-	-	-	-	-
Dissolved Antimony	ug/l	-	-	-	-	-
Dissolved Arsenic	ug/l	25	20	-	-	-
Dissolved Barium	ug/l	-	-	-	-	-
Dissolved Boron	ug/l	-	-	-	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-
Dissolved Calcium	mg/l	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-
Total Dissolved Iron	mg/l	-	-	-	-	-
Dissolved Magnesium	mg/l	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-
Dissolved Molybdenum	ug/l	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-
Dissolved Potassium	mg/l	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-
Dissolved Lead	ug/l	1.2@ 6, 50 or 100	1.3 40	14	14	-
Dissolved Zinc	ug/l				--	-
Volatile Organic Compounds (VOCs)						
cis-1,2-Dichloroethene	ug/l	-	-	-	-	3.5
Chloroform	ug/l	-	-	-	-	<1
Bromodichloromethane	ug/l	-	-	-	-	<1
Chlorobenzene	ug/l	1.5	25	-	-	<1
Bromoform	ug/l	-	-	-	-	<1
Benzene	ug/l	10	8	50	50	<1
Toluene	ug/l	10	10	-	-	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1
Dibromochloromethane	ug/l	-	-	-	-	<1
Vinyl chloride	ug/l	-	-	-	-	<1
EPH (Extractable Petroleum Hydrocarbons)						
TPH Range >C10 - C40		-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	ug/l	-	-	-	-	0.157
Fluorene	ug/l	-	-	-	-	0.0777
Phenanthrene	ug/l	-	-	-	-	0.0697
Anthracene	ug/l	0.1	0.1	0.1	0.1	0.0142
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	0.0286
Pyrene	ug/l	-	-	-	-	0.0317
Chrysene	ug/l	-	-	-	-	0.00816
Acenaphthylene (aq)	ug/l	-	-	-	-	0.00774
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	0.017	0.017	0.00561
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	0.017	0.017	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	0.00353
Naphtalene	ug/l	2	2	130	130	0.448
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	-	-	<0.005
	ug/l					
Total PAHs	ug/l	-	-	-	-	0.842
Inorganics						
Fluoride	mg/l	0.5	1.5	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-
Nitrite as NO2	mg/l	-	-	-	-	-
Sulphide	mg/l	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			
Dissolved Organic Carbon	mg/l	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)						
GRO >C5-C12	ug/l	-	-	-	-	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10
Notes:						
"-" Denotes where data is not available						

"<x" Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW205	SW205	SW205	SW205
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	21/08/2023	19/09/2023	02/02/2024	17/07/2024
Field Parameters									
Specific Conductivity	µS/cm		--		--	963	796	364	1154
pH			--		--	7.99	7.28	8.61	7.04
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile >80%-85% saturation <115%-120% saturation			4.54	1.65	5.3	2.11
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			21.6	17	9.36	16.9
Oxidative Redox Potential (ORP)	mV		--		--	-91	-91.4	14.7	57.2
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	<10	<10	-	-
Dissolved Antimony	ug/l	-	-	-	-	<1	<1	-	-
Dissolved Arsenic	ug/l	25	20	-	-	2.31	1.87	-	-
Dissolved Barium	ug/l	-	-	-	-	18.3	17	-	-
Dissolved Boron	ug/l	-	-	-	-	83.1	39.4	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	<0.08	<0.08	-	-
Dissolved Calcium	mg/l	-	-	-	-	95.3	88.5	-	-
Dissolved Cobalt	ug/l	-	-	-	-	0.526	0.521	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	0.419	0.371	-	-
Total Dissolved Iron	mg/l	-	-	-	-	0.743	0.339	-	-
Dissolved Magnesium	mg/l	-	-	-	-	6.42	6.49	-	-
Dissolved Manganese	ug/l	-	-	-	-	1330	874	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	<0.01	<0.01	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	<1	<1	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	0.909	0.909	-	-
Dissolved Potassium	mg/l	-	-	-	-	11.3	10.5	-	-
Dissolved Sodium	mg/l	-	-	-	-	47.6	62.6	-	-
Dissolved Strontium	ug/l	-	-	-	-	213	244	-	-
Dissolved Titanium	ug/l	-	-	-	-	2.3	1.99	-	-
Dissolved Vanadium	ug/l	-	-	-	-	<1	<1	-	-
Dissolved Lead	ug/l	1.2@ 6, 50 or 100	1.3 40	14	14	<0.01	<0.01	-	-
Dissolved Zinc	ug/l				--	3.53	2.89	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<1	<1	<1	<1
Chloroform	ug/l	-	-	-	-	<1	<1	<1	<1
Bromodichloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
TPH Range >C10 - C40		-	-	-	-	-	-	<100	<100
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	0.00846
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	0.0116
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10[ee]	Footnote 10[ee]	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.842	<0.842	<0.842	<0.842
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	<0.5	<0.5	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	0.763	0.126	-	-
Sulphate as SO4	mg/l	-	-	-	-	<1	<1	-	-
Chloride	mg/l	-	-	-	-	98.6	117	-	-
Nitrate as NO3	mg/l	-	-	-	-	<0.1	<0.1	-	-
Nitrite as NO2	mg/l	-	-	-	-	<0.05	<0.05	-	-
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			0.249	<0.2	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
"-" Denotes where data is not available									

"<x" Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW206	SW206	SW206	SW206
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	21/08/2023	19/09/2023	02/02/2024	25/04/2024
Field Parameters									
Specific Conductivity	µS/cm		--		--	-	23422	32402	4076
pH			--		--	-	7.62	7.78	7.97
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >115%-120% saturation			-	2.78	8.01	9.32
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			-	17.1	9.76	14
Oxidative Redox Potential (ORP)	eV		--		--	-	-85.5	202.3	75.8
Colour						-	clear	clear	clear
Turbidity						-	clear	clear	clear
Odour						-	none	none	none
NAPL						-	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	<100	<100	-	-
Dissolved Antimony	ug/l	-	-	-	-	2.54	<1.0	-	-
Dissolved Arsenic	ug/l	25	20	-	-	4.19	1.1	-	-
Dissolved Barium	ug/l	-	-	-	-	46.5	44.2	-	-
Dissolved Boron	ug/l	-	-	-	-	1010	1500	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	<0.08	<0.8	-	-
Dissolved Calcium	mg/l	-	-	-	-	182	203	-	-
Dissolved Cobalt	ug/l	-	-	-	-	<1.0	<1.0	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	1.67	<1.0	-	-
Total Dissolved Iron	mg/l	-	-	-	-	0.104	<0.05	-	-
Dissolved Magnesium	mg/l	-	-	-	-	264	442	-	-
Dissolved Manganese	ug/l	-	-	-	-	154	145	-	-
Dissolved Mercury	ug/l	-	+	0.07	0.07	<0.01	<0.01	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	3.63	4.03	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	4.34	4.69	-	-
Dissolved Potassium	mg/l	-	-	-	-	156	140	-	-
Dissolved Sodium	mg/l	-	-	-	-	2540	3410	-	-
Dissolved Strontium	ug/l	-	-	-	-	1950	2620	-	-
Dissolved Titanium	ug/l	-	-	-	-	1.74	<1.0	-	-
Dissolved Vanadium	ug/l	-	-	-	-	2.87	<1.0	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	<0.1	<0.1	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40			44	41.8	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	1.22	<1	12.7	91.9
Chloroform	ug/l	-	-	-	-	4.54	3.54	<1	<1
Bromodichloromethane	ug/l	-	-	-	-	1.53	1.49	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	1.36	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	1.22	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	1.36	23.7
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	103	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	0.0954	0.104	0.0236	0.0376
Fluorene	ug/l	-	-	-	-	0.0078	0.0173	<0.005	0.00794
Phenanthrene	ug/l	-	-	-	-	0.0094	0.0263	<0.005	0.0258
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	0.0119	<0.005	0.00528
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	**0.0565**	**0.0481**	**0.0241**	**0.0758**
Pyrene	ug/l	-	-	-	-	0.0537	0.0381	0.021	0.0654
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	0.00742	0.0273
Acenaphthylene (aq)	ug/l	-	-	-	-	<4	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<4	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<4	<0.005	<0.005	0.0239
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<4	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<4	<0.005	<0.005	**0.0211**
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	0.0415
	ug/l								
Total PAHs	ug/l	-	-	-	-	0.224	0.243	<0.005	0.317
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	0.756	0.917	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	1.52	1.21	-	-
Sulphate as SO4	mg/l	-	-	-	-	483	905	-	-
Chloride	mg/l	-	-	-	-	3700	7090	-	-
Nitrate as NO3	mg/l	-	-	-	-	17	6.66	-	-
Nitrite as NO2	mg/l	-	-	-	-	0.802	0.808	-	-
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			4.71	4.49	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
*: Denotes where data is not available									

**<: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW206	SW206	SW209	SW209
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	17/07/2024	19/09/2024	21/09/2023	19/09/2023
Field Parameters									
Specific Conductivity	µS/cm		--		--	28912	-	4427	6540
pH			--		--	7.32	7.56	7.57	7.36
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >115%-120% saturation			3.89	3.56	4.33	3.67
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			16.2	15.4	18.6	16.5
Oxidative Redox Potential (ORP)	eV		--		--	71.1	-	-85.4	-98.2
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						Sheen	Slight sheen	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	--	<100	<100
Dissolved Antimony	ug/l	-	-	-	-	-	--	1.08	1.08
Dissolved Arsenic	ug/l	25	20	-	-	-	--	1.66	1.22
Dissolved Barium	ug/l	-	-	-	-	-	--	23.1	30.2
Dissolved Boron	ug/l	-	-	-	-	-	--	302	422
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	<0.08	<0.08
Dissolved Calcium	mg/l	-	-	-	-	-	-	140	136
Dissolved Cobalt	ug/l	-	-	-	-	-	-	<1.0	<1.0
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	1.37	1.11
Total Dissolved Iron	mg/l	-	-	-	-	-	0.219	0.0305	0.043
Dissolved Magnesium	mg/l	-	-	-	-	-	-	105	127
Dissolved Manganese	ug/l	-	-	-	-	-	0.262	344	118
Dissolved Mercury	ug/l	-	+	0.07	0.07	-	-	-	<0.01
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	1.72	0.867
Dissolved Potassium	mg/l	-	-	-	-	-	-	37	42.6
Dissolved Sodium	mg/l	-	-	-	-	-	-	780	1010
Dissolved Strontium	ug/l	-	-	-	-	-	-	614	857
Dissolved Titanium	ug/l	-	-	-	-	-	-	2.14	2.83
Dissolved Vanadium	ug/l	-	-	-	-	-	-	<1.0	<1.0
Dissolved Lead	ug/l	1.26	1.3	14	14	-	-	<0.1	<0.1
Dissolved Zinc	ug/l	8, 50 or 100	40			-	-	16.1	19.9
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	-	-	1.41	<1
Chloroform	ug/l	-	-	-	-	3.44	6.5	1.3	<1
Bromodichloromethane	ug/l	-	-	-	-	-	3.34	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	1.65	1	<1	<1
Bromoform	ug/l	-	-	-	-	-	-	<1	<1
Benzene	ug/l	10	8	50	50	-	-	<1	<1
Toluene	ug/l	10	10	-	-	-	-	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	-	-	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	-	1.52	<1	<1
Vinyl chloride	ug/l	-	-	-	-	-	-	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	0.0933	0.0191	0.0095	0.0093
Fluorene	ug/l	-	-	-	-	0.0153	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	0.0197	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	**0.058**	**0.0512**	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	0.047	0.121	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	0.0206	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	-	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	0.0083	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	0.0225	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	0.00794	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	**0.0132**	<0.005	<0.005
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	0.23	0.263	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	<0.5	<0.5
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	0.516	0.398
Sulphate as SO4	mg/l	-	-	-	-	-	-	292	290
Chloride	mg/l	-	-	-	-	-	-	1930	1960
Nitrate as NO3	mg/l	-	-	-	-	-	5.49	22.3	12.2
Nitrite as NO2	mg/l	-	-	-	-	-	-	0.736	0.79
Sulphide	mg/l	-	-	-	-	-	0.049	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	1.89	4.13	2.66
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
*: Denotes where data is not available									

**<: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW209	SW209	SW209	SW209
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	02/02/2024	25/04/2024	17/07/2024	10/09/2024
Field Parameters									
Specific Conductivity	µS/cm		--	--	--	607.95	679	8233	5391
pH			--	--	--	8.09	7.64	7.63	6.91
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >115%-120% saturation			6.79	8.7	8.75	4.91
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			12.29	12.3	14.9	14.8
Oxidative Redox Potential (ORP)	mV		--		--	40.5	111.4	67.4	90.9
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	-	-	--
Dissolved Antimony	ug/l	-	-	-	-	-	-	-	--
Dissolved Arsenic	ug/l	25	20	-	-	-	-	-	--
Dissolved Barium	ug/l	-	-	-	-	-	-	-	--
Dissolved Boron	ug/l	-	-	-	-	-	-	-	--
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	-	-
Dissolved Calcium	mg/l	-	-	-	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	-	0.134
Total Dissolved Iron	mg/l	-	-	-	-	-	-	-	-
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-	-	-	0.366
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	-	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	-	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	<0.5	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40		--	-	-	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	1.28	<1	-	-
Chloroform	ug/l	-	-	-	-	1.05	<1	2.26	1.39
Bromodichloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	-	<50	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	0.0111	0.00894
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	0.00629	**0.0124**
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	0.00686	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.042	<0.042	<0.042	<0.042
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-	-	-	6.3
Nitrite as NO2	mg/l	-	-	-	-	-	-	-	0.248
Sulphide	mg/l	-	-	-	-	-	-	-	0.0182
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	-	-	0.383
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C6-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
'-' Denotes where data is not available									

'<x' Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW301	SW301	SW301	SW301
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	15/12/2023	03/02/2024	25/04/2024	17/07/2024
Field Parameters									
Specific Conductivity	µS/cm		--	--	--	9064	14507	9147	13728
pH			--	--	--	7.67	7.7	7.36	7.37
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >115%-120% saturation			6.41	7.46	5.48	6.43
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			11.51	11.24	11.73	16.50
Oxidative Redox Potential (ORP)	mV		--		--	79.2	48.1	142.10	162.80
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	-	-	-
Dissolved Antimony	ug/l	-	-	-	-	-	-	-	-
Dissolved Arsenic	ug/l	25	20	-	-	1.68	-	-	-
Dissolved Barium	ug/l	-	-	-	-	-	-	-	-
Dissolved Boron	ug/l	-	-	-	-	-	-	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	<0.08	-	-	-
Dissolved Calcium	mg/l	-	-	-	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	1.03	-	-	-
Total Dissolved Iron	mg/l	-	-	-	-	-	-	-	-
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-	-	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	<0.01	-	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	1.36	-	-	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	<0.5	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40		--	26.4	-	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	1.21	3.22	3.44	-
Chloroform	ug/l	-	-	-	-	1.17	1.19	1.78	2.76
Bromodichloromethane	ug/l	-	-	-	-	<1	<1	<1	-
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	1.33	-
Bromoform	ug/l	-	-	-	-	<1	<1	<1	-
Benzene	ug/l	10	8	50	50	<1	<1	<1	-
Toluene	ug/l	10	10	-	-	<1	2.14	<1	-
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	2.98	<1	-
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	-
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	-
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	146	<50	-	-
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	0.0284	0.0236	0.0434	0.0437
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	0.011	0.00989
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	0.0116
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	**0.0219**	**0.0204**	**0.0354**	**0.0372**
Pyrene	ug/l	-	-	-	-	0.0206	0.0257	0.0324	0.031
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.042	<0.042	0.122	0.133
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-	-	-	-
Nitrite as NO2	mg/l	-	-	-	-	-	-	-	-
Sulphide	mg/l	-	-	-	-	-	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	-	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C6-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
'-' Denotes where data is not available									

'<x' Denotes results that are less than the limit of detection.

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW301	SW302	SW302	SW302
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	10/09/2024	15/12/2023	02/02/2024	25/04/2024
Field Parameters									
Specific Conductivity	µS/cm		--		--	14065	10668	11214	4160
pH			--		--	7.11	7.66	7.79	7.91
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile >80%-85% saturation >115%-120% saturation			5.91	7.01	7.67	5.48
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			15.7	11.19	11.17	11.90
Oxidative Redox Potential (ORP)	eV		--		--	135	87.60	72.30	243.70
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	--	-	-	-
Dissolved Antimony	ug/l	-	-	-	-	--	-	-	-
Dissolved Arsenic	ug/l	25	20	-	-	--	1.26	-	-
Dissolved Barium	ug/l	-	-	-	-	--	-	-	-
Dissolved Boron	ug/l	-	-	-	-	--	-	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	<0.08	-	-
Dissolved Calcium	mg/l	-	-	-	-	--	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	--	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	--	0.991	-	-
Total Dissolved Iron	mg/l	-	-	-	-	0.0435	-	-	-
Dissolved Magnesium	mg/l	-	-	-	-	--	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	0.283	-	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	<0.01	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	1.01	-	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	-	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40			-	19.7	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	2.38	4.25	2.12	-
Chloroform	ug/l	-	-	-	-		1.01	1.06	1.15
Bromodichloromethane	ug/l	-	-	-	-	-	-	-	-
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	<100	-	<100
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	0.0149	0.013	0.0177	0.0202
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	0.00794
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	0.0321	<0.005	0.0194	0.023
Pyrene	ug/l	-	-	-	-	0.0405	<0.005	0.0181	0.0184
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	0.0926	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	3.12	-	-	-
Nitrite as NO2	mg/l	-	-	-	-	0.085	-	-	-
Sulphide	mg/l	-	-	-	-	0.0412	-	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			0.752	-	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Notes:									
*: Denotes where data is not available									

**: Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019.				SW302	SW302	SW303	SW303
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	17/07/2024	19/09/2024	15/12/2023	02/02/2024
Field Parameters									
Specific Conductivity	µS/cm		--		--	13600	16254	6422	8991.8
pH			--		--	7.13	6.82	7.60	7.82
Dissolved Oxygen (DO)	mg/L		High Status - 90%ile >80%-85% saturation >115%-120% saturation			7.76	10.11	8.09	8.08
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			18.00	15.70	11.37	10.89
Oxidative Redox Potential (ORP)	eV		--		--	129.30	168.90	77.80	126.70
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	--	-	-
Dissolved Antimony	ug/l	-	-	-	-	-	--	-	-
Dissolved Arsenic	ug/l	25	20	-	-	-	--	0.678	-
Dissolved Barium	ug/l	-	-	-	-	-	--	-	-
Dissolved Boron	ug/l	-	-	-	-	-	--	-	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	<0.08	-
Dissolved Calcium	mg/l	-	-	-	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	0.705	-
Total Dissolved Iron	mg/l	-	-	-	-	-	<0.1134	-	-
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-	0.36	-	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	-	<0.01	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	0.997	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.26	1.3	14	14	-	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40			-	-	10.7	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-				
Chloroform	ug/l	-	-	-	-	1.98	<1	1.15	1.17
Bromodichloromethane	ug/l	-	-	-	-	-	-	-	-
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	<100	-	<100	<100
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	0.0135	0.00946	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	0.0155	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	0.0119	0.0325	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	0.0095	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	0.0116	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	0.00913	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphtalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-	2.26	-	-
Nitrite as NO2	mg/l	-	-	-	-	-	0.405	-	-
Sulphide	mg/l	-	-	-	-	-	<0.01	-	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	0.3	-	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C5-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	11	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	11	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	11	<10	<10	<10
Notes:									
*: Denotes where data is not available									

**: Denotes results that are less than the limit of detection.

VOLUME III LRD EIAR APPENDICES

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW303	SW303	SW303	SW304
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	25/04/2024	17/07/2024	10/09/2024	02/02/2024
Field Parameters									
Specific Conductivity	µS/cm		--	--	--	6734	8067	13335	12161
pH			--	--	--	7.49	7.88	7.06	8.02
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation >115%-120% saturation			10.04	8.53	10.25	9.66
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			13.10	16.40	16.80	9.28
Oxidative Redox Potential (ORP)	mV		--	--	--	226.30	296.20	179.00	112.30
Colour						clear	clear	clear	clear
Turbidity						clear	clear	clear	clear
Odour						none	none	none	none
NAPL						none	none	none	none
Laboratory Parameters									
Metals									
Dissolved Aluminium	ug/l	-	-	-	-	-	-	--	-
Dissolved Antimony	ug/l	-	-	-	-	-	-	--	-
Dissolved Arsenic	ug/l	25	25	-	-	-	-	--	-
Dissolved Barium	ug/l	-	-	-	-	-	-	--	-
Dissolved Boron	ug/l	-	-	-	-	-	-	--	-
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	-	-
Dissolved Calcium	mg/l	-	-	-	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	-	-
Total Dissolved Iron	mg/l	-	-	-	-	-	-	0.0114	-
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-	-	0.01	-
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	-	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	-	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.2	1.3	14	14	-	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40	--	--	-	-	-	-
Volatile Organic Compounds (VOCs)									
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<1	<1	<1	<1
Chloroform	ug/l	-	-	-	-	1.72	1.4	<1	<1
Bromodichloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)									
EPH Range >C10 - C40		-	-	-	-	-	<10	-	<10
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	0.00668	0.00595	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	0.00742	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005	<0.005
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005	<0.005
	ug/l								
Total PAHs	ug/l	-	-	-	-	<0.062	<0.062	<0.062	<0.062
Inorganics									
Fluoride	mg/l	0.5	1.5	-	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-	-	1.97	-
Nitrite as NO2	mg/l	-	-	-	-	-	-	0.129	-
Sulphide	mg/l	-	-	-	-	-	-	<0.01	-
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	-	<0.2	-
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)									
GRO >C5-C12	ug/l	-	-	-	-	<50	<50	<50	<50
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<50	<50	<50	<50
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<50	<50	<50	<50
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<100	<100	<100	<100
Notes:									
*: Denotes where data is not available									

"<": Denotes results that are less than the limit of detection.

Surface Water Monitoring
Round 1: 21/08/2023

Project Ref: 40000324

Parameter	Units	S.I. No. 272/2009 - European Communities Environmental Objectives (Surface Waters) Regulations 2009 including amendments S.I. No. 327/2012, S.I. No. 386/2015 and S.I. No. 77/2019				SW304	SW304	SW304
		AA-EQS inland Surface Waters	AA-EQS Other Surface Waters	MAC-EQS Other Surface Waters	MAC-EQS inland Surface Waters	25/04/2024	17/07/2024	10/09/2024
Field Parameters								
Specific Conductivity	µS/cm		--	--	--	8767	13970	33353
pH			--	--	--	7.83	7.86	7.02
Dissolved Oxygen (DO)	mg/L		High Status - 95%ile >80%-85% saturation <115%-120% saturation			9.94	9.80	752.00
Temperature	°C		Not greater than a 1.5°C rise in ambient temperature outside the mixing zone			11.20	16.70	16.20
Oxidative Redox Potential (ORP)	mV		--	--	--	150.80	296.30	182.10
Colour						clear	clear	clear
Turbidity						clear	clear	clear
Odour						none	none	none
NAPL						none	none	none
Laboratory Parameters								
Metals								
Dissolved Aluminium	ug/l	-	-	-	-	-	-	--
Dissolved Antimony	ug/l	-	-	-	-	-	-	--
Dissolved Arsenic	ug/l	25	25	-	-	-	-	--
Dissolved Barium	ug/l	-	-	-	-	-	-	--
Dissolved Boron	ug/l	-	-	-	-	-	-	--
Dissolved Cadmium	ug/l	0.08 (Class 1) 0.08 (Class 2) 0.09 (Class 3) 0.15 (Class 4) 0.25 (Class 5)	0.2	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	0.45 (Class 1) 0.45 (Class 2) 0.6 (Class 3) 0.9 (Class 4) 1.5 (Class 5)	-	-	-
Dissolved Calcium	mg/l	-	-	-	-	-	-	-
Dissolved Cobalt	ug/l	-	-	-	-	-	-	-
Dissolved Copper	ug/l	5 or 30	5	-	-	-	-	-
Total Dissolved Iron	mg/l	-	-	-	-	-	-	0.0114
Dissolved Magnesium	mg/l	-	-	-	-	-	-	-
Dissolved Manganese	ug/l	-	-	-	-	-	-	0.01
Dissolved Mercury	ug/l	-	-	0.07	0.07	-	-	-
Dissolved Molybdenum	ug/l	-	-	-	-	-	-	-
Dissolved Nickel	ug/l	4	8.6	34	34	-	-	-
Dissolved Potassium	mg/l	-	-	-	-	-	-	-
Dissolved Sodium	mg/l	-	-	-	-	-	-	-
Dissolved Strontium	ug/l	-	-	-	-	-	-	-
Dissolved Titanium	ug/l	-	-	-	-	-	-	-
Dissolved Vanadium	ug/l	-	-	-	-	-	-	-
Dissolved Lead	ug/l	1.2	1.3	14	14	-	-	-
Dissolved Zinc	ug/l	8, 50 or 100	40	--	--	-	-	-
Volatile Organic Compounds (VOCs)								
cis-1,2-Dichloroethene	ug/l	-	-	-	-	<1	<1	<1
Chloroform	ug/l	-	-	-	-	<1	<1	<1
Bromodichloromethane	ug/l	-	-	-	-	<1	<1	<1
Chlorobenzene	ug/l	1.5	25	-	-	<1	<1	<1
Bromoform	ug/l	-	-	-	-	<1	<1	<1
Benzene	ug/l	10	8	50	50	<1	<1	<1
Toluene	ug/l	10	10	-	-	<1	<1	<1
Methyl tertiary butyl ether (MTBE)	ug/l	-	-	-	-	<1	<1	<1
Dibromochloromethane	ug/l	-	-	-	-	<1	<1	<1
Vinyl chloride	ug/l	-	-	-	-	<1	<1	<1
EPH (Extractable Petroleum Hydrocarbons)								
EPH Range >C10 - C40		-	-	-	-	-	<10	-
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Fluorene	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Phenanthrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Anthracene	ug/l	0.1	0.1	0.1	0.1	<0.005	<0.005	<0.005
Fluoranthene	ug/l	0.0063	0.0063	0.12	0.12	<0.005	<0.005	<0.005
Pyrene	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Chrysene	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Acenaphthylene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	ug/l	-	-	-	-	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	ug/l	Footnote 10**	Footnote 10**	0.017	0.017	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	ug/l	0.00017	0.00017	0.027	0.27	<0.005	<0.005	<0.005
Naphthalene	ug/l	2	2	130	130	<0.01	<0.01	<0.01
Indeno(1,2,3-cd)pyrene (aq)	ug/l	Footnote 10**	Footnote 10**	-	-	<0.005	<0.005	<0.005
	ug/l							
Total PAHs	ug/l	-	-	-	-	<0.062	<0.062	<0.062
Inorganics								
Fluoride	mg/l	0.5	1.5	-	-	-	-	-
Phosphate (Ortho as PO4)	mg/l	-	-	-	-	-	-	-
Sulphate as SO4	mg/l	-	-	-	-	-	-	-
Chloride	mg/l	-	-	-	-	-	-	-
Nitrate as NO3	mg/l	-	-	-	-	-	-	1.97
Nitrite as NO2	mg/l	-	-	-	-	-	-	0.129
Sulphide	mg/l	-	-	-	-	-	-	<0.01
Ammoniacal Nitrogen as N	mg/l		High status <= 0.04 (mean)or <=0.090 (95%ile) or Good status <= 0.065 (mean) or <= 0.14 (95%ile)			-	-	0.24
Dissolved Organic Carbon	mg/l	-	-	-	-	-	-	-
Total Organic Carbon	mg/l	-	-	-	-	-	-	-
TPH Criteria Working Group (TPH CWG)								
GRO >C5-C12	ug/l	-	-	-	-	<50	<50	<50
Aliphatics >C5-C6	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C6-C8	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C8-C10	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C10-C12	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C12-C16 (aq)	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C16-C21 (aq)	ug/l	-	-	-	-	<10	<10	<10
Aliphatics >C21-C35 (aq)	ug/l	-	-	-	-	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	ug/l	-	-	-	-	<50	<50	<50
Aromatics >EC5-EC7	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC7-EC8	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC8-EC10	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC10-EC12	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC12-EC16 (aq)	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC16-EC21 (aq)	ug/l	-	-	-	-	<10	<10	<10
Aromatics >EC21-EC35 (aq)	ug/l	-	-	-	-	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	ug/l	-	-	-	-	<50	<50	<50
Total Aliphatics & Aromatics >C5-35 (aq)	ug/l	-	-	-	-	<100	<100	<100
Notes:								
*: Denotes where data is not available								

"<": Denotes results that are less than the limit of detection.

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WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation:	15 February 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	240207-91
Your Reference:	40000324
Location:	Cork
Report No:	720231
Order Number:	

This report has been revised and directly supersedes 719930 in its entirety.

We received 24 samples on Wednesday February 07, 2024 and 24 of these samples were scheduled for analysis which was completed on Thursday February 15, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29327592	BH201			01/02/2024
29327587	BH203			31/01/2024
29327588	BH205			31/01/2024
29327573	DMW1			01/02/2024
29327599	DMW2			01/02/2024
29327597	DMW3			01/02/2024
29327595	DMW4			01/02/2024
29327569	SMW1			01/02/2024
29327598	SMW2			01/02/2024
29327596	SMW3			01/02/2024
29327594	SMW4			01/02/2024
29327572	SMW1D			01/02/2024
29327576	SW204			02/02/2024
29327579	SW205			02/02/2024
29327575	SW206			02/02/2024
29327581	SW209			02/02/2024
29327585	SW301			02/02/2024
29327584	SW302			02/02/2024
29327582	SW303			02/02/2024
29327583	SW304			02/02/2024
29327586	TB			31/01/2024
29327589	WS202			31/01/2024
29327590	WS206			31/01/2024
29327591	WS206A			31/01/2024

Only received samples which have had analysis scheduled will be shown on the following pages.

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327587	29327592
			Customer Sample Reference	BH203	BH201
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13			X
Anions by Kone (w)	All	NDPs: 0 Tests: 13			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13			
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			
EPH and CWG by FID	All	NDPs: 0 Tests: 22			
Ferrous Iron	All	NDPs: 0 Tests: 13			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			
Manganese II	All	NDPs: 0 Tests: 13			
Mercury Dissolved	All	NDPs: 0 Tests: 14			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22			

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			Lab Sample No(s)	29327573	29327588	29327587
			Customer Sample Reference	DMW1	BH205	BH203
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	ZnAc (ALE246)	ZnAc (ALE246)
			Sample Type	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13		X	X	
Anions by Kone (w)	All	NDPs: 0 Tests: 13			X	X
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13		X		
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13		X		
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13			X	X
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13		X		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			X	X
EPH and CWG by FID	All	NDPs: 0 Tests: 22			X	X
Ferrous Iron	All	NDPs: 0 Tests: 13		X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			X	X
Manganese II	All	NDPs: 0 Tests: 13		X		
Mercury Dissolved	All	NDPs: 0 Tests: 14			X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13		X		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22			X	X

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327592	29327587
			Customer Sample Reference	BH201	BH203
			AGS Reference		
			Depth (m)		
			Container	0.5l glass bottle (ALE227)	PTFE/PE (ALE219)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X
Redox Potential	All	NDPs: 0 Tests: 13		X	
Sulphide	All	NDPs: 0 Tests: 13			
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	
VOC MS (W)	All	NDPs: 0 Tests: 24			

			Lab Sample No(s)	29327573	29327588	29327587
			Customer Sample Reference	DMW1	BH205	BH203
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	PTFE/PE (ALE219)
			Sample Type	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 13		X	X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13		X	X	
Redox Potential	All	NDPs: 0 Tests: 13			X	
Sulphide	All	NDPs: 0 Tests: 13			X	X
TPH CWG (W)	All	NDPs: 0 Tests: 22			X	
VOC MS (W)	All	NDPs: 0 Tests: 24		X		X

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327597	29327599
			Customer Sample Reference	DMW3	DMW2
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13			X
Anions by Kone (w)	All	NDPs: 0 Tests: 13			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			
EPH and CWG by FID	All	NDPs: 0 Tests: 22			
Ferrous Iron	All	NDPs: 0 Tests: 13			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			
Manganese II	All	NDPs: 0 Tests: 13			
Mercury Dissolved	All	NDPs: 0 Tests: 14			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22			

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			Lab Sample No(s)	29327595	29327569
			Customer Sample Reference	DMW4	SMW1
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13			X
Anions by Kone (w)	All	NDPs: 0 Tests: 13			X
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13		X	
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13			X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			
EPH and CWG by FID	All	NDPs: 0 Tests: 22		X	
Ferrous Iron	All	NDPs: 0 Tests: 13			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			
Manganese II	All	NDPs: 0 Tests: 13			
Mercury Dissolved	All	NDPs: 0 Tests: 14			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327597	29327599
			Customer Sample Reference	DMW3	DMW2
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X
Redox Potential	All	NDPs: 0 Tests: 13		X	
Sulphide	All	NDPs: 0 Tests: 13			
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	
VOC MS (W)	All	NDPs: 0 Tests: 24			

			Lab Sample No(s)	29327569	29327595	29327597
			Customer Sample Reference	SMW1	DMW4	DMW3
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 13		X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13		X	X	X
Redox Potential	All	NDPs: 0 Tests: 13			X	X
Sulphide	All	NDPs: 0 Tests: 13		X		X
TPH CWG (W)	All	NDPs: 0 Tests: 22			X	X
VOC MS (W)	All	NDPs: 0 Tests: 24		X		X

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91
Client Ref.: 40000324
Report Number: 720231
Location: Cork
Superseded Report: 719930

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Lab Sample No(s)												29327598			29327596						29327594
Customer Sample Reference												SMW2			SMW3						SMW4
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13					X													X	
Anions by Kone (w)	All	NDPs: 0 Tests: 13			X													X			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13									X										
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			X													X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13							X												
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13	X													X					
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13				X													X		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22	X											X		X					
EPH and CWG by FID	All	NDPs: 0 Tests: 22	X										X			X					
Ferrous Iron	All	NDPs: 0 Tests: 13						X													X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22									X				X						
Manganese II	All	NDPs: 0 Tests: 13						X													X
Mercury Dissolved	All	NDPs: 0 Tests: 14							X						X						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13								X											
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22		X										X			X				

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Lab Sample No(s)				29327594	29327572			29327576			29327579			29327575			29327581			29327585	29327584
Customer Sample Reference				SMW4	SMW1D			SW204			SW205			SW206			SW209			SW301	SW302
AGS Reference																					
Depth (m)																					
Container	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type	GW	GW	GW	GW	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Ammoniacal Nitrogen																					
Anions by Kone (w)																					
Determination of Dissolved Gases			X																		
Dissolved Inorganic Carbon																					
Dissolved Metals by ICP-MS	X																				
Dissolved Organic/Inorganic Carbon																					
Dissolved Oxygen by Titration																					
EPH (DRO) (C10-C40) Aqueous (W)							X			X			X			X			X		
EPH and CWG by FID						X			X			X			X			X			X
Ferrous Iron																					
GRO by GC-FID (W)			X					X			X			X			X			X	
Manganese II																					
Mercury Dissolved	X																				
Nitrite by Kone (w)		X																			
PAH Spec MS - Aqueous (W)							X			X			X			X			X		

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327594	29327596	29327598	29327572	29327576	29327579	29327575	29327581	29327585	29327584
			Customer Sample Reference	SMW4	SMW3	SMW2	SMW1D	SW204	SW205	SW206	SW209	SW301	SW302
			AGS Reference										
			Depth (m)										
			Container	HCl Filtered (ALE250)	DO KIT + DO 250 ml glass	500ml Plastic (ALE208)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW
pH Value	All	NDPs: 0 Tests: 13			X						X		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X						X		
Redox Potential	All	NDPs: 0 Tests: 13	X						X				
Sulphide	All	NDPs: 0 Tests: 13				X							
TPH CWG (W)	All	NDPs: 0 Tests: 22	X				X		X				
VOC MS (W)	All	NDPs: 0 Tests: 24						X					

			Lab Sample No(s)	29327594	29327596	29327598	29327572	29327576	29327579	29327575	29327581	29327585	29327584
			Customer Sample Reference	SMW4	SMW3	SMW2	SMW1D	SW204	SW205	SW206	SW209	SW301	SW302
			AGS Reference										
			Depth (m)										
			Container	HCl Filtered (ALE250)	DO KIT + DO 250 ml glass	500ml Plastic (ALE208)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW
Ammoniacal Nitrogen by Kone (w)	All	NDPs: 0 Tests: 13			X						X		
Chloride by Kone (w)	All	NDPs: 0 Tests: 13			X						X		
Conductivity (w)	All	NDPs: 0 Tests: 13	X						X				
Dissolved Oxygen (w)	All	NDPs: 0 Tests: 13				X							
Nitrate by Kone (w)	All	NDPs: 0 Tests: 13			X						X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			X						X		
Total Organic Carbon (w)	All	NDPs: 0 Tests: 13						X					

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327584	29327582	29327583	29327586	29327589	29327590	29327591
			Customer Sample Reference	SW302	SW303	SW304	TB	WS202	WS206	WS206A
			AGS Reference							
			Depth (m)							
			Container	250ml Amber Gl PTFE/PE (ALE219)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	SW	SW	SW	SW	SW	PW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13									X					
Anions by Kone (w)	All	NDPs: 0 Tests: 13										X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13														X
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13										X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13														X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13								X						
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13									X					
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22		X	X	X		X								
EPH and CWG by FID	All	NDPs: 0 Tests: 22			X	X		X								
Ferrous Iron	All	NDPs: 0 Tests: 13										X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			X	X		X								X
Manganese II	All	NDPs: 0 Tests: 13										X				
Mercury Dissolved	All	NDPs: 0 Tests: 14											X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13											X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22		X	X	X		X								

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327584	29327582	29327583	29327586	29327589
			Customer Sample Reference	SW302	SW303	SW304	TB	WS202
			AGS Reference					
			Depth (m)					
			Container	250ml Amber Gl PTFE/PE (ALE219)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	SW	SW	SW	SW	PW
pH Value	All	NDPs: 0 Tests: 13						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13						
Redox Potential	All	NDPs: 0 Tests: 13						
Sulphide	All	NDPs: 0 Tests: 13						
TPH CWG (W)	All	NDPs: 0 Tests: 22			X		X	
VOC MS (W)	All	NDPs: 0 Tests: 24		X		X		X

			Lab Sample No(s)	29327590	29327591
			Customer Sample Reference	WS206	WS206A
			AGS Reference		
			Depth (m)		
			Container	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13			
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			
Redox Potential	All	NDPs: 0 Tests: 13			
Sulphide	All	NDPs: 0 Tests: 13			
TPH CWG (W)	All	NDPs: 0 Tests: 22			
VOC MS (W)	All	NDPs: 0 Tests: 24			

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method					
Manganese II	<0.2 mg/l	TM005	0.235	1.5	1.07	0.713	<0.2	2.16
Carbon, Organic (diss.filt)	<3 mg/l	TM090	7.01	<3	3.19	<3	<3	<3
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	93.2	74.5	73.7	63.2	61.2	67
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.369 #	0.42 #	0.995 #	0.209 #	<0.2 #	<0.2 #
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Redox potential	mV	TM110	212	215	189	186	186	190
Iron, Ferrous	<0.1 mg/l	TM125	0.103 @#	<0.1 @#	1.8 @#	<0.1 @#	<0.1 @#	0.176 @#
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.51 #	0.779 #	2.21 #	<0.5 #	<0.5 #	1.08 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.501 #	0.24 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	3.22 #	0.807 #	<0.3 #	0.73 #	0.332 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.413 #	0.259 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	193 #	1490 #	944 #	628 #	77.7 #	1940 #
Nickel (diss.filt)	<0.4 µg/l	TM152	10.1 #	1.68 #	0.764 #	1.56 #	1.21 #	9.71 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	940 #	5.76 #	4.37 #	4.79 #	3.22 #	7.64 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.22 #	<0.019 #	1.61 #	<0.019 #	<0.019 #	0.307 #
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	374 #	153 #	<100 #	<100 #	116 #	110 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.065 #	<0.05 #	<0.05 #	0.099 #	0.256 #	0.129 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	0.135 #	0.088 #	0.066 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	86.1 #	162 #	67.5 #	119 #	82.8 #	83.7 #
Chloride	<2 mg/l	TM184	24.1 #	1390 #	389 #	755 #	338 #	348 #
Nitrate as NO3	<0.3 mg/l	TM184	2.47 #	3.85 #	<0.3 #	14 #	23.6 #	1.14 #
Oxygen, dissolved	<0.3 mg/l	TM187	2.21 #	1.21 #	1.85 #	1.87 #	2.11 #	1.98 #
Methane, dissolved	<1 µg/l	TM223	4.73	59	242	37.5	1.18	22.8
Ethene, dissolved	<1 µg/l	TM223	<1	<1	21.3	<1	<1	<1
Ethane, dissolved	<1 µg/l	TM223	<1	1.82	5.93	5.25	<1	<1
Carbon dioxide, dissolved	<1.3 mg/l	TM223	51.9	29.8	22.8	23.2	22.5	25.9
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1	<1	<1
pH	<1 pH Units	TM256	7.49 #	7.46 #	7.65 #	7.69 #	7.43 #	7.39 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	0.898 #	4.54 #	1.9 #	2.81 #	1.66 #	1.7 #
Alkalinity, Total as CaCO3	<3 mg/l	TM256	626 #	508 #	530 #	393 #	279 #	306 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SW204
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327576
	AGS Reference						

Component	LOD/Units	Method					
Manganese II	<0.2 mg/l	TM005	0.313	<0.2	2.27		1.1	
Carbon, Organic (diss.filt)	<3 mg/l	TM090	<3	4.91	27.4		5.8	
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	61.6	74.8	187		82.2	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2 #	<0.2 #	20.6 #		0.912 #	
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	0.0393 #		<0.01 #	
Redox potential	mV	TM110	213	174	197		178	
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 @#	<0.1 @#	5.69 @#		1.18 @#	
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.578 #	1.09 #	15.3 #		5.27 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.0851 #		<0.08 #	
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.32 #		<1 #	
Copper (diss.filt)	<0.3 µg/l	TM152	0.388 #	0.989 #	5.54 #		0.957 #	
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	0.299 #	6.63 #		0.391 #	
Manganese (diss.filt)	<3 µg/l	TM152	263 #	51.5 #	1210 #		875 #	
Nickel (diss.filt)	<0.4 µg/l	TM152	1.24 #	1.76 #	57.2 #		11.7 #	
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.08 #		<1 #	
Zinc (diss.filt)	<1 µg/l	TM152	3.75 #	22.1 #	12.3 #		9.55 #	
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019 #	0.0317 #	5.01 #		1.14 #	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	145 #	216 #	3040 #	143 #	<100 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	0.0131 #	<0.01 2 #	<0.01 #	
Nitrite as NO2	<0.05 mg/l	TM184	0.194 #	<0.05 #	<0.05 #		<0.05 #	
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.075 #	0.779 #	<0.05 #		<0.05 #	
Sulphate	<2 mg/l	TM184	212 #	115 #	840 #		96.4 #	
Chloride	<2 mg/l	TM184	1630 #	109 #	1050 #		57.2 #	
Nitrate as NO3	<0.3 mg/l	TM184	6.92 #	0.671 #	<0.3 #		<0.3 #	
Oxygen, dissolved	<0.3 mg/l	TM187	1.42 #	3.53 #	<0.3 #		1.99 #	
Methane, dissolved	<1 µg/l	TM223	8.3	1.22	2970		207	
Ethene, dissolved	<1 µg/l	TM223	<1	<1	18.9		<1	
Ethane, dissolved	<1 µg/l	TM223	1.19	<1	20.2		<1	
Carbon dioxide, dissolved	<1.3 mg/l	TM223	30.1	17.8	126		21.9	
Propane, dissolved	<1 µg/l	TM223	<1	<1	1.19		<1	
pH	<1 pH Units	TM256	7.27 #	7.66 #	7.55 #		7.92 #	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	5.29 #	1.05 #	5.4 #		0.92 #	
Alkalinity, Total as CaCO3	<3 mg/l	TM256	285 #	344 #	1150 #		486 #	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref.: 40000324 **Location:** Cork

Results Legend	Customer Sample Ref	SW205	SW206	SW209	SW301	SW302	SW303
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed. 1-4 Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327579	29327575	29327581	29327585	29327584	29327582
	AGS Reference						

Component	LOD/Units	Method						
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	103 #	<100 #	<100 #	<100 #	<100 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref.: 40000324 **Location:** Cork

Results Legend	Customer Sample Ref	SW304	WS202	WS206	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed. 1-4 Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	02/02/2024	31/01/2024	31/01/2024	31/01/2024		
	Sample Time	-	-	-	-		
	Date Received	07/02/2024	07/02/2024	07/02/2024	01/02/2024		
	SDG Ref	240207-91	240207-91	240207-91	240207-91		
	Lab Sample No.(s)	29327583	29327589	29327590	29327591		
	AGS Reference						

Component	LOD/Units	Method							
Manganese II	<0.2 mg/l	TM005		5.28	1.35	1.01			
Carbon, Organic (diss.filt)	<3 mg/l	TM090		6.58	6.58	<3			
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090		108	80.6	70.5			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		3.74 #	1.52 #	0.25 #			
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #			
Redox potential	mV	TM110		194	187	192			
Iron, Ferrous	<0.1 mg/l	TM125		36.4 @#	10.6 @#	<0.1 @#			
Arsenic (diss.filt)	<0.5 µg/l	TM152		10.2 #	5.23 #	<0.5 #			
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	0.126 #			
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #			
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3 #	<0.3 #	1.31 #			
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 #	<0.2 #	<0.2 #			
Manganese (diss.filt)	<3 µg/l	TM152		3550 #	1150 #	954 #			
Nickel (diss.filt)	<0.4 µg/l	TM152		1.47 #	1.54 #	2.69 #			
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #			
Zinc (diss.filt)	<1 µg/l	TM152		5.83 #	6.59 #	12 #			
Iron (Dis.Filt)	<0.019 mg/l	TM152		33.8 #	10.3 #	<0.019 #			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	125 #	128 #	<100 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Sulphate	<2 mg/l	TM184		41.7 #	102 #	113 #			
Chloride	<2 mg/l	TM184		927 #	245 #	729 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	2.02 #			
Oxygen, dissolved	<0.3 mg/l	TM187		<0.3 #	0.93 #	1.91 #			
Methane, dissolved	<1 µg/l	TM223		627	<1	1.1			
Ethene, dissolved	<1 µg/l	TM223		18600	<1	<1			
Ethane, dissolved	<1 µg/l	TM223		1160	<1	<1			
Carbon dioxide, dissolved	<1.3 mg/l	TM223		89	44.8	23.9			
Propane, dissolved	<1 µg/l	TM223		<1	<1	<1			
pH	<1 pH Units	TM256		7.63 #	7.41 #	7.68 #			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256		3.67 #	1.47 #	2.76 #			
Alkalinity, Total as CaCO3	<3 mg/l	TM256		796 #	499 #	418 #			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			BH201	BH203	BH205	DMW1	DMW2	DMW3
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327592	29327587	29327588	29327573	29327599	29327597
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0592 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0118 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	0.0474 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0643 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.0335 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	0.0648 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.281 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			DMW4	SMW1	SMW2	SMW3	SMW4	SW204
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
Date Sampled			01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327595	29327569	29327598	29327596	29327594	29327576
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	0.0161 #	<0.01 #	0.06 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	1.8 #	0.017 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.111 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.147 #	0.0427 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0197 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.139 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0231 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.107 #	0.0409 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0125 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	2.36 #	0.156 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW205	SW206	SW209	SW301	SW302	SW303
# ISO17025 accredited.	Depth (m)	-	-	-	-	-	-
M mCERTS accredited.	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
aq Aqueous / settled sample.	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29327579	29327575	29327581	29327585	29327584	29327582
(F) Trigger breach confirmed	AGS Reference						
1-4+[j] Sample deviation (see appendix)							

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0236 #	<0.005 #	0.0226 #	0.0177 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0241 #	<0.005 #	0.0204 #	0.0164 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.00742 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.021 #	<0.005 #	0.0257 #	0.0181 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW304	WS202	WS206	WS206A		
# ISO17025 accredited.	Depth (m)	-	-	-	-		
M mCERTS accredited.	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
aq Aqueous / settled sample.	Date Sampled	02/02/2024	31/01/2024	31/01/2024	31/01/2024		
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-		
tot.unfilt Total / unfiltered sample.	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024		
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240207-91	240207-91	240207-91	240207-91		
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29327583	29327589	29327590	29327591		
(F) Trigger breach confirmed	AGS Reference						
1-4+[j] Sample deviation (see appendix)							

Component	LOD/Units	Method							
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	0.0127 #	<0.01 #	<0.01 #			
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0242 #	<0.005 #	0.0335 #			
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0127 #	<0.005 #	0.0261 #			
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0231 #	<0.005 #	0.0357 #			
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	0.00732 #	<0.005 #	0.0166 #			
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0328 #			
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #			
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #			
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.145 #			

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	101	103	103	98	99	102
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	298 #	123 #	435 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	258	91	365	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	17	12	49	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	289	115	427	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SW204
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327576
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94	98	90	99	98	103
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW205	SW206	SW209	SW301	SW302	SW303
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327579	29327575	29327581	29327585	29327584	29327582
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	101	101	106	105	105	103
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW304	WS202	WS206	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	02/02/2024	31/01/2024	31/01/2024	31/01/2024		
	Sample Time	-	-	-	-		
	Date Received	07/02/2024	07/02/2024	07/02/2024	01/02/2024		
	SDG Ref	240207-91	240207-91	240207-91	240207-91		
	Lab Sample No.(s)	29327583	29327589	29327590	29327591		
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	102	97	98	97		
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	960 #	<50 #	157 #		
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	914	<10	64		
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	16	<10	57		
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	13	<10	12		
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	10		
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	960	<10	157		

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	104	108	100	103	102	108
Toluene-d8**	%	TM208	101	111	92.6	89.4	91.9	98.8
4-Bromofluorobenzene**	%	TM208	99.3	98.8	105	100	91.7	97.4
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	421 #	<1 #	<1 #	10.7 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.41 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	1.08 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	2.26 #	3.41 #	4.71 #	1.61 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1210 #	513 #	1470 #	161 #	<1 #	1.68 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.61 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	29.3 #	34 #	148 #	7.03 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327572
	AGS Reference						

Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	101	111	106	102	106	104
Toluene-d8**	%	TM208	105	98.6	92.5	98.9	95.8	99.6
4-Bromofluorobenzene**	%	TM208	108	95.2	116	97.6	103	85.2
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	1.34 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	51 #	4.18 #	<1 #	<1 #	8.39 #	4.03 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	13.4 #	<1 #	<1 #	<1 #	11.4 #	1.2 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Sample Type	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Date Sampled						
	Sample Time	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	Date Received	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	SDG Ref	29327595	29327569	29327598	29327596	29327594	29327572
	Lab Sample No.(s)						
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Sample Type	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Date Sampled						
	Sample Time	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	Date Received	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	SDG Ref	29327595	29327569	29327598	29327596	29327594	29327572
	Lab Sample No.(s)						
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	102	111	99.9	102	110	104
Toluene-d8**	%	TM208	96.9	95.1	97	81.5	102	98.7
4-Bromofluorobenzene**	%	TM208	102	86.7	108	104	104	99.9
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	1.36 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.98 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	12.7 #	1.28 #	3.22 #	2.12 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.05 #	1.19 #	1.05 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.14 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
	AGS Reference						
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	01/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	104	108		106	106	102
Toluene-d8**	%	TM208	101	101		80.5	90.6	98.9
4-Bromofluorobenzene**	%	TM208	104	107		105	126	102
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1		<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #		4830 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		1.44 #	1.08 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #		<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		6.38 #	<1 #	1.13 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		3440 #	71.8 #	336 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1		<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.17 #	<1 #		<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #		<1 #	61.5 #	279 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #		1.24 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1		<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1		<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2		<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5		<5	<5	<5
Dibromofluoromethane**	%	TM208			107 3			
Toluene-d8**	%	TM208			92.8 3			
4-Bromofluorobenzene**	%	TM208			97 3			
Dichlorodifluoromethane	<1 µg/l	TM208			<1 3			
Chloromethane	<1 µg/l	TM208			<1 3			
Vinyl chloride	<1 µg/l	TM208			<1 3			
Bromomethane	<1 µg/l	TM208			<1 3			
Chloroethane	<1 µg/l	TM208			<1 3			
Trichlorofluoromethane	<1 µg/l	TM208			<1 3			
1,1-Dichloroethene	<1 µg/l	TM208			<1 3			
Carbon disulphide	<1 µg/l	TM208			<1 3			
Dichloromethane	<3 µg/l	TM208			<3 3			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208			<1 3			
trans-1,2-Dichloroethene	<1 µg/l	TM208			<1 3			
1,1-Dichloroethane	<1 µg/l	TM208			<1 3			
cis-1,2-Dichloroethene	<1 µg/l	TM208			<1 3			
2,2-Dichloropropane	<1 µg/l	TM208			<1 3			
Bromochloromethane	<1 µg/l	TM208			<1 3			
Chloroform	<1 µg/l	TM208			1.75 3			
1,1,1-Trichloroethane	<1 µg/l	TM208			<1 3			
1,1-Dichloropropene	<1 µg/l	TM208			<1 3			
Carbontetrachloride	<1 µg/l	TM208			<1 3			
1,2-Dichloroethane	<1 µg/l	TM208			<1 3			
Benzene	<1 µg/l	TM208			<1 3			
Trichloroethene	<1 µg/l	TM208			<1 3			
1,2-Dichloropropane	<1 µg/l	TM208			<1 3			
Dibromomethane	<1 µg/l	TM208			<1 3			
Bromodichloromethane	<1 µg/l	TM208			<1 3			
cis-1,3-Dichloropropene	<1 µg/l	TM208			<1 3			
Toluene	<1 µg/l	TM208			<1 3			
trans-1,3-Dichloropropene	<1 µg/l	TM208			<1 3			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930

Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 02/02/2024 07/02/2024 240207-91 29327582	Surface Water (SW) 02/02/2024 07/02/2024 240207-91 29327583	Process Water (PR) 31/01/2024 07/02/2024 240207-91 29327586	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327589	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327590	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327591
Component	LOD/Units	Method						
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 3			
1,3-Dichloropropane	<1 µg/l	TM208		<1 3			
Tetrachloroethene	<1 µg/l	TM208		<1 3			
Dibromochloromethane	<1 µg/l	TM208		<1 3			
1,2-Dibromoethane	<1 µg/l	TM208		<1 3			
Chlorobenzene	<1 µg/l	TM208		<1 3			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 3			
Ethylbenzene	<1 µg/l	TM208		<1 3			
m,p-Xylene	<1 µg/l	TM208		<1 3			
o-Xylene	<1 µg/l	TM208		<1 3			
Styrene	<1 µg/l	TM208		<1 3			
Bromoform	<1 µg/l	TM208		<1 3			
Isopropylbenzene	<1 µg/l	TM208		<1 3			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 3			
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 3			
Bromobenzene	<1 µg/l	TM208		<1 3			
Propylbenzene	<1 µg/l	TM208		<1 3			
2-Chlorotoluene	<1 µg/l	TM208		<1 3			
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 3			
4-Chlorotoluene	<1 µg/l	TM208		<1 3			
tert-Butylbenzene	<1 µg/l	TM208		<1 3			
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 3			
sec-Butylbenzene	<1 µg/l	TM208		<1 3			
4-iso-Propyltoluene	<1 µg/l	TM208		<1 3			
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 3			
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 3			
n-Butylbenzene	<1 µg/l	TM208		<1 3			
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 3			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1 3			
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 3			
Hexachlorobutadiene	<1 µg/l	TM208		<1 3			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 3			
Naphthalene	<1 µg/l	TM208		<1 3			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930

Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 02/02/2024 07/02/2024 240207-91 29327582	Surface Water (SW) 02/02/2024 07/02/2024 240207-91 29327583	Process Water (PR) 31/01/2024 07/02/2024 240207-91 29327586	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327589	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327590	Ground Water (GW) 31/01/2024 07/02/2024 240207-91 29327591
Component	LOD/Units	Method						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 3			
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1 3			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Extractable Petroleum Hydrocarbons (EPH) By GC-FID

EPH (DRO) (C10-C40)

Sample No	Customer Sample Ref.	Depth	Matrix (mg/kg)	EPH	Interpretation
29335405	WS206		ROUND_WATE	128	
29335413	WS202		ROUND_WATE	125	
29335411	SW204		JRFACE_WATE	<100	
29335518	DMW1		ROUND_WATE	<100	
29347719	SMW3		ROUND_WATE	3040	
29335516	DMW3		ROUND_WATE	110	
29335420	SW209		JRFACE_WATE	<100	
29335415	SW206		JRFACE_WATE	103	
29347630	SMW2		ROUND_WATE	216	
29347645	BH201		ROUND_WATE	374	
29335403	SW304		JRFACE_WATE	<100	
29335412	SW205		JRFACE_WATE	<100	
29335401	SW301		JRFACE_WATE	<100	
29347729	SMW1		ROUND_WATE	145	
29335408	WS206A		ROUND_WATE	<100	
29335416	SW303		JRFACE_WATE	<100	
29347655	BH205		ROUND_WATE	<100	
29335407	SW302		JRFACE_WATE	<100	
29347651	BH203		ROUND_WATE	153	
29335517	DMW4		ROUND_WATE	<100	
29347722	DMW2		ROUND_WATE	116	
29347633	SMW4		ROUND_WATE	143	

Extractable Petroleum Hydrocarbons (formally Diesel Range Organics) :- Any compound extractable in n-hexane within the carbon range C10-C40, includes Aliphatic (Min Oil), Aromatic (PAHs) and naturally occurring compounds.

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Table of Results - Appendix

Method No	Description
TM005	Manganese II by spectrophotometer
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM187	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM245	Determination of GRO by Headspace in waters
TM125	Determination of Total/Ferrous Iron
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM110	Redox Potential
TM152	Analysis of Aqueous Samples by ICP-MS
TM172	EPH in Waters
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Test Completion Dates

Lab Sample No(s)	29327592	29327587	29327588	29327573	29327599	29327597	29327595	29327569	29327598	29327596
Customer Sample Ref.	BH001	BH003	BH005	DMW1	DMW2	DMW3	DMW4	SMW1	SMW2	SMW3
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	
Anions by Kone (w)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	12-Feb-2024	
Determination of Dissolved Gases	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	13-Feb-2024	13-Feb-2024	10-Feb-2024	10-Feb-2024	
Dissolved Inorganic Carbon	14-Feb-2024	15-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	15-Feb-2024	
Dissolved Metals by ICP-MS	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	
Dissolved Organic/Inorganic Carbon	14-Feb-2024	13-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	13-Feb-2024	
Dissolved Oxygen by Titration	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
EPH (DRO) (C10-C40) Aqueous (W)	14-Feb-2024	14-Feb-2024	14-Feb-2024	12-Feb-2024	14-Feb-2024	12-Feb-2024	12-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024
EPH and CWG by FID	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024
GRO by GC-FID (W)	09-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Manganese II	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	
Mercury Dissolved	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	13-Feb-2024
Nitrite by Kone (w)	08-Feb-2024	08-Feb-2024	08-Feb-2024	09-Feb-2024	08-Feb-2024	09-Feb-2024	09-Feb-2024	08-Feb-2024	08-Feb-2024	08-Feb-2024
PAH Spec MS - Aqueous (W)	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	
Phosphate by Kone (w)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
Redox Potential	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
Sulphide	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	
TPH CWG (W)	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	12-Feb-2024	09-Feb-2024	12-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024

Lab Sample No(s)	29327594	29327572	29327576	29327579	29327575	29327581	29327585	29327584	29327582	29327583
Customer Sample Ref.	SMW8	SMW10	SW004	SW005	SW006	SW009	SW001	SW002	SW003	SW004
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	12-Feb-2024									
Anions by Kone (w)	12-Feb-2024									
Determination of Dissolved Gases	10-Feb-2024									
Dissolved Inorganic Carbon	14-Feb-2024									
Dissolved Metals by ICP-MS	12-Feb-2024									
Dissolved Organic/Inorganic Carbon	14-Feb-2024									
Dissolved Oxygen by Titration	09-Feb-2024									
EPH (DRO) (C10-C40) Aqueous (W)	14-Feb-2024		14-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
EPH and CWG by FID	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron	09-Feb-2024									
GRO by GC-FID (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Manganese II	10-Feb-2024									
Mercury Dissolved	14-Feb-2024									
Nitrite by Kone (w)	08-Feb-2024									
PAH Spec MS - Aqueous (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value	12-Feb-2024									
Phosphate by Kone (w)	09-Feb-2024									
Redox Potential	09-Feb-2024									
Sulphide	13-Feb-2024									
TPH CWG (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Lab Sample No(s)	29327586	29327589	29327590	29327591
Customer Sample Ref.	TB	WS202	WS206	WS206A
AGS Ref.				
Depth				
Type	Process	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen		12-Feb-2024	12-Feb-2024	12-Feb-2024
Anions by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
Determination of Dissolved Gases		10-Feb-2024	10-Feb-2024	13-Feb-2024
Dissolved Inorganic Carbon		15-Feb-2024	14-Feb-2024	15-Feb-2024
Dissolved Metals by ICP-MS		12-Feb-2024	12-Feb-2024	12-Feb-2024
Dissolved Organic/Inorganic Carbon		14-Feb-2024	09-Feb-2024	09-Feb-2024
Dissolved Oxygen by Titration		09-Feb-2024	09-Feb-2024	09-Feb-2024
EPH (DRO) (C10-C40) Aqueous (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
EPH and CWG by FID		12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron		09-Feb-2024	09-Feb-2024	09-Feb-2024
GRO by GC-FID (W)		09-Feb-2024	09-Feb-2024	12-Feb-2024
Manganese II		10-Feb-2024	10-Feb-2024	10-Feb-2024
Mercury Dissolved		13-Feb-2024	13-Feb-2024	14-Feb-2024
Nitrite by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
PAH Spec MS - Aqueous (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value		12-Feb-2024	12-Feb-2024	12-Feb-2024
Phosphate by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
Redox Potential		09-Feb-2024	09-Feb-2024	09-Feb-2024
Sulphide		13-Feb-2024	13-Feb-2024	13-Feb-2024
TPH CWG (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	09-Feb-2024	12-Feb-2024	09-Feb-2024	09-Feb-2024

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref: 40000324 **Location:** Cork

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Deeside
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email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: John Moran

CERTIFICATE OF ANALYSIS

Date of report Generation:	07 May 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	240426-68
Your Reference:	40000324
Location:	Marina Quarter, Cork
Report No:	727886
Order Number:	P100049IE001

This report has been revised and directly supersedes 727728 in its entirety.

We received 10 samples on Friday April 26, 2024 and 10 of these samples were scheduled for analysis which was completed on Tuesday May 07, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 07/05/2024

Validated

CERTIFICATE OF ANALYSIS

SDG: 240426-68 | Report Number: 727886 | Superseded Report: 727728
Client Ref.: 40000324 | Location: Marina Quarter, Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29713077	SW202			25/04/2024
29713078	SW203			25/04/2024
29713079	SW204			25/04/2024
29722320	SW206			25/04/2024
29722321	SW209			25/04/2024
29713071	SW301			25/04/2024
29713072	SW302			25/04/2024
29713073	SW303			25/04/2024
29713074	SW304			25/04/2024
29713076	SW203D			25/04/2024

Only received samples which have had analysis scheduled will be shown on the following pages.

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 | Report Number: 727886 | Superseded Report: 727728
Client Ref.: 40000324 | Location: Marina Quarter, Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Lab Sample No(s)			29713077		29713078		29713079		29722320			29722321			29713071			29713072			29713073
Customer Sample Reference			SW202		SW203		SW204		SW206			SW209			SW301			SW302			SW303
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
EPH and CWG by FID	All	NDPs: 0 Tests: 10	X		X		X		X			X			X			X			X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10		X		X		X			X			X			X			X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10	X		X		X			X			X			X			X		
TPH CWG (W)	All	NDPs: 0 Tests: 10	X		X		X		X			X			X			X			X
VOC MS (W)	All	NDPs: 0 Tests: 10		X		X		X			X			X			X			X	

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29713076	SW203D			Vial (ALE297)	SW				X						X
				0.5l glass bottle (ALE227)	SW		X				X		X		
29713074	SW304			Vial (ALE297)	SW				X						X
				250ml Amber Gl. PTFE/PE (ALE219)	SW						X				
				0.5l glass bottle (ALE227)	SW		X						X		
29713073	SW303			Vial (ALE297)	SW				X						X
				250ml Amber Gl. PTFE/PE (ALE219)	SW						X				

Validated

CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

PAH Spec MS - Aqueous (W)

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- (F) Trigger breach confirmed
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method						
		Customer Sample Ref.	SW202	SW203	SW204	SW206	SW209	SW301
		Depth (m)	-	-	-	-	-	-
		Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
		Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
		Sample Time	-	-	-	-	-	-
		Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024
		SDG Ref	240426-68	240426-68	240426-68	240426-68	240426-68	240426-68
		Lab Sample No.(s)	29713077	29713078	29713079	29722320	29722321	29713071
		AGS Reference						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	0.448 #	<0.01 #	<0.01 @#	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.157 #	0.0376 #	<0.005 @#	0.0434 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.00774 #	<0.005 #	<0.005 @#	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0286 #	0.0758 #	<0.005 @#	0.0354 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0142 #	0.00528 #	<0.005 @#	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0697 #	0.0258 #	<0.005 @#	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0777 #	0.00794 #	<0.005 @#	0.011 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.00816 #	0.0273 #	<0.005 @#	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0217 #	0.0804 #	<0.005 @#	0.0324 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 @#	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.00561 #	0.0239 #	<0.005 @#	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 @#	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	0.00353 #	0.0211 #	<0.002 @#	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 @#	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 @#	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0115 #	<0.005 @#	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	0.842 #	0.317 #	<0.082 @#	0.122 #

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW203D		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713072	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713073	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713074	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713076		
Component	LOD/Units	Method					
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0202 #	<0.005 #	<0.005 #	<0.005 #	
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Fluoranthene (aq)	<0.005 µg/l	TM178	0.023 #	<0.005 #	<0.005 #	<0.005 #	
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Fluorene (aq)	<0.005 µg/l	TM178	0.00794 #	<0.005 #	<0.005 #	<0.005 #	
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Pyrene (aq)	<0.005 µg/l	TM178	0.0194 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.082 #	

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW202	SW203	SW204	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713077	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713078	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713079	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29722320	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29722321	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713071
Component	LOD/Units	Method					
GRO Surrogate % recovery**	%	TM245	89	89	90	102	98	87
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW203D		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713072	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713073	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713074	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713076		
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	91	86	101 2	104 2		
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 2#	<50 2#		
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10 2	<10 2		
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10		

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW202	SW203	SW204	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713077	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713078	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713079	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29722320	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29722321	Surface Water (SW) 25/04/2024 26/04/2024 240426-68 29713071
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	109	108	111	107	109	108
Toluene-d8**	%	TM208	94.9	97.9	97.3	98	98.2	97.9
4-Bromofluorobenzene**	%	TM208	96.8	97.5	89	92.9	94	95.5
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	23.7 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.01 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	3.5 #	91.9 #	<1 #	3.44 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.78 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	4.25 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728

Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW202	SW203	SW204	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
	Sample Time						
	Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024
	SDG Ref	240426-68	240426-68	240426-68	240426-68	240426-68	240426-68
	Lab Sample No.(s)	29713077	29713078	29713079	29722320	29722321	29713071
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.33 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728

Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW202	SW203	SW204	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024	25/04/2024
	Sample Time						
	Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024	26/04/2024
	SDG Ref	240426-68	240426-68	240426-68	240426-68	240426-68	240426-68
	Lab Sample No.(s)	29713077	29713078	29713079	29722320	29722321	29713071
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW203D		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024		
	Sample Time						
	Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024		
	SDG Ref	240426-68	240426-68	240426-68	240426-68		
	Lab Sample No.(s)	29713072	29713073	29713074	29713076		
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	109	107	110 2	109 2		
Toluene-d8**	%	TM208	95.1	98.9	99.8 2	98.4 2		
4-Bromofluorobenzene**	%	TM208	99.1	93.6	92.1 2	92.3 2		
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1 2	<1 2		
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 2#	<3 2#		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1 2	<1 2		
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Chloroform	<1 µg/l	TM208	1.15 #	1.72 #	<1 2#	<1 2#		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW203D		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024		
	Sample Time						
	Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024		
	SDG Ref	240426-68	240426-68	240426-68	240426-68		
	Lab Sample No.(s)	29713072	29713073	29713074	29713076		
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1 2	<1 2		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 2#	<1 2#		
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1 2	<1 2		

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW203D		
# ISO17025 accredited.	Depth (m)						
M mCERTS accredited.	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
aq Aqueous / settled sample.	Date Sampled	25/04/2024	25/04/2024	25/04/2024	25/04/2024		
diss.filt Dissolved / filtered sample.	Sample Time						
tot.unfilt Total / unfiltered sample.	Date Received	26/04/2024	26/04/2024	26/04/2024	26/04/2024		
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240426-68	240426-68	240426-68	240426-68		
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29713072	29713073	29713074	29713076		
(F) Trigger breach confirmed	AGS Reference						
1-4+[]@ Sample deviation (see appendix)							
Component	**LOD/Units**	**Method**					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 Report Number: 727886 Superseded Report: 727728
Client Ref.: 40000324 Location: Marina Quarter, Cork

Table of Results - Appendix

Method No	Description
TM245	Determination of GRO by Headspace in waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 240426-68 **Report Number:** 727886 **Superseded Report:** 727728
Client Ref.: 40000324 **Location:** Marina Quarter, Cork

Test Completion Dates

Lab Sample No(s)	29713077	29713078	29713079	29722320	29722321	29713071	29713072	29713073	29713074	29713076
Customer Sample Ref.	SW202	SW203	SW204	SW206	SW209	SW301	SW302	SW303	SW304	SW2030
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
EPH and CWG by FID	03-May-2024	03-May-2024	03-May-2024	03-May-2024	03-May-2024	01-May-2024	01-May-2024	01-May-2024	01-May-2024	01-May-2024
GRO by GC-FID (W)	30-Apr-2024	30-Apr-2024	30-Apr-2024	01-May-2024	01-May-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	02-May-2024	01-May-2024
PAH Spec MS - Aqueous (W)	03-May-2024	03-May-2024	03-May-2024	03-May-2024	07-May-2024	02-May-2024	02-May-2024	02-May-2024	02-May-2024	02-May-2024
TPH CWG (W)	03-May-2024	03-May-2024	03-May-2024	03-May-2024	03-May-2024	01-May-2024	01-May-2024	01-May-2024	02-May-2024	01-May-2024
VOC MS (W)	30-Apr-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	30-Apr-2024	02-May-2024	30-Apr-2024

CERTIFICATE OF ANALYSIS

SDG: 240426-68 **Report Number:** 727886 **Superseded Report:** 727728
Client Ref: 40000324 **Location:** Marina Quarter, Cork

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Ian Byrne

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 October 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	240718-84
Your Reference:	
Location:	Marina Quarter
Report No:	742666
Order Number:	P100131IE001

This report has been revised and directly supersedes 736027 in its entirety.

We received 11 samples on Thursday July 18, 2024 and 11 of these samples were scheduled for analysis which was completed on Monday July 29, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Lauren Ellis
General Manager Western Europe Environmental

Validated

CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027
Client Ref.: Location: Marina Quarter

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
30096456	SW201			17/07/2024
30096459	SW202			17/07/2024
30096460	SW203			17/07/2024
30096462	SW205			17/07/2024
30096464	SW206			17/07/2024
30096468	SW209			17/07/2024
30096465	SW301			17/07/2024
30096466	SW302			17/07/2024
30096470	SW303			17/07/2024
30096469	SW304			17/07/2024
30096457	SW201-D			17/07/2024

Only received samples which have had analysis scheduled will be shown on the following pages.

16:18:47 03/10/2024

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	30096456	30096459	30096460	30096462	30096464	30096468	30096465	30096466	30096470	30096469
			Customer Sample Reference	SW201	SW202	SW203	SW205	SW206	SW209	SW301	SW302	SW303	SW304
			AGS Reference										
			Depth (m)										
			Container	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL
EPH and CWG by FID	All	NDPs: 0 Tests: 11		X		X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11			X		X		X		X		X		X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 11		X		X		X		X		X		X	
TPH CWG (W)	All	NDPs: 0 Tests: 11		X		X		X		X		X		X	
VOC MS (W)	All	NDPs: 0 Tests: 11			X		X		X		X		X		X

30096457	30096469	30096457
SW201-D	SW304	SW201-D
Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)
UNL	UNL	UNL
	X	
X		X
	X	
	X	
X		X

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW201	SW202	SW203	SW205	SW206	SW209
Depth (m)			-	-	-	-	-	-
Sample Type			Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
Date Sampled			17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024
Sample Time			-	-	-	-	-	-
Date Received			18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
SDG Ref			240718-84	240718-84	240718-84	240718-84	240718-84	240718-84
Lab Sample No.(s)			30096456	30096459	30096460	30096462	30096464	30096468
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0152	<0.005	<0.005	<0.005	0.0903	0.0111
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	0.058	0.00629
Anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	0.0116	0.0197	<0.005
Fluorene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	0.00846	0.0153	<0.005
Chrysene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pyrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	0.047	0.00686
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082	<0.082	<0.082	<0.082	0.23	<0.082

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW301	SW302	SW303	SW304	SW201-D	
Depth (m)			-	-	-	-	-	
Sample Type			Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
Date Sampled			17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	
Sample Time			-	-	-	-	-	
Date Received			18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	
SDG Ref			240718-84	240718-84	240718-84	240718-84	240718-84	
Lab Sample No.(s)			30096465	30096466	30096470	30096469	30096457	
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01	<0.01	<0.01	<0.01	<0.01	
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0437	0.0135	<0.005	<0.005	0.0173	
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0372	0.0119	0.00668	<0.005	<0.005	
Anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0116	<0.005	<0.005	<0.005	<0.005	
Fluorene (aq)	<0.005 µg/l	TM178	0.00989	<0.005	<0.005	<0.005	<0.005	
Chrysene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	0.012	
Pyrene (aq)	<0.005 µg/l	TM178	0.031	0.0095	0.00742	<0.005	<0.005	
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002	<0.002	<0.002	<0.002	<0.002	
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.133	<0.082	<0.082	<0.082	<0.082	

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

TPH CWG (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW205	SW206	SW209
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024
	Sample Time	-	-	-	-	-	-
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	240718-84
	Lab Sample No.(s)	30096456	30096459	30096460	30096462	30096464	30096468
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	96	93	96	95	90
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50	<50	<50	<50	<50	<50
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<50	<50	<10	<50	<50	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<50	<50	<10	<50	<50	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<50	572	<10	<50	<50	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<50	572	<10	<50	<50	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<50	<50	<10	<50	<50	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<50	<50	<10	<50	<50	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<50	610	<10	<50	<50	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<50	610	<10	<50	<50	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<50	1180	<10	<50	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

TPH CWG (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	SW304	SW201-D	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	
	Sample Time	-	-	-	-	-	
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	
	Lab Sample No.(s)	30096465	30096466	30096470	30096469	30096457	
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	89	98	93	97	104	
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50	<50	<50	<50	<50	
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<50	<10	<10	
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	11	<50	<10	<10	
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	11	<50	<10	<10	
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	11	<10	<10	<10	

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW205	SW206	SW209
# ISO17025 accredited.	Depth (m)						
M mCERTS accredited.	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
aq Aqueous / settled sample.	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	240718-84
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	30096456	30096459	30096460	30096462	30096464	30096468
(F) Trigger breach confirmed	AGS Reference						
1-4+[@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	114	110	108	118	109	119
Toluene-d8**	%	TM208	98.3	97.6	97	99	97.6	103
4-Bromofluorobenzene**	%	TM208	90.7	92.5	95	90.6	93.2	101
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Vinyl chloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3	<3	<3
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloroform	<1 µg/l	TM208	<1	<1	<1	<1	3.44	2.26
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Trichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1	1.83	<1
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Toluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW205	SW206	SW209
# ISO17025 accredited.	Depth (m)						
M mCERTS accredited.	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
aq Aqueous / settled sample.	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	240718-84
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	30096456	30096459	30096460	30096462	30096464	30096468
(F) Trigger breach confirmed	AGS Reference						
1-4+[@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dibromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	1.65	<1
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
o-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Styrene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromoform	<1 µg/l	TM208	<1.25	<1.3	<1	<1.1	<1	<1
Isopropylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Propylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
2-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
4-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
sec-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Naphthalene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW205	SW206	SW209
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024
	Sample Time						
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	240718-84
	Lab Sample No.(s)	30096455	30096459	30096460	30096462	30096464	30096468
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	SW304	SW201-D	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	
	Sample Time						
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	
	Lab Sample No.(s)	30096465	30096466	30096470	30096469	30096457	
	AGS Reference						

Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	115	109	87	116	108	
Toluene-d8**	%	TM208	98.9	97.8	99.5	97.6	97.3	
4-Bromofluorobenzene**	%	TM208	93.8	92.7	85.4	93.5	94.2	
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Chloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Vinyl chloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Bromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Chloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3	<3	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1	<1	<1	<1	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Bromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Chloroform	<1 µg/l	TM208	2.76	1.98	1.4	<1	<1	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Benzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Trichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Toluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	SW304	SW201-D	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	
	Sample Time						
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	
	Lab Sample No.(s)	30096465	30096466	30096470	30096469	30096457	
	AGS Reference						
Component	LOD/Units	Method					
Tetrachloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1
Dibromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1	<1
Chlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1
Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1
o-Xylene	<1 µg/l	TM208	<1	<1	<1	<1	<1
Styrene	<1 µg/l	TM208	<1	<1	<1	<1	<1
Bromoform	<1 µg/l	TM208	<1	<1.15	<1	<1.15	<1.2
Isopropylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1
Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
Propylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
2-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
4-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1
tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
sec-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1	<1	<1	<1
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	<1	<1
Naphthalene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027

Client Ref.: Location: Marina Quarter

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	SW304	SW201-D	
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
	Date Sampled	17/07/2024	17/07/2024	17/07/2024	17/07/2024	17/07/2024	
	Sample Time						
	Date Received	18/07/2024	18/07/2024	18/07/2024	18/07/2024	18/07/2024	
	SDG Ref	240718-84	240718-84	240718-84	240718-84	240718-84	
	Lab Sample No.(s)	30096465	30096466	30096470	30096469	30096457	
	AGS Reference						
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027
Client Ref.: Location: Marina Quarter

Data Amendment

Sample No. : 30096465 **Date of Amendment :** 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW301	Sample ID Change	SW207	SW301

Sample No. : 30096466 **Date of Amendment :** 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW302	Sample ID Change	SW208	SW302

Sample No. : 30096469 **Date of Amendment :** 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW304	Sample ID Change	SW210	SW304

Sample No. : 30096470 **Date of Amendment :** 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW303	Sample ID Change	SW211	SW303

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027
Client Ref.: Location: Marina Quarter

Table of Results - Appendix

Method No	Description
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM245	Determination of GRO by Headspace in waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027
Client Ref.: Location: Marina Quarter

Test Completion Dates

Lab Sample No(s)	30096456	30096459	30096460	30096462	30096464	30096468	30096465	30096466	30096470	30096469
Customer Sample Ref.	SW201	SW202	SW203	SW205	SW206	SW209	SW301	SW302	SW303	SW304
AGS Ref.										
Depth										
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
EPH and CWG by FID	26-Jul-2024	26-Jul-2024	25-Jul-2024	26-Jul-2024	29-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	29-Jul-2024	25-Jul-2024
GRO by GC-FID (W)	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024
PAH Spec MS - Aqueous (W)	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	26-Jul-2024	26-Jul-2024	25-Jul-2024	26-Jul-2024	25-Jul-2024	25-Jul-2024
TPH CWG (W)	26-Jul-2024	26-Jul-2024	25-Jul-2024	26-Jul-2024	29-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	29-Jul-2024	25-Jul-2024
VOC MS (W)	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024	25-Jul-2024

Lab Sample No(s)	30096457
Customer Sample Ref.	SW201-D
AGS Ref.	
Depth	
Type	Unspecified
EPH and CWG by FID	25-Jul-2024
GRO by GC-FID (W)	25-Jul-2024
PAH Spec MS - Aqueous (W)	25-Jul-2024
TPH CWG (W)	25-Jul-2024
VOC MS (W)	25-Jul-2024

CERTIFICATE OF ANALYSIS

SDG: 240718-84 Report Number: 742666 Superseded Report: 736027
Client Ref: Location: Marina Quarter

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Zak Bursey

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 October 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	240916-39
Your Reference:	40000324
Location:	Marina Quarter, Cork
Report No:	742671
Order Number:	P100203IE001

This report has been revised and directly supersedes 741507 in its entirety.

We received 10 samples on Monday September 16, 2024 and 10 of these samples were scheduled for analysis which was completed on Monday September 23, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Lauren Ellis
General Manager Western Europe Environmental

Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 **Report Number:** 742671 **Superseded Report:** 741507
Client Ref.: 40000324 **Location:** Marina Quarter, Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
30367797	SW201			10/09/2024
30367798	SW202			10/09/2024
30367799	SW203			10/09/2024
30367800	SW206			10/09/2024
30367801	SW209			10/09/2024
30367802	SW301			10/09/2024
30367803	SW302			10/09/2024
30367805	SW303			10/09/2024
30367804	SW304			10/09/2024
30367806	SW207_DUP01			10/09/2024

Only received samples which have had analysis scheduled will be shown on the following pages.

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	30367797	30367798	30367799
			Customer Sample Reference	SW201	SW202	SW203
			AGS Reference			
			Depth (m)			
			Container	0.5l glass bottle (ALE227)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
			Sample Type	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 10			X	
Anions by Kone (w)	All	NDPs: 0 Tests: 10				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 10				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 10				
EPH and CWG by FID	All	NDPs: 0 Tests: 10		X		
Ferric Iron	All	NDPs: 0 Tests: 10				
Ferrous Iron	All	NDPs: 0 Tests: 10				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10				
Manganese II	All	NDPs: 0 Tests: 10				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 10				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10				
Sulphide	All	NDPs: 0 Tests: 10				
TPH CWG (W)	All	NDPs: 0 Tests: 10		X		
VOC MS (W)	All	NDPs: 0 Tests: 10				

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			Lab Sample No(s)	30367799	30367800	30367801
			Customer Sample Reference	SW203	SW206	SW209
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	H2SO4 (ALE244)
			Sample Type	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 10				
Anions by Kone (w)	All	NDPs: 0 Tests: 10				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 10				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 10				
EPH and CWG by FID	All	NDPs: 0 Tests: 10				
Ferric Iron	All	NDPs: 0 Tests: 10				
Ferrous Iron	All	NDPs: 0 Tests: 10				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10				
Manganese II	All	NDPs: 0 Tests: 10				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 10				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10				
Sulphide	All	NDPs: 0 Tests: 10				
TPH CWG (W)	All	NDPs: 0 Tests: 10				
VOC MS (W)	All	NDPs: 0 Tests: 10				

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	30367801			30367802			30367803		
			Customer Sample Reference	SW209			SW301			SW302		
			AGS Reference									
			Depth (m)									
			Container	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	H2SO4 (ALE244)
			Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 10										X
Anions by Kone (w)	All	NDPs: 0 Tests: 10									X	
Determination of Dissolved Gases	All	NDPs: 0 Tests: 10						X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 10			X							
EPH and CWG by FID	All	NDPs: 0 Tests: 10							X			
Ferric Iron	All	NDPs: 0 Tests: 10		X								
Ferrous Iron	All	NDPs: 0 Tests: 10		X								
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10						X				
Manganese II	All	NDPs: 0 Tests: 10		X								
Nitrite by Kone (w)	All	NDPs: 0 Tests: 10										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10										
Sulphide	All	NDPs: 0 Tests: 10										
TPH CWG (W)	All	NDPs: 0 Tests: 10										
VOC MS (W)	All	NDPs: 0 Tests: 10										

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			Lab Sample No(s)	30367804			30367805			30367803		
			Customer Sample Reference	SW304			SW303			SW302		
			AGS Reference									
			Depth (m)									
			Container	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	HCl Filtered (ALE250)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	0.5l glass bottle (ALE227)	ZnAc (ALE246)
			Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 10					X					X
Anions by Kone (w)	All	NDPs: 0 Tests: 10						X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 10							X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 10										
EPH and CWG by FID	All	NDPs: 0 Tests: 10										
Ferric Iron	All	NDPs: 0 Tests: 10										
Ferrous Iron	All	NDPs: 0 Tests: 10										
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10										
Manganese II	All	NDPs: 0 Tests: 10										
Nitrite by Kone (w)	All	NDPs: 0 Tests: 10										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10										
Sulphide	All	NDPs: 0 Tests: 10										
TPH CWG (W)	All	NDPs: 0 Tests: 10										
VOC MS (W)	All	NDPs: 0 Tests: 10										

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)																	30367804																	30367806
			Customer Sample Reference																	SW304																	SW207_DUP01
			AGS Reference																																				
			Depth (m)																																				
			Container																	ZnAc (ALE246)																	Vial (ALE297)	ZnAc (ALE246)
			Sample Type																	SW																	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 10																																			
Anions by Kone (w)	All	NDPs: 0 Tests: 10																																			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 10																																			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 10																																			
EPH and CWG by FID	All	NDPs: 0 Tests: 10																																			
Ferric Iron	All	NDPs: 0 Tests: 10																																			
Ferrous Iron	All	NDPs: 0 Tests: 10																																			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10																																			
Manganese II	All	NDPs: 0 Tests: 10																																			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 10																																			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 10																																			
Sulphide	All	NDPs: 0 Tests: 10																																			
TPH CWG (W)	All	NDPs: 0 Tests: 10																																			
VOC MS (W)	All	NDPs: 0 Tests: 10																																			

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024
	Sample Time	09:30:00	10:00:00	10:30:00	11:00:00	11:30:00	12:00:00
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method						
Manganese II	<0.2 mg/l	TM005	0.215	<0.2	<0.2	0.252	0.288	0.283
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.234 #	0.203 #	0.219 #	1.89 #	0.383 #	0.752 #
Sulphide	<0.01 mg/l	TM101	<0.01	<0.01	<0.01	0.049	0.0182	0.0412
Iron, Ferric	<0.05 mg/l	TM125	<0.05	<0.05	<0.05	0.219	0.134	<0.05
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 @#	<0.1 @#	<0.1 @#	<0.1 @#	<0.1 @#	<0.1 @#
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019 #	<0.019 #	<0.019 #	0.219 #	0.134 #	0.0435 #
Nitrite as NO2	<0.05 mg/l	TM184	0.067 #	0.066 #	0.064 #	2 #	0.248 #	0.665 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	<0.3 #	5.49 #	6.3 #	3.12 #
Methane, dissolved	<1 µg/l	TM223	4.91	4.08	4.21	2.81	5.43	5.36
Ethene, dissolved	<1 µg/l	TM223	<1	<1	<1	<1	<1	<1
Ethane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1	<1	<1
Carbon dioxide, dissolved	<1.3 mg/l	TM223	5.54	5.3	5.42	11.6	16.5	12.6
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						

Component	LOD/Units	Method						
Manganese II	<0.2 mg/l	TM005	0.36	<0.2	<0.2	0.246		
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.3 #	<0.2 #	0.24 #	0.796 #		
Sulphide	<0.01 mg/l	TM101	<0.01	<0.01	<0.01	0.0227		
Iron, Ferric	<0.05 mg/l	TM125	<0.05	<0.05	<0.05	<0.05		
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 @#	<0.1 @#	<0.1 @#	<0.1 @#		
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.114 #	<0.114 #	<0.114 #	0.0428 #		
Nitrite as NO2	<0.05 mg/l	TM184	0.405 #	0.129 #	<0.05 #	0.647 #		
Nitrate as NO3	<0.3 mg/l	TM184	2.25 #	1.97 #	<0.3 #	3.42 #		
Methane, dissolved	<1 µg/l	TM223	5.09	4.46	4.46	5.35		
Ethene, dissolved	<1 µg/l	TM223	<1	<1	<1	<1		
Ethane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1		
Carbon dioxide, dissolved	<1.3 mg/l	TM223	10.1	9.78	5.15	12.1		
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1		

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024
	Sample Time	09:30:00	10:00:00	10:30:00	11:00:00	11:30:00	12:00:00
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0191 @#	0.00894 @#	0.0149 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0512 @#	0.0124 @#	0.0321 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0206 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.121 @#	<0.005 @#	0.0455 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0083 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0225 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.00764 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	0.0132 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	<0.082 @#	<0.082 @#	0.263 @#	<0.082 @#	0.0925 @#

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#		
Acenaphthene (aq)	<0.005 µg/l	TM178	0.00945 @#	<0.005 @#	<0.005 @#	0.0176 @#		
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0325 @#	0.00565 @#	<0.005 @#	0.0368 @#		
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0155 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.00572 @#		
Chrysene (aq)	<0.005 µg/l	TM178	0.0116 @#	<0.005 @#	<0.005 @#	0.00972 @#		
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0542 @#		
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.00913 @#	<0.005 @#	<0.005 @#	0.00942 @#		
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#		
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#		
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	<0.082 @#	<0.082 @#	0.134 @#		

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024
	Sample Time	09:30:00	10:00:00	10:30:00	11:00:00	11:30:00	12:00:00
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	97	94	93	91	98	98
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	99	98	94		
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #		
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10		

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024	10/09/2024
	Sample Time	09:30:00	10:00:00	10:30:00	11:00:00	11:30:00	12:00:00
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024	16/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	105	106	105	107	109	108
Toluene-d8**	%	TM208	99.4	100	99.6	100	99.1	99.7
4-Bromofluorobenzene**	%	TM208	96.6	95.3	95.1	96.3	95.9	96.3
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	6.5 #	1.39 #	2.38 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	3.34 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507

Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024 09:30:00	10/09/2024 10:00:00	10/09/2024 10:30:00	10/09/2024 11:00:00	10/09/2024 11:30:00	10/09/2024 12:00:00
	Sample Time						
	Date Received	15/09/2024	15/09/2024	15/09/2024	15/09/2024	15/09/2024	15/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.12 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507

Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW206	SW209	SW301
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	10/09/2024 09:30:00	10/09/2024 10:00:00	10/09/2024 10:30:00	10/09/2024 11:00:00	10/09/2024 11:30:00	10/09/2024 12:00:00
	Sample Time						
	Date Received	15/09/2024	15/09/2024	15/09/2024	15/09/2024	15/09/2024	15/09/2024
	SDG Ref	240916-39	240916-39	240916-39	240916-39	240916-39	240916-39
	Lab Sample No.(s)	30367797	30367798	30367799	30367800	30367801	30367802
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	108	108	106	106		
Toluene-d8**	%	TM208	99.9	99.2	100	99.6		
4-Bromofluorobenzene**	%	TM208	96.5	97	95.9	95.2		
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1		
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	2.33 #		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	16/09/2024	16/09/2024	16/09/2024	16/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1		

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW302	SW303	SW304	SW207_DUP01		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)		
	Date Sampled	10/09/2024	10/09/2024	10/09/2024	10/09/2024		
	Sample Time	12:30:00	13:30:00	13:00:00	14:00:00		
	Date Received	15/09/2024	15/09/2024	15/09/2024	15/09/2024		
	SDG Ref	240916-39	240916-39	240916-39	240916-39		
	Lab Sample No.(s)	30367803	30367805	30367804	30367806		
	AGS Reference						
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2		
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5		

Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Data Amendment

Sample No. : 30367802 Date of Amendment : 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW301	Sample ID Change	SW207	SW301

Sample No. : 30367803 Date of Amendment : 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW302	Sample ID Change	SW208	SW302

Sample No. : 30367804 Date of Amendment : 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW304	Sample ID Change	SW210	SW304

Sample No. : 30367805 Date of Amendment : 03/10/2024

Sample Ref.	Reason	Previous	Amended
SW303	Sample ID Change	SW211	SW303

Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Table of Results - Appendix

Method No	Description
TM005	Manganese II by spectrophotometer
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM125	Determination of Total/Ferrous Iron
TM152	Analysis of Aqueous Samples by ICP-MS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM245	Determination of GRO by Headspace in waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Validated

CERTIFICATE OF ANALYSIS

SDG: 240916-39 Report Number: 742671 Superseded Report: 741507
Client Ref.: 40000324 Location: Marina Quarter, Cork

Test Completion Dates

Lab Sample No(s)	30367797	30367798	30367799	30367800	30367801	30367802	30367803	30367805	30367804	30367806
Customer Sample Ref.	SW001	SW002	SW003	SW006	SW009	SW001	SW002	SW003	SW004	SW007_DUP01
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	18-Sep-2024	17-Sep-2024	17-Sep-2024
Anions by Kone (w)	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	18-Sep-2024	17-Sep-2024	17-Sep-2024
Determination of Dissolved Gases	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024
Dissolved Metals by ICP-MS	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024
EPH and CWG by FID	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	23-Sep-2024	20-Sep-2024	19-Sep-2024	20-Sep-2024
Ferric Iron	18-Sep-2024	18-Sep-2024	20-Sep-2024	18-Sep-2024	20-Sep-2024	20-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024
Ferrous Iron	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024
GRO by GC-FID (W)	17-Sep-2024	17-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024
Manganese II	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024	18-Sep-2024
Nitrite by Kone (w)	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	18-Sep-2024	17-Sep-2024	17-Sep-2024
PAH Spec MS - Aqueous (W)	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024
Sulphide	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024	23-Sep-2024
TPH CWG (W)	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	19-Sep-2024	23-Sep-2024	20-Sep-2024	19-Sep-2024	20-Sep-2024
VOC MS (W)	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024	17-Sep-2024

CERTIFICATE OF ANALYSIS

SDG: 240916-39 **Report Number:** 742671 **Superseded Report:** 741507
Client Ref: 40000324 **Location:** Marina Quarter, Cork

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation: 26 October 2023
Customer: WSP Ireland Consulting Limited
Sample Delivery Group (SDG): 230901-53
Your Reference:
Location:
Report No: 708791
Order Number: 28003459

This report has been revised and directly supersedes 706378 in its entirety.

We received 25 samples on Tuesday August 29, 2023 and 24 of these samples were scheduled for analysis which was completed on Monday September 18, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 26/10/2023

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28565112	BH201			24/08/2023
28565116	BH202			24/08/2023
28565115	BH203			24/08/2023
28565114	BH205			24/08/2023
28565119	GW01			24/08/2023
28565118	GW02			24/08/2023
28565138	NO ID			
28565125	SW201			21/08/2023
28565124	SW202			21/08/2023
28565123	SW203			21/08/2023
28565126	SW204			21/08/2023
28565121	SW205			21/08/2023
28565127	SW206			21/08/2023
28565120	SW209			21/08/2023
28565113	USTN			24/08/2023
28565128	WS201			24/08/2023
28565130	WS204			24/08/2023
28565131	WS205			24/08/2023
28565132	WS206			24/08/2023
28565133	WS207			24/08/2023
28565134	WS208			24/08/2023
28565135	WS209			24/08/2023
28565136	WS210			24/08/2023
28565137	WS206 A			24/08/2023
28565129	WS201 D			24/08/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28565112	28565116	28565115	28565114
			Customer Sample Reference	BH201	BH202	BH203	BH205
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24						X					X							X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24			X					X						X						
Anions by Kone (w)	All	NDPs: 0 Tests: 24		X					X						X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24				X					X							X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24			X					X						X						
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	
Fluoride	All	NDPs: 0 Tests: 24		X				X					X									
Free Formaldehyde	All	NDPs: 0 Tests: 24		X				X					X									
Glycols by GC-FID	All	NDPs: 0 Tests: 24	X				X				X				X						X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24				X				X						X						
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24		X				X					X									
Mercury Dissolved	All	NDPs: 0 Tests: 24			X				X						X							
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24				X				X						X						
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	

28565114					28565119						28565118						28565125			
BH205					GW01						GW02						SW201			
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW
				X						X						X				
	X						X						X						X	
X						X						X						X		
			X						X						X					
		X						X						X						X
					X						X						X			
					X						X						X			
X						X						X						X		
X						X						X						X		
					X						X						X			
				X						X						X				
X						X						X						X		
		X						X						X						X
			X						X						X					
					X						X						X			

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565112						28565116						28565115						28565114
Customer Sample Reference			BH201						BH202						BH203						BH205
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X						X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24		X						X						X					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24	X						X						X						X
TPH CWG (W)	All	NDPs: 0 Tests: 24	X						X						X						X
VOC MS (W)	All	NDPs: 0 Tests: 24						X						X						X	

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Lab Sample No(s)				28565114						28565119						28565118				28565125
Customer Sample Reference				BH205						GW01						GW02				SW201
AGS Reference																				
Depth (m)																				
500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW
					X						X						X			
X						X						X						X		
					X						X						X			
					X						X						X			
				X						X						X				

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53
Client Ref.:
Report Number: 708791
Location:
Superseded Report: 706378

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

		Lab Sample No(s)		28565125						28565124						28565123					28565126
		Customer Sample Reference		SW201						SW202						SW203					SW204
		AGS Reference																			
		Depth (m)																			
		Container	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)
		Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24		X						X						X					
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24					X						X						X		
Anions by Kone (w)	All	NDPs: 0 Tests: 24				X						X						X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X						X						X						X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24						X						X						X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24			X						X						X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24			X						X						X				
Fluoride	All	NDPs: 0 Tests: 24				X						X						X			
Free Formaldehyde	All	NDPs: 0 Tests: 24				X						X						X			
Glycols by GC-FID	All	NDPs: 0 Tests: 24			X						X						X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24		X						X						X					
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24				X						X						X			
Mercury Dissolved	All	NDPs: 0 Tests: 24						X						X						X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24	X						X						X						X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24			X						X						X				

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28565126						28565121						28565127						28565120		28565113
SW204						SW205						SW206						SW209		USTN
Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW
X						X						X						X		
			X						X						X					
		X						X						X						X
					X						X						X			
				X						X						X				
	X						X						X						X	
	X						X						X						X	
		X						X						X						X
		X						X						X						X
	X						X						X						X	
X						X						X						X		
		X						X						X						X
				X						X						X				
					X						X						X			
	X						X						X						X	

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)				28565125						28565124						28565123					28565126
Customer Sample Reference				SW201						SW202						SW203					SW204
AGS Reference																					
Depth (m)																					
Container			NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24			X						X						X				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24				X						X						X			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24			X						X						X				
TPH CWG (W)	All	NDPs: 0 Tests: 24			X						X						X				
VOC MS (W)	All	NDPs: 0 Tests: 24		X						X						X					

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28565126						28565121						28565127						28565120		28565113
SW204						SW205						SW206						SW209		USTN
Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW
	X						X						X						X	
		X						X						X						X
	X						X						X						X	
	X						X						X						X	
X						X						X						X		

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)						28565113						28565128						28565130			28565131
Customer Sample Reference						USTN						WS201						WS204			WS205
AGS Reference																					
Depth (m)																					
Container			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24				X						X						X			
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24	X						X						X						X
Anions by Kone (w)	All	NDPs: 0 Tests: 24						X						X						X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24			X						X						X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24		X						X						X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24					X						X						X		
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24					X						X						X		
Fluoride	All	NDPs: 0 Tests: 24						X						X						X	
Free Formaldehyde	All	NDPs: 0 Tests: 24						X						X						X	
Glycols by GC-FID	All	NDPs: 0 Tests: 24					X						X						X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24				X						X						X			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24						X						X						X	
Mercury Dissolved	All	NDPs: 0 Tests: 24		X						X						X					
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24			X						X						X				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24					X						X						X		

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		28565131						28565132						28565133						28565134
		WS205						WS206						WS207						WS208
HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
		X						X						X						X
					X						X						X			
				X						X						X				
	X						X						X						X	
X						X						X						X		
			X						X						X					
			X						X						X					
				X						X						X				
				X						X						X				
			X						X						X					
		X						X						X						X
				X						X						X				
X						X						X						X		
	X						X						X						X	
			X						X						X					

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

- X Test
- N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)						28565113						28565128						28565130			28565131
Customer Sample Reference						USTN						WS201						WS204			WS205
AGS Reference																					
Depth (m)																					
Container			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24						X					X						X		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24						X						X						X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24					X						X						X		
TPH CWG (W)	All	NDPs: 0 Tests: 24					X						X						X		
VOC MS (W)	All	NDPs: 0 Tests: 24				X						X						X			

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Lab Sample No(s)	28565131			28565132						28565133						28565134					
Customer Sample Reference	WS205			WS206						WS207						WS208					
AGS Reference																					
Depth (m)																					
Container	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
				X						X						X					
					X						X						X				
				X						X						X					
				X						X						X					
			X						X						X						X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565135						28565136						28565137					28565129	
Customer Sample Reference			WS209						WS210						WS206 A					WS201 D	
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24						X						X					X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24			X						X					X					
Anions by Kone (w)	All	NDPs: 0 Tests: 24		X						X					X						X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24					X						X					X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24				X						X					X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
Fluoride	All	NDPs: 0 Tests: 24		X						X					X						X
Free Formaldehyde	All	NDPs: 0 Tests: 24		X						X					X						X
Glycols by GC-FID	All	NDPs: 0 Tests: 24	X						X						X					X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24						X						X					X		
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24		X						X					X						X
Mercury Dissolved	All	NDPs: 0 Tests: 24				X						X					X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24					X						X					X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X					X	

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Lab Sample No(s)	28565129			
Customer Sample Reference	WS201 D			
AGS Reference				
Depth (m)				
Container	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type	GW	GW	GW	GW
1				X
2	X			
3				
4			X	
5		X		
6				
7				
8				
9				
10				
11				X
12				
13		X		
14			X	
15				

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565135						28565136						28565137					28565129	
Customer Sample Reference			WS209						WS210						WS206 A					WS201 D	
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24		X						X					X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24	X						X						X					X	
TPH CWG (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
VOC MS (W)	All	NDPs: 0 Tests: 24						X						X					X		

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							28565129
							WS201 D
							Vial (ALE297)
							NaOH (ALE245)
							HNO3 filtered (ALE204)
							H2SO4 (ALE244)
							GW
							GW
							GW
							GW
							X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited.	Depth (m)	-	-	-	-	-	-
M mCERTS accredited.	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq Aqueous / settled sample.	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
(F) Trigger breach confirmed	AGS Reference						
1-4+[] Sample deviation (see appendix)							

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.73 #	1.23 #	3.4 #	4.24 #	3.96 #	3.2 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	1.07 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	13.1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.93 #	2.65 #	2.83 #	0.944 #	4.74 #	5.31 #
Barium (diss.filt)	<0.2 µg/l	TM152	110 #	171 #	31 #	27.3 #	286 #	129 #
Boron (diss.filt)	<10 µg/l	TM152	132 #	136 #	614 #	301 #	240 #	307 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.177 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.641 #	<0.5 #	1.56 #	<0.5 #	<0.5 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	2.39 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	159 #	554 #	2030 #	3120 #	983 #	9970 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	10.5 #	0.45 #	1.28 #	<0.4 #	1.61 #	1.32 #
Selenium (diss.filt)	<1 µg/l	TM152	1.03 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	529 #	381 #	497 #	692 #	680 #	996 #
Titanium (diss.filt)	<1 µg/l	TM152	9.11 #	10.3 #	12.2 #	12.3 #	13.5 #	10.7 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	9.86 #
Zinc (diss.filt)	<1 µg/l	TM152	928 #	3 #	1.37 #	2.08 #	2.25 #	2.76 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	9.21 #	9.52 #	511 #	336 #	50.2 #	639 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	7.89 #	12.4 #	58.7 #	64.5 #	14.9 #	89.3 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	5.02 #	5.42 #	24.1 #	19.2 #	12.2 #	27.6 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	229 #	159 #	133 #	227 #	241 #	292 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.372 #	4.77 #	3.05 #	6.28 #	13.2 #	5.02 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.054 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	0.919 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	81.6 #	10.1 #	26 #	<2 #	73.2 #	172 #
Chloride	<2 mg/l	TM184	31.2 #	16.7 #	852 #	757 #	105 #	1410 #
Nitrate as NO3	<0.3 mg/l	TM184	0.55 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.228 #	0.271 #	0.213 #	0.451 #	0.249 #	4.71 #
Fluoride	<0.5 mg/l	TM104	<0.5	<0.5	<0.5	0.68	<0.5	0.756
Aluminium (diss.filt)	<10 µg/l	TM152	12.5 #	<10 #	12.4 #	<60 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	2.54 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.53 #	0.966 #	0.599 #	<3 #	2.21 #	4.19 #
Barium (diss.filt)	<0.2 µg/l	TM152	8.34 #	12.6 #	9.09 #	10.3 #	18.2 #	46.6 #
Boron (diss.filt)	<10 µg/l	TM152	319 #	993 #	411 #	2810 #	83.5 #	1010 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.48 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	<0.5 #	<3 #	0.526 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.14 #	1.25 #	1.2 #	<1.8 #	0.419 #	1.67 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<1.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	32 #	45.6 #	40.6 #	92.7 #	1330 #	154 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<18 #	<3 #	3.63 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<0.4 #	0.416 #	0.409 #	<2.4 #	<0.4 #	4.34 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	497 #	1840 #	641 #	4280 #	213 #	1950 #
Titanium (diss.filt)	<1 µg/l	TM152	<1 #	2.21 #	<1 #	<6 #	2.5 #	1.74 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<100 #	<1 #	2.87 #
Zinc (diss.filt)	<1 µg/l	TM152	2.9 #	9.21 #	7.55 #	<6 #	3.53 #	44 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	734 #	2410 #	942 #	7600 #	47.6 #	2540 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	95 #	286 #	123 #	855 #	8.42 #	294 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	29.3 #	101 #	38.9 #	251 #	11.3 #	106 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	45.2 #	120 #	55.6 #	281 #	55.9 #	182 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0391 #	0.0326 #	0.0368 #	<0.114 #	0.743 #	0.104 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	0.067 #	0.095 #	0.063 #	0.096 #	<0.05 #	0.802 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.056 #	0.187 #	0.067 #	0.219 #	0.763 #	1.52 #
Sulphate	<2 mg/l	TM184	196 #	668 #	252 #	1760 #	<2 #	482 #
Chloride	<2 mg/l	TM184	1460 #	5220 #	1900 #	14100 #	88.6 #	3210 #
Nitrate as NO3	<0.3 mg/l	TM184	5.43 #	0.837 #	5.11 #	<0.3 #	<0.3 #	17 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @	<0.05 @	<0.05 @	<0.05 @	<0.05 @	<0.05 @
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	4.13 #	4.83 #	18.4 #	1.73 #	0.615 #	2.02 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	0.513 #	<0.5 #	0.876 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	1.09 #	<1 #	15.2 #	<1 #	2.76 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.66 #	9.32 #	1.68 #	6.37 #	1.01 #	12.9 #
Barium (diss.filt)	<0.2 µg/l	TM152	23.7 #	296 #	112 #	995 #	189 #	108 #
Boron (diss.filt)	<10 µg/l	TM152	392 #	122 #	131 #	327 #	260 #	130 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.468 #	<0.08 #	0.301 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	5.21 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	0.539 #	<0.5 #	<0.5 #	1.45 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.27 #	<0.3 #	2.9 #	<0.3 #	1.18 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	244 #	670 #	133 #	1420 #	134 #	1500 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	5.34 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.22 #	<0.4 #	12.5 #	<0.4 #	2.65 #	2.32 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	1.27 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	674 #	490 #	516 #	807 #	644 #	410 #
Titanium (diss.filt)	<1 µg/l	TM152	2.74 #	8.59 #	9.54 #	10.6 #	8.11 #	9.32 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	16.1 #	6.17 #	1120 #	4.04 #	45.4 #	5.02 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	780 #	11 #	9.76 #	171 #	207 #	91.8 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	105 #	5.84 #	8.15 #	35.1 #	30.5 #	17.2 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	37 #	10.7 #	4.9 #	15.6 #	22 #	7.65 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	140 #	156 #	225 #	196 #	199 #	175 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0305 #	3.42 #	0.321 #	6.14 #	1.84 #	26.8 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.735 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.516 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	250 #	<2 #	<2 #	57 #	157 #	84.1 #
Chloride	<2 mg/l	TM184	1600 #	14.4 #	118 #	334 #	388 #	178 #
Nitrate as NO3	<0.3 mg/l	TM184	22.3 #	<0.3 #	<0.3 #	<0.3 #	1.5 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	2.24	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	6.06 #	5.07 #	0.633 #	1.99 #	1.26 #	17.2 #
Fluoride	<0.5 mg/l	TM104	0.523 #	0.566 #	<0.5 #	<0.5 #	<0.5 #	0.611 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	16 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	14.1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	5.89 #	8.19 #	2.9 #	1.2 #	<0.5 #	11.2 #
Barium (diss.filt)	<0.2 µg/l	TM152	559 #	181 #	93.5 #	102 #	51.7 #	116 #
Boron (diss.filt)	<10 µg/l	TM152	251 #	118 #	86.1 #	206 #	324 #	149 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #	0.273 #	0.425 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	2.7 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	1.52 #	<0.5 #	1.37 #	<0.5 #	3.16 #	0.582 #
Copper (diss.filt)	<0.3 µg/l	TM152	0.717 #	<0.3 #	0.667 #	<0.3 #	2.43 #	2.5 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.252 #	<0.2 #	0.343 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	1930 #	678 #	744 #	465 #	2170 #	309 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	2.98 #	<0.4 #	1.45 #	<0.4 #	3.74 #	11.5 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	1.25 #
Strontium (diss.filt)	<1 µg/l	TM152	764 #	444 #	218 #	373 #	561 #	548 #
Titanium (diss.filt)	<1 µg/l	TM152	14.4 #	10.9 #	5.09 #	6.51 #	4.59 #	10 #
Vanadium (diss.filt)	<1 µg/l	TM152	1.19 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	18.3 #	2.48 #	8.17 #	2.62 #	11.9 #	1040 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	31.4 #	9.39 #	6.49 #	22.4 #	479 #	10.6 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	20.8 #	8.13 #	4.5 #	15.5 #	65.4 #	8.8 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	15.5 #	11 #	2.3 #	5.44 #	20.7 #	5.99 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	330 #	171 #	114 #	167 #	157 #	219 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	26.7 #	8.26 #	1.65 #	0.98 #	<0.019 #	4.86 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	0.056 #	<0.05 #	0.206 #
Sulphate	<2 mg/l	TM184	233 #	21.5 #	4.7 #	47.3 #	96.3 #	73.3 #
Chloride	<2 mg/l	TM184	56.3 #	12.5 #	8 #	38 #	865 #	35.1 #
Nitrate as NO3	<0.3 mg/l	TM184	0.57 #	<0.3 #	<0.3 #	<0.3 #	2.73 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @#	<0.05 @#	<0.05 @#	<0.05 @#	<0.05 @#	<0.05 @#
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference								
Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)								
Sample Type			Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference								
Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<3	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<3	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0591 @#	<0.005 @#	<0.005 @#	0.0086 @#	0.0144 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0105 @#	<0.005 @#	<0.005 @#	0.0292 @#	0.0167 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0051 @#	<0.005 @#	<0.005 @#	0.016 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0067 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0536 @#	0.0239 @#	<0.005 @#	0.057 @#	0.0285 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0074 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	0.128 @#	<0.082 @#	<0.082 @#	0.125 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0964 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0109 @#	<0.005 @#	0.0565 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0094 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0078 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0126 @#	<0.005 @#	0.0537 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	<0.082 @#	<0.082 @#	<0.082 @#	<0.082 @#	0.224 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	0.0129 @#	0.464 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0095 @#	0.777 @#	0.137 @#	0.193 @#	0.006 @#	<0.005 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.0901 @#	0.008 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.07 @#	1.23 @#	0.162 @#	<0.005 @#	0.005 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0271 @#	0.108 @#	0.0279 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0501 @#	0.503 @#	0.0112 @#	<0.005 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0401 @#	0.15 @#	0.0514 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.529 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.152 @#	1.18 @#	0.139 @#	0.0125 @#	0.0099 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.449 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.899 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.28 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	0.669 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.106 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.589 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.537 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	1.13 @#	7.91 @#	0.593 @#	<0.082 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	0.211 @#	0.465 @#	<0.005 @#	0.352 @#	<0.005 @#	<0.005 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.0054 @#	0.006 @#	<0.005 @#	0.0075 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	0.106 @#	0.108 @#	0.005 @#	0.0792 @#	<0.005 @#	<0.005 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0181 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0086 @#	0.0064 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0112 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0052 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	0.123 @#	0.0945 @#	0.0083 @#	0.133 @#	<0.005 @#	<0.005 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.446 @#	0.716 @#	<0.082 @#	0.572 @#	<0.082 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			BH201	BH202	BH203	BH205	GW01	GW02
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565112	28565116	28565115	28565114	28565119	28565118
AGS Reference								
Component	**LOD/Units**	**Method**						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Azobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Acenaphthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4 @#	<4 @#	<2 @#	<4 @#	<8 @#	<4 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref		BH201	BH202	BH203	BH205	GW01	GW02
Depth (m)							
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565112	28565116	28565115	28565114	28565119	28565118
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Carbazole (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Chrysene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10 @#	<10 @#	<5 @#	<10 @#	<20 @#	<10 @#
Fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Fluorene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
Phenol (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Naphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Isophorone (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
Phenanthrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<20	<20	<10	<20	<40	<20

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref		SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)							
Sample Type		Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled		21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Azobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Acenaphthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 @#	<20 @#	<4 @#	<16 @#	<4 @#	<8 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[g] Sample deviation (see appendix)

Customer Sample Ref		SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)							
Sample Type		Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled		21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Carbazole (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Chrysene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 @#	<50 @#	<10 @#	<40 @#	<10 @#	<20 @#
Fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Fluorene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Phenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Naphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Isophorone (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Phenanthrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<10	<100	<20	<80	<20	<40

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Customer Sample Ref		SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)							
Sample Type		Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Azobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Acenaphthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4 @#	<4 @#	<100 @#	<8 @#	<4 @#	<8 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[g] Sample deviation (see appendix)

Customer Sample Ref		SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)		-	-	-	-	-	-
Sample Type		Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time		-	-	-	-	-	-
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Carbazole (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Chrysene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10 @#	<10 @#	<250 @#	<20 @#	<10 @#	<20 @#
Fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Fluorene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Phenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Naphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Isophorone (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Phenanthrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<20	<20	<500	<40	<20	<40

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[g] Sample deviation (see appendix)

Customer Sample Ref		WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)		-	-	-	-	-	-
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time		-	-	-	-	-	-
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Azobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Acenaphthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<8 @#	<4 @#	<2 @#	<2 @#	<2 @#	<4 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Carbazole (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Chrysene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<20 @#	<10 @#	<5 @#	<5 @#	<5 @#	<10 @#
Fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Fluorene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Phenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Naphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Isophorone (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Phenanthrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<40	<20	<10	<10	<10	<20

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	88	93	108	114	100
GRO >C5-C12	<50 µg/l	TM245	867 #	<50 #	4490 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	796	<10	4220	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	42	<10	182	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	11	<10	26	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	30	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	17	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	20	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	867	<10	4490	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 [#] Sample deviation (see appendix)

Customer Sample Ref			SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference								
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94 @	97 @	102 @	96 @	105 @	99 @
GRO >C5-C12	<50 µg/l	TM245	<50 @ #	<50 @ #	<50 @ #	<50 @ #	<50 @ #	<50 @ #
Aliphatics >C5-C6	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C6-C8	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C8-C10	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C10-C12	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC7-EC8	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC8-EC10	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC10-EC12	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 [#] Sample deviation (see appendix)

Customer Sample Ref			SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)								
Sample Type			Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference								
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	99 @	112	100	93	101	102
GRO >C5-C12	<50 µg/l	TM245	<50 @ #	<50 #	206 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10 @	<10	16	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10 @	<10	46	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10 @	<10	62	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	105	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	210	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	1940	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	2250	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10 @	<10	35	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10 @	<10	41	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<50	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<50	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	490	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	490	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	2950	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	2150	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	109	109	105	109	111	84
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	834 #	235 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10	487	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	325	21
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	55
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	68
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	36
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	45
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	834	235
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	103	117	116	100	111	109
Toluene-d8**	%	TM208	99.3	99	97.6	100	99.2	99.2
4-Bromofluorobenzene**	%	TM208	95.9	98.6	98.4	96.7	96.2	97.3
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	2.08 #	<1 #	5490 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	1.41 #	<1 #	6.03 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	4.01 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	5.28 #	<1 #	41.8 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	2010 #	6.44 #	21900 #	<1 #	<1 #	3.49 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	81.1 #	<1 #	575 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	1.4 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
VOC TIC		TM208	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	111	115	103	108	102	110
Toluene-d8**	%	TM208	98.1	97.2	99.2	98.8	100	98.7
4-Bromofluorobenzene**	%	TM208	97.8	99	98.1	97.8	99.2	98.4
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.22 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.84 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.93 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.26 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
VOC TIC		TM208	Not Detected	Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	24	<10	<10	<10	<10
Mixed Hydrocarbons	µg/l	TM208		24				

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	101	102	113	112	100	97.7
Toluene-d8**	%	TM208	100	99.1	98.3	98.2	99.5	99.8
4-Bromofluorobenzene**	%	TM208	98.1	96.2	98.2	98.2	96.9	95.2
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	291 #	27.3 #	<1 #	6.12 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1.41 #	<1 #	8.35 #	32.6 #	2.42 #	58 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.3 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	1.26 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.51 #	2.22 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	1.16 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	1.05 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	2.51 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	1.61 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	1.35 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	2.63 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	7.7 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	2.42 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method					
VOC TIC		TM208	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	3.56	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	5.98	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	<10	12	<10	<10	<10
Isomer of Benzene, Trimethyl-	µg/l	TM208			12			

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	94.1	99.4	103	97.8	106	107
Toluene-d8**	%	TM208	100	99.3	99.3	99.3	98.9	99.7
4-Bromofluorobenzene**	%	TM208	96.4	95.1	96.6	96.6	97.1	98.8
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1190 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.42 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	5.66 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	5.44 #	<1 #	1220 #	40.3 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.42 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	3.44 #	<1 #	798 3 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.99 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.74 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.05 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.56 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.57 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.8 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	13.3 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.31 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.3 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
VOC TIC		TM208	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	5.79
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	9.2
Total VOC TIC	<10 µg/l	TM208	<10	<10	<10	<10	<10	27
Isomers of Benzene, trimethyl-	µg/l	TM208						27

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
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Data Amendment

Sample No. :	28565113	Date of Amendment :	05/10/2023	
Sample Ref.	Reason		Previous	Amended
USTN	Sample ID Change		GW01	USTN
Sample No. :	**28565114**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
BH205	Sample ID Change		GW02	BH205
Sample No. :	**28565115**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
BH203	Sample ID Change		GW03	BH203
Sample No. :	**28565118**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
GW02	Sample ID Change		BH203	GW02
Sample No. :	**28565119**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
GW01	Sample ID Change		BH205	GW01
Sample No. :	**28565120**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW209	Sample ID Change		SW01	SW209
Sample No. :	**28565121**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW205	Sample ID Change		SW02	SW205
Sample No. :	**28565123**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW203	Sample ID Change		SW03	SW203
Sample No. :	**28565124**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW202	Sample ID Change		SW04	SW202
Sample No. :	**28565125**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW201	Sample ID Change		SW05	SW201
Sample No. :	**28565126**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW204	Sample ID Change		SW06	SW204
Sample No. :	**28565127**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW206	Sample ID Change		SW07	WS206
Sample No. :	**28565127**	**Date of Amendment :**	**26/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW206	Sample ID Change		WS206	SW206

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CERTIFICATE OF ANALYSIS

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Client Ref.: Location:

Table of Results - Appendix

Method No	Description
TM104	Determination of Fluoride using the Kone Analyser
TM174	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM194	Determination of Glycols in Liquid Matrices by Direct Injection Gas Chromatography
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM232	Determination of Volatile Alcohols, Acetates and Ketones in Waters by Headspace GC-MS
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM176	Determination of SVOCs in Water by GCMS
TM197	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM272	Determination of Free Formaldehyde in waters using Dr Lange test kit

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Test Completion Dates

Lab Sample No(s)	28565112	28565116	28565115	28565114	28565119	28565118	28565125	28565124	28565123	28565126
Customer Sample Ref.	BH001	BH002	BH003	BH005	GW01	GW02	SW201	SW202	SW203	SW204
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water
Alcohols/Acetates MS (W)	11-Sep-2023	11-Sep-2023	11-Sep-2023	11-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp,Free/Total/Thiocyanate	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023
PCB Congeners - Aqueous (W)	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023	07-Sep-2023	18-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	18-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	07-Sep-2023	05-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023

Lab Sample No(s)	28565121	28565127	28565120	28565113	28565128	28565130	28565131	28565132	28565133	28565134
Customer Sample Ref.	SW205	SW206	SW208	LISTN	WS201	WS204	WS205	WS206	WS207	WS208
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alcohols/Acetates MS (W)	11-Sep-2023	12-Sep-2023	11-Sep-2023	11-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	06-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023
PCB Congeners - Aqueous (W)	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	04-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	07-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023

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CERTIFICATE OF ANALYSIS

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Lab Sample No(s)	28565135	28565136	28565137	28565129
Customer Sample Ref.	WS09	WS10	WS06 A	WS01 D
AGS Ref.				
Depth				
Type	Ground Water	Ground Water	Ground Water	Ground Water
Alcohols/Acetates MS (W)	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp.Free/Total/Thiocyanate	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023
PCB Congeners - Aqueous (W)	07-Sep-2023	18-Sep-2023	07-Sep-2023	07-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref: Location:

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
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WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation: 05 October 2023
Customer: WSP Ireland Consulting Limited
Sample Delivery Group (SDG): 230922-76
Your Reference:
Location:
Report No: 706376
Order Number: 28003477

This report has been revised and directly supersedes 706040 in its entirety.

We received 29 samples on Thursday September 21, 2023 and 28 of these samples were scheduled for analysis which was completed on Monday October 02, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 05/10/2023

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28670593	BH201			19/09/2023
28670591	BH202			19/09/2023
28670589	BH203			19/09/2023
28670588	BH205			18/09/2023
28670617	GW01			18/09/2023
28670619	GW04			18/09/2023
28670620	GW05			18/09/2023
28670621	GW06			19/09/2023
28670622	GW07			19/09/2023
28670623	MH			18/09/2023
28670594	SW201			19/09/2023
28670595	SW202			19/09/2023
28670596	SW203			19/09/2023
28670597	SW204			19/09/2023
28670598	SW205			19/09/2023
28670609	SW206			19/09/2023
28670607	SW209			19/09/2023
28670599	WS201			19/09/2023
28670601	WS202			19/09/2023
28670604	WS204			19/09/2023
28670606	WS205			19/09/2023
28670610	WS206			19/09/2023
28670611	WS207			18/09/2023
28670613	WS208			18/09/2023
28670615	WS209			18/09/2023
28670603	WS210			19/09/2023
28670602	WS202A			19/09/2023
28670612	WS206A			19/09/2023
28670614	WS206A			19/09/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	286705588	286705589	286705591	286705593
			Customer Sample Reference	BH205	BH203	BH202	BH201
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X		
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28				X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X		X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X		X	
Fluoride	All	NDPs: 0 Tests: 28			X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28				X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X		
Mercury Dissolved	All	NDPs: 0 Tests: 28			X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28				X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X		X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X		
TPH CWG (W)	All	NDPs: 0 Tests: 28		X		X	
VOC MS (W)	All	NDPs: 0 Tests: 28				X	

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			Lab Sample No(s)	286705620	286706617	286706619	286705588
			Customer Sample Reference	GW05	GW01	GW04	BH205
			AGS Reference				
			Depth (m)				
			Container	HNO3 Filtered (ALE204)	Vial (ALE297)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X		
Anions by Kone (w)	All	NDPs: 0 Tests: 28				X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28					X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28				X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28				X	
Fluoride	All	NDPs: 0 Tests: 28					X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28					X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28					X
Mercury Dissolved	All	NDPs: 0 Tests: 28			X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28				X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28					X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X		
TPH CWG (W)	All	NDPs: 0 Tests: 28					X
VOC MS (W)	All	NDPs: 0 Tests: 28					X

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)				28670620						28670621						28670622					28670623
Customer Sample Reference				GW05						GW06						GW07					MH
AGS Reference																					
Depth (m)																					
Container			NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28					X						X						X		
Anions by Kone (w)	All	NDPs: 0 Tests: 28				X						X						X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28	X						X						X						X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28						X						X						X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X						X						X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X						X						X				
Fluoride	All	NDPs: 0 Tests: 28				X						X						X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28		X						X						X					
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28				X						X						X			
Mercury Dissolved	All	NDPs: 0 Tests: 28						X						X						X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28	X						X						X						X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28			X						X						X				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28				X						X						X			
TPH CWG (W)	All	NDPs: 0 Tests: 28			X						X						X				
VOC MS (W)	All	NDPs: 0 Tests: 28		X						X						X					

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Lab Sample No(s)	28670623						28670594						28670595						28670596		28670597
Customer Sample Reference	MH						SW201						SW202						SW203		SW204
AGS Reference																					
Depth (m)																					
Container	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Ammoniacal Nitrogen				X						X						X					
Anions by Kone (w)			X						X						X						X
Cyanide Comp/Free/Total/Thiocyanate						X						X						X			
Dissolved Metals by ICP-MS					X						X						X				
EPH CWG (Aliphatic) Aqueous GC (W)		X						X						X						X	
EPH CWG (Aromatic) Aqueous GC (W)		X						X						X						X	
Fluoride			X						X						X						X
GRO by GC-FID (W)	X						X						X						X		
Hexavalent Chromium (w)			X						X						X						X
Mercury Dissolved					X						X						X				
Nitrite by Kone (w)						X						X						X			
PAH Spec MS - Aqueous (W)		X						X						X						X	
Phosphate by Kone (w)			X						X						X						X
TPH CWG (W)		X						X						X						X	
VOC MS (W)	X						X						X						X		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28670597	28670598	28670609	28670607
			Customer Sample Reference	SW204	SW205	SW206	SW209
			AGS Reference				
			Depth (m)				
			Container	H2SO4 (ALE244)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	SW	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
Fluoride	All	NDPs: 0 Tests: 28			X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28					
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28		X	X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28			X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28			X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28					

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			Lab Sample No(s)	28670604	28670601	28670599	28670607
			Customer Sample Reference	WS204	WS202	WS201	SW209
			AGS Reference				
			Depth (m)				
			Container	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	NaOH (ALE245)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X		
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28			X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X		
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X		
Fluoride	All	NDPs: 0 Tests: 28			X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28			X		
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X		
Mercury Dissolved	All	NDPs: 0 Tests: 28			X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28			X		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28			X		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X		
TPH CWG (W)	All	NDPs: 0 Tests: 28			X		
VOC MS (W)	All	NDPs: 0 Tests: 28			X		

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28670606	28670610	28670611	28670613
			Customer Sample Reference	WS205	WS206	WS207	WS208
			AGS Reference				
			Depth (m)				
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28		X	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Fluoride	All	NDPs: 0 Tests: 28		X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28		X	X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28		X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28		X	X	X	X

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			Lab Sample No(s)	28670603	28670613	28670615	28670602
			Customer Sample Reference	WS210	WS208	WS209	WS202A
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28		X	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Fluoride	All	NDPs: 0 Tests: 28		X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28		X	X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28		X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28		X	X	X	X

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)									28670602	28670612
Customer Sample Reference									WS202A	WS206A
AGS Reference										
Depth (m)										
Container									NaOH (ALE245)	Vial (ALE297)
Sample Type									GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28								X
Anions by Kone (w)	All	NDPs: 0 Tests: 28								X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28							X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28								X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28								X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28								X
Fluoride	All	NDPs: 0 Tests: 28								X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28							X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28								X
Mercury Dissolved	All	NDPs: 0 Tests: 28								X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28							X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28								X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28								X
TPH CWG (W)	All	NDPs: 0 Tests: 28								X
VOC MS (W)	All	NDPs: 0 Tests: 28							X	

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 [#] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.428 #	1.11 #	1.15 #	3.49 #	4.48 #	4.27 #
Fluoride	<0.5 mg/l	TM104	0.554 #	1.17 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	17.9 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.51 #	2.62 #	0.591 #	3.7 #	16 #	0.919 #
Barium (diss.filt)	<0.2 µg/l	TM152	121 #	156 #	22.5 #	32 #	296 #	28.4 #
Boron (diss.filt)	<10 µg/l	TM152	159 #	143 #	213 #	614 #	103 #	307 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.349 #	<0.08 #	0.33 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	0.754 #	2.26 #	<0.5 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	2.66 #	0.364 #	0.729 #	0.317 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.337 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	97.9 #	635 #	4050 #	2240 #	763 #	2850 #
Molybdenum (diss.filt)	<3 µg/l	TM152	5.58 #	<3 #	<3 #	<3 #	8.73 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	13.2 #	0.756 #	2.04 #	1.86 #	0.715 #	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	1.58 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	604 #	445 #	870 #	575 #	493 #	770 #
Titanium (diss.filt)	<1 µg/l	TM152	4.33 #	7.35 #	10.3 #	9.33 #	5.02 #	12.5 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	1330 #	3.94 #	2.81 #	1.56 #	20.5 #	1.92 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	10.3 #	10.1 #	526 #	437 #	8.94 #	272 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	8.34 #	13 #	79.3 #	57.4 #	5.43 #	63.3 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	5.04 #	5.64 #	21.5 #	25.8 #	9.9 #	20.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	209 #	158 #	263 #	129 #	138 #	215 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0815 #	3.85 #	<0.019 #	2.97 #	4.32 #	5.99 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.083 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	0.144 #	0.831 #	<0.05 #	0.126 #
Sulphate	<2 mg/l	TM184	70 #	31.1 #	141 #	28.9 #	128 #	<2 #
Chloride	<2 mg/l	TM184	25.3 #	16.8 #	811 #	844 #	8.8 #	736 #
Nitrate as NO3	<0.3 mg/l	TM184	2.84 #	<0.3 #	0.458 #	<0.3 #	<0.3 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Customer Sample Ref		GW05	GW06	GW07	MH	SW201	SW202
	Depth (m)							
	Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled		18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time							
	Date Received		21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref		230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)		28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference							
Component	**LOD/Units**	**Method**						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	3.88 #	1.97 #	<0.2 #	0.362 #	0.356 #	0.455 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	<0.5 #	<0.5 #	0.526	0.521
Aluminium (diss.filt)	<10 µg/l	TM152	12.9 #	<10 #	<10 #	<10 #	<100 #	<100 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<10 #	<10 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	2.39 #	1.76 #	<0.5 #	<0.5 #	<5 #	<5 #
Barium (diss.filt)	<0.2 µg/l	TM152	250 #	79.3 #	17.3 #	21.8 #	13.9 #	13.7 #
Boron (diss.filt)	<10 µg/l	TM152	172 #	273 #	71.9 #	150 #	2020 #	2010 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.8 #	<0.8 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<10 #	<10 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<5 #	<5 #
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #	<0.3 #	<0.3 #	0.586 #	<3 #	<3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<2 #	<2 #
Manganese (diss.filt)	<3 µg/l	TM152	907 #	9040 #	<3 #	361 #	178 #	182 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<30 #	<30 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.26 #	0.903 #	<0.4 #	0.727 #	<4 #	<4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1 #	<1 #	<10 #	<10 #
Strontium (diss.filt)	<1 µg/l	TM152	627 #	1070 #	518 #	238 #	3620 #	3620 #
Titanium (diss.filt)	<1 µg/l	TM152	13.1 #	6.16 #	1.98 #	2.32 #	<10 #	<10 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	4.78 #	<1 #	<1 #	<10 #	<10 #
Zinc (diss.filt)	<1 µg/l	TM152	12.2 #	2.44 #	2.2 #	3.92 #	<10 #	<10 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	20.9 #	611 #	231 #	151 #	4210 #	4170 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	9.62 #	92.2 #	34.2 #	23.4 #	619 #	609 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	10 #	28.6 #	10.2 #	8.57 #	200 #	198 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	187 #	274 #	244 #	107 #	216 #	215 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	12.8 #	3.66 #	<0.019 #	0.0379 #	<0.19 #	<0.19 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	0.064 #	0.063 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	0.061 #	0.15 #	0.185 #
Sulphate	<2 mg/l	TM184	21.6 #	150 #	113 #	54.5 #	1310 #	1340 #
Chloride	<2 mg/l	TM184	34.8 #	1580 #	735 #	270 #	10300 #	10300 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	15.8 #	5.74 #	0.509 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05	<0.05
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03	<0.03

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Customer Sample Ref		SW203	SW204	SW205	SW206	SW209	WS201
	Depth (m)							
	Sample Type		Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled		19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time							
	Date Received		21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref		230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)		28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference							
Component	**LOD/Units**	**Method**						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.357 #	0.381 #	<0.2 #	4.49 #	2.66 #	13 #
Fluoride	<0.5 mg/l	TM104	0.537	0.793	<0.5	0.817	<0.5	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<100 #	<10 #	<10 #	<100 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	1.08 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	<5 #	1.57 #	1.87 #	<5 #	1.22 #	70.2 #
Barium (diss.filt)	<0.2 µg/l	TM152	13.8 #	14.2 #	17 #	44.2 #	20.7 #	226 #
Boron (diss.filt)	<10 µg/l	TM152	2010 #	2660 #	33.4 #	1500 #	422 #	363 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.8 #	<0.08 #	<0.08 #	<0.8 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<5 #	<0.5 #	0.521 #	<5 #	<0.5 #	7.33 #
Copper (diss.filt)	<0.3 µg/l	TM152	<3 #	0.773 #	0.371 #	<3 #	1.11 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<2 #	<0.2 #	<0.2 #	<2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	184 #	119 #	874 #	145 #	118 #	1850 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<30 #	6.92 #	<3 #	<30 #	<3 #	16.1 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<4 #	0.534 #	0.809 #	4.69 #	0.867 #	2.08 #
Selenium (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	3620 #	5140 #	244 #	2620 #	857 #	916 #
Titanium (diss.filt)	<1 µg/l	TM152	<10 #	2.58 #	1.99 #	<10 #	2.83 #	10.3 #
Vanadium (diss.filt)	<1 µg/l	TM152	<10 #	1.04 #	<1 #	<10 #	<1 #	1.93 #
Zinc (diss.filt)	<1 µg/l	TM152	<10 #	6.94 #	2.99 #	41.8 #	19.9 #	2.59 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	4280 #	6730 #	62.6 #	3410 #	1010 #	18.4 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	613 #	845 #	8.49 #	442 #	127 #	17.4 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	203 #	265 #	10.5 #	143 #	42.6 #	17.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	211 #	276 #	55.5 #	203 #	136 #	169 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.19 #	0.0237 #	0.339 #	<0.19 #	0.043 #	37.5 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.066 #	0.099 #	<0.05 #	0.808 #	0.79 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.147 #	0.385 #	0.126 #	1.21 #	0.398 #	<0.05 #
Sulphate	<2 mg/l	TM184	1320 #	2020 #	<2 #	965 #	290 #	12.6 #
Chloride	<2 mg/l	TM184	10100 #	15800 #	117 #	7090 #	1960 #	60.3 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	<0.3 #	6.66 #	12.2 #	0.375 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03 #

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	4.73 #	1.93 #	0.262 #	1.67 #	7.24 #	5.17 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	0.782 #	<0.5 #	<0.5 #	0.625 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.31 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	13.8 #	4.41 #	1.1 #	9.41 #	6.5 #	7.68 #
Barium (diss.filt)	<0.2 µg/l	TM152	68 #	880 #	133 #	136 #	452 #	192 #
Boron (diss.filt)	<10 µg/l	TM152	195 #	367 #	207 #	206 #	223 #	142 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.113 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.655 #	<0.5 #	<0.5 #	2.5 #	0.758 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	0.311 #	<0.3 #	0.86 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	3630 #	1550 #	108 #	2190 #	1850 #	762 #
Molybdenum (diss.filt)	<3 µg/l	TM152	4.02 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	0.404 #	0.419 #	1.48 #	2.85 #	0.895 #	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	912 #	821 #	520 #	513 #	700 #	530 #
Titanium (diss.filt)	<1 µg/l	TM152	16.9 #	8.01 #	6.17 #	9.12 #	15.9 #	11.9 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	1.24 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	2.46 #	3.16 #	16 #	8.15 #	3.04 #	1.34 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	386 #	155 #	82.1 #	259 #	24 #	9.45 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	96.8 #	33.2 #	19.4 #	36.8 #	17.2 #	9.27 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	21.3 #	16.1 #	15.3 #	12.8 #	15.8 #	12.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	263 #	161 #	146 #	167 #	245 #	169 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	34.7 #	3.58 #	1.94 #	21.1 #	23.8 #	7.46 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	43.5 #	24.1 #	62 #	92.6 #	33 #	15.3 #
Chloride	<2 mg/l	TM184	1080 #	307 #	126 #	530 #	33.6 #	10.5 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	0.502 #	<0.3 #	<0.3 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.449 #	2.55 #	1.02 #	0.769 #		
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	<0.5 #	<0.5 #		
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	169 #		
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.5 #	<10 #		
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.46 #	1.25 #	2.08 #	<5 #		
Barium (diss.filt)	<0.2 µg/l	TM152	90.9 #	114 #	21.2 #	123 #		
Boron (diss.filt)	<10 µg/l	TM152	62.3 #	191 #	28.3 #	1010 #		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	1.02 #		
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.795 #	<0.5 #	<0.5 #	<5 #		
Copper (diss.filt)	<0.3 µg/l	TM152	1.59 #	<0.3 #	1.04 #	<3 #		
Lead (diss.filt)	<0.2 µg/l	TM152	0.478 #	<0.2 #	<0.2 #	<2 #		
Manganese (diss.filt)	<3 µg/l	TM152	542 #	633 #	249 #	2700 #		
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<30 #		
Nickel (diss.filt)	<0.4 µg/l	TM152	1.3 #	<0.4 #	0.938 #	9.95 #		
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Strontium (diss.filt)	<1 µg/l	TM152	215 #	460 #	89.7 #	3740 #		
Titanium (diss.filt)	<1 µg/l	TM152	3.97 #	4.25 #	4.07 #	<10 #		
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Zinc (diss.filt)	<1 µg/l	TM152	11.5 #	1.76 #	3.99 #	54.4 #		
Sodium (Dis.Filt)	<0.076 mg/l	TM152	4.39 #	25.4 #	9.79 #	3800 #		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	3.62 #	18.6 #	3.04 #	652 #		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	2.06 #	5.93 #	1.76 #	135 #		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	103 #	175 #	56 #	333 #		
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.398 #	1.39 #	0.974 #	<0.19 #		
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #		
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Sulphate	<2 mg/l	TM184	3.9 #	29.8 #	<2 #	1240 #		
Chloride	<2 mg/l	TM184	6 #	46.4 #	11 #	10000 #		
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	1.19 #	<0.3 #		
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Component	LOD/Units	Method	BH201	BH202	BH203	BH205	GW01	GW04
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
Sample Time			-	-	-	-	-	-
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670593	28670591	28670589	28670588	28670617	28670619
AGS Reference								
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.006 #	0.669 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.024 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0687 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0064 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0633 #	<0.005 #	<0.005 #	0.206 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.082 #	0.967 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Component	LOD/Units	Method	GW05	GW06	GW07	MH	SW201	SW202
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
Sample Time			-	-	-	-	-	-
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670620	28670621	28670622	28670623	28670594	28670595
AGS Reference								
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	0.122 #	0.0064 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0416 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0675 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.231 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 Sample deviation (see appendix)

Customer Sample Ref			SW203	SW204	SW205	SW206	SW209	WS201
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
Date Sampled			19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
Sample Time								
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670596	28670597	28670598	28670609	28670607	28670599
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	0.342 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.104 #	0.0093 #	0.119 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0365 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0461 #	<0.005 #	0.369 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0115 #	<0.005 #	0.0564 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0263 #	<0.005 #	0.226 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0173 #	<0.005 #	0.0916 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.149 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0381 #	<0.005 #	0.337 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.127 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.186 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0895 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	0.16 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0326 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.133 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.243 #	<0.082 #	2.45 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 Sample deviation (see appendix)

Customer Sample Ref			WS202	WS204	WS205	WS206	WS207	WS208
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
Sample Time								
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670601	28670604	28670606	28670610	28670611	28670613
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.184 #	0.0122 #	<0.005 #	0.363 #	0.347 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0134 #	<0.005 #	<0.005 #	0.0113 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.179 #	<0.005 #	<0.005 #	0.343 #	0.0561 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.027 #	0.0093 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.059 #	0.0126 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0474 #	<0.005 #	<0.005 #	0.0211 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0225 #	<0.005 #	<0.005 #	0.0887 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.151 #	<0.005 #	<0.005 #	0.283 #	0.0533 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	0.007 #	<0.005 #	<0.005 #	0.0526 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0852 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0534 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	0.0831 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0295 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0439 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	0.605 #	<0.082 #	<0.082 #	1.54 #	0.479 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670615	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670603	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670602	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670612		
Component	LOD/Units	Method					
Naphthalene (aq)	<0.01 µg/l	TM178	0.0158 #	<0.01 #	<0.01 #	<0.01 #	
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0079 #	0.389 #	0.0078 #	<0.005 #	
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.0089 #	0.0094 #	<0.005 #	<0.005 #	
Fluoranthene (aq)	<0.005 µg/l	TM178	0.149 #	0.126 #	<0.005 #	<0.005 #	
Anthracene (aq)	<0.005 µg/l	TM178	0.0168 #	<0.005 #	<0.005 #	<0.005 #	
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0546 #	<0.005 #	<0.005 #	<0.005 #	
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Chrysene (aq)	<0.005 µg/l	TM178	0.0877 #	0.0222 #	<0.005 #	<0.005 #	
Pyrene (aq)	<0.005 µg/l	TM178	0.144 #	0.174 #	<0.005 #	<0.005 #	
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.0518 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	0.102 #	0.013 #	<0.005 #	<0.005 #	
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	0.0514 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	0.0856 #	0.0128 #	<0.002 #	<0.002 #	
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	0.0479 #	<0.005 #	<0.005 #	<0.005 #	
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	0.0611 #	<0.005 #	<0.005 #	<0.005 #	
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.885 #	0.746 #	<0.082 #	<0.082 #	

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670593	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670591	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670589	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670588	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670617	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670619
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	98	94	95	94	95	90
GRO >C5-C12	<50 µg/l	TM245	249 #	<50 #	330 #	3750 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	222	<10	294	3570	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	12	<10	18	164	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	243	<10	321	3740	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94	96	90	96	94	98
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	13	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	23	<10	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	105	103	101	98	102	92
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	57 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	12
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	12
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	27
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	59
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	431
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	517
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	122
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	122
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	695
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	490

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	86	101	96	98	91	91
GRO >C5-C12	<50 µg/l	TM245	1780 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	1740	<10	<10	17	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	13	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	11	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	11	<10	<10	<10	13
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	11	<10	<10	<10	13
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	1780	14	<10	28	<10	13
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	95	106	93		
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	5480 #		
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	55		
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	5390		
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	5470		
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	103	103	103	102	114	119
Toluene-d8**	%	TM208	99.1	98.7	99.1	98.2	102	103
4-Bromofluorobenzene**	%	TM208	99.5	98.8	98	99.2	94.7	94.5
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	2.99 #	22.5 #	<1 #	4360 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	4.49 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.75 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	1.56 #	<1 #	6.87 #	26.7 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	881 #	10.2 #	1120 #	11700 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	24.3 #	<1 #	39.8 #	547 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	121	118	117	120	102	104
Toluene-d8**	%	TM208	104	103	103	103	99.5	98.5
4-Bromofluorobenzene**	%	TM208	91.8	93	93.9	94.1	98.3	101
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	26.2 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	2.23 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	140 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	7.19 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Sample Type	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Date Sampled	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	Sample Time	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Date Received	28670620	28670621	28670622	28670623	28670594	28670595
	SDG Ref						
	Lab Sample No.(s)						
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<2 #	<1 #	<1 #	<2 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Sample Type	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Date Sampled	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	Sample Time	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Date Received	28670620	28670621	28670622	28670623	28670594	28670595
	SDG Ref						
	Lab Sample No.(s)						
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	108	105	105	102	110	105
Toluene-d8**	%	TM208	99.8	99.7	98.9	98.6	99.3	98.3
4-Bromofluorobenzene**	%	TM208	97.5	98.1	98.1	97.8	96.8	98.9
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	748 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	35.3 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	3.04 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.49 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.15 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<2 #	<1 #	<1 #	1.22 #	<2 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.53 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.44 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	2.15
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	103	107	104	104	103	115
Toluene-d8**	%	TM208	98.6	98.2	98	99.1	98.1	102
4-Bromofluorobenzene**	%	TM208	98.6	98.1	97.2	98.5	98.4	96.3
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	4590 #	3.38 #	<1 #	8.53 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	2.43 #	<1 #	<1 #	1.17 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	19.6 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	6160 #	1.81 #	1.33 #	168 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.07 #	23 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	1.88 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						
Component	LOD/Units	Method					
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	119	106	110	111		
Toluene-d8**	%	TM208	103	98.8	99	105		
4-Bromofluorobenzene**	%	TM208	93.5	96.5	97.9	94.2		
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.23 #		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	15.1 #		
cis-1,2-Dichloroethene	<1 µg/l	TM208	3.35 #	<1 #	<1 #	184 #		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichloroethene	<1 µg/l	TM208	2.54 #	<1 #	<1 #	19500 #		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	2.96 #		
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	3.83 #		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited.	Depth (m)						
M mCERTS accredited.	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
aq Aqueous / settled sample.	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
diss.filt Dissolved / filtered sample.	Sample Time						
tot.unfilt Total / unfiltered sample.	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	230922-76	230922-76	230922-76	230922-76		
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
(F) Trigger breach confirmed	AGS Reference						
1-4+[a] Sample deviation (see appendix)							
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

Data Amendment

Sample No. :	28670617	Date of Amendment :	05/10/2023	
Sample Ref.	Reason		Previous	Amended
All	Sample ID Change		GW1	USTN
Sample No. :	**28670619**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
All	Sample ID Change		GW4	USTR
Sample No. :	**28670620**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
All	Sample ID Change		GW5	GW01
Sample No. :	**28670621**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
All	Sample ID Change		GW6	GW02
Sample No. :	**28670622**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
All	Sample ID Change		GW07	WS203

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Table of Results - Appendix

Method No	Description
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM104	Determination of Fluoride using the Kone Analyser
TM152	Analysis of Aqueous Samples by ICP-MS
TM174	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Test Completion Dates

Lab Sample No(s)	28670593	28670591	28670589	28670588	28670617	28670619	28670620	28670621	28670622	28670623
Customer Sample Ref.	BH001	BH002	BH003	BH005	GW01	GW04	GW05	GW06	GW07	BH
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
Anions by Kone (w)	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	29-Sep-2023	27-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023
Hexavalent Chromium (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023
Mercury Dissolved	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	28-Sep-2023	26-Sep-2023	28-Sep-2023	28-Sep-2023	26-Sep-2023	25-Sep-2023	26-Sep-2023	25-Sep-2023	28-Sep-2023	26-Sep-2023

Lab Sample No(s)	28670594	28670595	28670596	28670597	28670598	28670609	28670607	28670599	28670601	28670604
Customer Sample Ref.	SW201	SW202	SW203	SW204	SW205	SW206	SW209	WS201	WS202	WS204
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023
Anions by Kone (w)	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	26-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	27-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023
Hexavalent Chromium (w)	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023
Mercury Dissolved	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	29-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	26-Sep-2023	26-Sep-2023	27-Sep-2023	27-Sep-2023	26-Sep-2023	26-Sep-2023	27-Sep-2023	28-Sep-2023	26-Sep-2023	26-Sep-2023

Lab Sample No(s)	28670606	28670610	28670611	28670613	28670615	28670603	28670602	28670612
Customer Sample Ref.	WS205	WS206	WS207	WS208	WS209	WS210	WS202A	WS206A
AGS Ref.								
Depth								
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Anions by Kone (w)	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	29-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	27-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	25-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023
Hexavalent Chromium (w)	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023
Mercury Dissolved	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	26-Sep-2023	27-Sep-2023	28-Sep-2023

CERTIFICATE OF ANALYSIS

SDG: 230922-76 **Report Number:** 706376 **Superseded Report:** 706040
Client Ref: **Location:**

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
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Hawarden
Deeside
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WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 January 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	231219-74
Your Reference:	40000324
Location:	Cork
Report No:	716062
Order Number:	

This report has been revised and directly supersedes 715334 in its entirety.

We received 13 samples on Tuesday December 19, 2023 and 13 of these samples were scheduled for analysis which was completed on Tuesday January 02, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 02/01/2024

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29134700	BH201			15/12/2023
29134701	BH203			15/12/2023
29134702	BH205			15/12/2023
29134706	SW201			15/12/2023
29134707	SW202			15/12/2023
29134708	SW203			15/12/2023
29134709	SW301			15/12/2023
29134710	SW302			15/12/2023
29134712	SW303			15/12/2023
29134711	TB			15/12/2023
29134703	WS201			15/12/2023
29134704	WS202			15/12/2023
29134705	WS206A			15/12/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29134700	29134701
			Customer Sample Reference	BH201	BH203
			AGS Reference		
			Depth (m)		
			Container	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6			
Anions by Kone (w)	All	NDPs: 0 Tests: 6			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 6			
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 6			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 6			
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 6			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12			
EPH and CWG by FID	All	NDPs: 0 Tests: 12			
Ferrous Iron	All	NDPs: 0 Tests: 6			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 12			
Manganese II	All	NDPs: 0 Tests: 6			
Mercury Dissolved	All	NDPs: 0 Tests: 12			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 6			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 12			

Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type															
29134701	BH203			ZnAc (ALE246)	GW															
29134702	BH205			0.5l glass bottle (ALE227)	GW						X			X						
				250ml Amber Gl. PTFE/PE (ALE219)	GW								X							X
				500ml Plastic (ALE208)	GW		X		X											
				DO KIT + DO 250 ml glass	GW							X								
				H2SO4 (ALE244)	GW	X														
				HCl Filtered (ALE250)	GW										X		X			
				HNO3 Filtered (ALE204)	GW					X								X		
				NaOH (ALE245)	GW														X	
				Vial (ALE297)	GW			X								X				
				ZnAc (ALE246)	GW															
29134706	SW201			0.5l glass bottle (ALE227)	SW								X	X						X
				HNO3 Filtered (ALE204)	SW					X								X		
				Vial (ALE297)	SW											X				
29134707	SW202			0.5l glass bottle (ALE227)	SW								X	X						X
				HNO3 Filtered (ALE204)	SW					X								X		
				Vial (ALE297)	SW											X				
29134708	SW203			0.5l glass bottle (ALE227)	SW								X	X						X
				HNO3 Filtered (ALE204)	SW					X								X		
				Vial (ALE297)	SW											X				
29134709	SW301			0.5l glass bottle (ALE227)	SW								X	X						X

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CERTIFICATE OF ANALYSIS

SDG: 231219-74
Client Ref.: 40000324

Report Number: 716062
Location: Cork

Superseded Report: 715334

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)											29134700									29134701
Customer Sample Reference											BH201									BH203
AGS Reference																				
Depth (m)																				
Container			0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 6			X										X						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 6			X										X						
Redox Potential	All	NDPs: 0 Tests: 6	X										X								
Sulphide	All	NDPs: 0 Tests: 6										X									
TPH CWG (W)	All	NDPs: 0 Tests: 12	X										X								
VOC MS (W)	All	NDPs: 0 Tests: 13									X										X

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Lab Sample No(s)	29134701										29134702			29134706			29134707			29134708	29134709
Customer Sample Reference	BH203										BH205			SW201			SW202			SW203	SW301
AGS Reference																					
Depth (m)																					
Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
				X																	
				X																	
		X																			
	X										X										
		X										X			X			X			X
										X				X			X			X	

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Client Ref.: 40000324

Report Number: 716062 Location: Cork

Superseded Report: 715334

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

		Lab Sample No(s)		29134709			29134710			29134712	29134711									29134703
		Customer Sample Reference		SW301			SW302			SW303	TB									WS201
		AGS Reference																		
		Depth (m)																		
		Container	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
		Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6														X					
Anions by Kone (w)	All	NDPs: 0 Tests: 6												X							
Determination of Dissolved Gases	All	NDPs: 0 Tests: 6																		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 6												X							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12	X			X			X									X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 6										X									
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 6													X						
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12			X			X					X								
EPH and CWG by FID	All	NDPs: 0 Tests: 12			X			X				X									
Ferrous Iron	All	NDPs: 0 Tests: 6															X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 12		X			X			X										X	
Manganese II	All	NDPs: 0 Tests: 6															X				
Mercury Dissolved	All	NDPs: 0 Tests: 12	X			X			X									X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 6																	X		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 12			X			X					X								

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Lab Sample No(s)			29134703	29134704	29134705
Customer Sample Reference			WS201	WS202	WS206A
AGS Reference					
Depth (m)					
Container			ZnAc (ALE246)	ZnAc (ALE246)	ZnAc (ALE246)
Sample Type			GW	GW	GW
pH Value	All	NDPs: 0 Tests: 6	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 6	X	X	X
Redox Potential	All	NDPs: 0 Tests: 6	X	X	X
Sulphide	All	NDPs: 0 Tests: 6	X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 12	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 13	X	X	X

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			29134709	29134710	29134711	29134712
Customer Sample Reference			SW301	SW302	TB	SW303
AGS Reference						
Depth (m)						
Container			HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	Vial (ALE297)
Sample Type			SW	SW	SW	SW
pH Value	All	NDPs: 0 Tests: 6				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 6				
Redox Potential	All	NDPs: 0 Tests: 6				
Sulphide	All	NDPs: 0 Tests: 6				
TPH CWG (W)	All	NDPs: 0 Tests: 12	X	X	X	
VOC MS (W)	All	NDPs: 0 Tests: 13	X	X	X	X

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29134705	WS206A			ZnAc (ALE246)	GW								X				
				Vial (ALE297)	GW												X
				NaOH (ALE245)	GW												
				HNO3 Filtered (ALE204)	GW												
				HCl Filtered (ALE250)	GW												
				H2SO4 (ALE244)	GW												
				DO KIT + DO 250 ml glass	GW												
				500ml Plastic (ALE208)	GW		X		X								
				250ml Amber Gl. PTFE/PE (ALE219)	GW												
				0.5l glass bottle (ALE227)	GW						X				X		
29134704	WS202			ZnAc (ALE246)	GW								X				
				Vial (ALE297)	GW												X
				NaOH (ALE245)	GW												
				HNO3 Filtered (ALE204)	GW												
				HCl Filtered (ALE250)	GW												
				H2SO4 (ALE244)	GW												
				DO KIT + DO 250 ml glass	GW												
				500ml Plastic (ALE208)	GW		X		X								
				250ml Amber Gl. PTFE/PE (ALE219)	GW												
				0.5l glass bottle (ALE227)	GW						X				X		

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 **Report Number:** 716062 **Superseded Report:** 715334
Client Ref.: 40000324 **Location:** Cork

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- (F) Trigger breach confirmed
- 1-4+§@ Sample deviation (see appendix)

Customer Sample Ref.			BH201	BH203	BH205	SW201	SW202	SW203
Depth (m)			-	-	-	-	-	-
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
Sample Time			-	-	-	-	-	-
Date Received			19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
SDG Ref			231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
Lab Sample No.(s)			29134700	29134701	29134702	29134706	29134707	29134708
AGS Reference								
Component	**LOD/Units**	**Method**						
Manganese II	<0.2 mg/l	TM005	<0.2	0.804	1.34			
Carbon, Organic (diss.filt)	<3 mg/l	TM090	5.75	<3	<3			
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	91.5	65.1	73.7			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.379 #	<0.2 #	1.23 #			
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	<0.01 #			
Redox potential	mV	TM110	196	192	171			
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 #	<0.1 #	2.1 #			
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.71 #	<0.5 #	2.43 #	<0.5 #	<0.5 #	<0.5 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.751 #	0.169 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	3.82 #	<0.3 #	<0.3 #	0.942 #	0.833 #	0.869 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	127 #	699 #	1020 #			
Nickel (diss.filt)	<0.4 µg/l	TM152	11.1 #	1.28 #	0.648 #	0.574 #	0.468 #	0.455 #
Selenium (diss.filt)	<1 µg/l	TM152	1.33 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	1160 #	3.72 #	5.64 #	8.53 #	7.09 #	7.11 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0631 #	<0.019 #	1.93 #			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	<100 #	<100 #	<100 #	<100 #	<100 #
Mercury (diss.filt)	<0.01 µg/l	TM183	0.0121 #	<0.01 #	<0.01 #	<0.01	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	0.06 #	<0.05 #	<0.05 #			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.073 #	0.107 #	0.068 #			
Sulphate	<2 mg/l	TM184	81.6 #	163 #	72.3 #			
Chloride	<2 mg/l	TM184	22.3 #	1270 #	456 #			
Nitrate as NO3	<0.3 mg/l	TM184	4.59 #	3.42 #	<0.3 #			
Oxygen, dissolved	<0.3 mg/l	TM187	2.11 #	0.51 #	<0.3 #			
Methane, dissolved	<1 µg/l	TM223	1.18	4.93	166			
Ethene, dissolved	<1 µg/l	TM223	<1	<1	23.4			
Ethane, dissolved	<1 µg/l	TM223	<1	<1	8.56			
Carbon dioxide, dissolved	<1.3 mg/l	TM223	42.5	22.6	17.7			
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1			
pH	<1 pH Units	TM256	8.32 @ #	7.92 @ #	7.63 @ #			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	0.888 #	4.04 #	1.92 #			
Alkalinity, Total as CaCO3	<3 mg/l	TM256	470 #	283 #	340 #			

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Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
Manganese II	<0.2 mg/l	TM005					4.76	4	1.61
Carbon, Organic (diss.filt)	<3 mg/l	TM090					5.15	5.08	<3
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090					85	101	62.9
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099					8.01 #	3.56 #	<0.2 #
Sulphide	<0.01 mg/l	TM101					0.0175 #	<0.01 #	<0.01 #
Redox potential	mV	TM110					161	318	195
Iron, Ferrous	<0.1 mg/l	TM125					57.3 #	33 #	<0.1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.68 #	1.26 #	0.678 #		88.7 #	9.67 #	<0.5 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #		<0.08 #	<0.08 #	0.0988 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #		<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.03 #	0.891 #	0.701 #		<0.3 #	<0.3 #	0.453 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #		<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152					1850 #	3320 #	1340 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.28 #	1.01 #	0.687 #		1.12 #	1.41 #	2.56 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #		<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	26.4 #	19.7 #	10.7 #		6.36 #	12.4 #	13.9 #
Iron (Dis.Filt)	<0.019 mg/l	TM152					50.8 #	30.7 #	0.0549 #
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	146 #	<100 #	<100 #		127 #	139 #	188 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01		<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184					<0.05 #	<0.05 #	0.058 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184					<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184					<2 #	44.9 #	153 #
Chloride	<2 mg/l	TM184					72.7 #	979 #	1080 #
Nitrate as NO3	<0.3 mg/l	TM184					0.446 #	<0.3 #	4.15 #
Oxygen, dissolved	<0.3 mg/l	TM187					<0.3 #	0.41 #	0.93 #
Methane, dissolved	<1 µg/l	TM223					10200	7360	25.3
Ethene, dissolved	<1 µg/l	TM223					3370 3	874 3	<1
Ethane, dissolved	<1 µg/l	TM223					3700 3	1080 3	6.27
Carbon dioxide, dissolved	<1.3 mg/l	TM223					75.3	81.5	16.7
Propane, dissolved	<1 µg/l	TM223					<1	1.2	<1
pH	<1 pH Units	TM256					7.51 @#	7.73 @#	7.45 @#
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256					0.851 #	3.45 #	3.5 #
Alkalinity, Total as CaCO3	<3 mg/l	TM256					389 #	604 #	284 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.05 #	<0.05 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.01 #	<0.01 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.41 #	<0.41 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	0.31 #	0.0117 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0294 #	0.013 #	<0.005 #	0.106 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0117 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0219 #	<0.005 #	<0.005 #	0.0532 #	0.0432 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0298 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.114 #	0.0259 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0577 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.031 #	0.041 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0235 #	<0.005 #	<0.005 #	0.0451 #	0.0387 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0143 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0294 #	0.0364 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.728 #	0.194 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	112	101	101	103	102	105
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	254 #	<50 #	959 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	219	11	839	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	13	<10	104	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	245	15	953	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	104	102	103	99	95	104
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	156 #	1890 #	283 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	1850	31
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	17	11	213
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	33	<10	12
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	41	<10	11
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	27	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	27	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	156	1890	283

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	109	110	107	107	107	108
Toluene-d8**	%	TM208	99.6	105	99.8	100	100	100
4-Bromofluorobenzene**	%	TM208	101	99.6	98.6	98.8	101	100
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	12.6 #	<1 #	548 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.31 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	2.34 #	1.19 #	6.68 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1030 #	218 #	3210 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	23 #	20.6 #	313 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	112	111	113	108	107	104
Toluene-d8**	%	TM208	101	94.3	99.8	100	100	99.3
4-Bromofluorobenzene**	%	TM208	92	99.6	99.2	101	100	100
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1290 #	5070 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.98 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	12.3 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1.21 #	4.25 #	<1 #	<1 #	50.9 #	6360 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.17 #	1.01 #	1.15 #	1.63 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.21 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.52 #	2.12 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.38 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	3.68 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.57 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.25 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.65 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	9.21 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.82 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time	-	-	-	-	-	-
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2		5.06	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5		7.79	<5

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-
	Sample Type	Ground Water (GW)
	Date Sampled	15/12/2023
	Sample Time	-
	Date Received	19/12/2023
	SDG Ref	231219-74
	Lab Sample No.(s)	29134705
	AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	108
Toluene-d8**	%	TM208	101
4-Bromofluorobenzene**	%	TM208	99.8
Dichlorodifluoromethane	<1 µg/l	TM208	<1
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	2.71 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	125 #
2,2-Dichloropropane	<1 µg/l	TM208	<1
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	916 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited.	Depth (m)	
M mCERTS accredited.	Sample Type	Ground Water (GW)
aq Aqueous / settled sample.	Date Sampled	15/12/2023
diss.filt Dissolved / filtered sample.	Sample Time	
tot.unfilt Total / unfiltered sample.	Date Received	19/12/2023
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	231219-74
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29134705
(F) Trigger breach confirmed	AGS Reference	
1-4+[@ Sample deviation (see appendix)		

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited.	Depth (m)	
M mCERTS accredited.	Sample Type	Ground Water (GW)
aq Aqueous / settled sample.	Date Sampled	15/12/2023
diss.filt Dissolved / filtered sample.	Sample Time	
tot.unfilt Total / unfiltered sample.	Date Received	19/12/2023
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	231219-74
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29134705
(F) Trigger breach confirmed	AGS Reference	
1-4+[@ Sample deviation (see appendix)		

Component	LOD/Units	Method	
Sum of detected Xylenes	<2 µg/l	TM208	<2
Sum of BTEX	<5 µg/l	TM208	<5

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Client Ref.: 40000324 Location: Cork

Extractable Petroleum Hydrocarbons (EPH) By GC-FID

EPH (DRO) (C10-C40)

Sample No	Customer Sample Ref.	Depth	Matrix (mg/kg)	EPH	Interpretation
29139068	BH201		ROUND_WATE	<100	
29139067	BH203		ROUND_WATE	<100	
29139064	WS201		ROUND_WATE	127	
29139062	WS202		ROUND_WATE	139	
29139063	WS206A		ROUND_WATE	188	
29139069	BH205		ROUND_WATE	<100	
29139211	SW303		JRFACE_WATE	<100	
29139468	SW202		JRFACE_WATE	<100	
29139477	SW201		JRFACE_WATE	<100	
29137930	SW203		JRFACE_WATE	<100	
29137933	SW301		JRFACE_WATE	146	
29137908	SW302		JRFACE_WATE	<100	

Extractable Petroleum Hydrocarbons (formally Diesel Range Organics) :- Any compound extractable in n-hexane within the carbon range C10-C40, includes Aliphatic (Min Oil), Aromatic (PAHs) and naturally occurring compounds.

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Client Ref.: 40000324 Location: Cork

Table of Results - Appendix

Method No	Description
TM005	Manganese II by spectrophotometer
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	Redox Potential
TM125	Determination of Total/Ferrous Iron
TM152	Analysis of Aqueous Samples by ICP-MS
TM172	EPH in Waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM187	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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Test Completion Dates

Lab Sample No(s)	29134700	29134701	29134702	29134706	29134707	29134708	29134709	29134710	29134712	29134711
Customer Sample Ref.	BH001	BH003	BH005	SW001	SW002	SW003	SW001	SW002	SW003	TB
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	20-Dec-2023	20-Dec-2023	20-Dec-2023							
Anions by Kone (w)	27-Dec-2023	27-Dec-2023	27-Dec-2023							
Determination of Dissolved Gases	28-Dec-2023	28-Dec-2023	28-Dec-2023							
Dissolved Inorganic Carbon	28-Dec-2023	28-Dec-2023	28-Dec-2023							
Dissolved Metals by ICP-MS	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	
Dissolved Organic/Inorganic Carbon	27-Dec-2023	27-Dec-2023	27-Dec-2023							
Dissolved Oxygen by Titration	21-Dec-2023	21-Dec-2023	21-Dec-2023							
EPH (DRO) (C10-C40) Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	
EPH and CWG by FID	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	27-Dec-2023	27-Dec-2023	27-Dec-2023	28-Dec-2023	29-Dec-2023	
Ferrous Iron	21-Dec-2023	21-Dec-2023	21-Dec-2023							
GRO by GC-FID (W)	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	
Manganese II	20-Dec-2023	20-Dec-2023	20-Dec-2023							
Mercury Dissolved	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	22-Dec-2023	28-Dec-2023	
Nitrite by Kone (w)	21-Dec-2023	21-Dec-2023	21-Dec-2023							
PAH Spec MS - Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	
pH Value	02-Jan-2024	02-Jan-2024	02-Jan-2024							
Phosphate by Kone (w)	22-Dec-2023	22-Dec-2023	22-Dec-2023							
Redox Potential	28-Dec-2023	27-Dec-2023	27-Dec-2023							
Sulphide	28-Dec-2023	28-Dec-2023	28-Dec-2023							
TPH CWG (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	27-Dec-2023	27-Dec-2023	27-Dec-2023	28-Dec-2023	29-Dec-2023	
VOC MS (W)	27-Dec-2023	21-Dec-2023	27-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	22-Dec-2023

Lab Sample No(s)	29134703	29134704	29134705
Customer Sample Ref.	WS001	WS002	WS006A
AGS Ref.			
Depth			
Type	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	20-Dec-2023	20-Dec-2023	20-Dec-2023
Anions by Kone (w)	27-Dec-2023	27-Dec-2023	27-Dec-2023
Determination of Dissolved Gases	28-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Inorganic Carbon	28-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Metals by ICP-MS	21-Dec-2023	21-Dec-2023	21-Dec-2023
Dissolved Organic/Inorganic Carbon	27-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Oxygen by Titration	21-Dec-2023	21-Dec-2023	21-Dec-2023
EPH (DRO) (C10-C40) Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
EPH and CWG by FID	28-Dec-2023	28-Dec-2023	28-Dec-2023
Ferrous Iron	21-Dec-2023	21-Dec-2023	21-Dec-2023
GRO by GC-FID (W)	22-Dec-2023	22-Dec-2023	22-Dec-2023
Manganese II	20-Dec-2023	20-Dec-2023	20-Dec-2023
Mercury Dissolved	28-Dec-2023	22-Dec-2023	22-Dec-2023
Nitrite by Kone (w)	21-Dec-2023	21-Dec-2023	21-Dec-2023
PAH Spec MS - Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
pH Value	02-Jan-2024	02-Jan-2024	02-Jan-2024
Phosphate by Kone (w)	22-Dec-2023	22-Dec-2023	22-Dec-2023
Redox Potential	27-Dec-2023	27-Dec-2023	27-Dec-2023
Sulphide	28-Dec-2023	28-Dec-2023	28-Dec-2023
TPH CWG (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
VOC MS (W)	27-Dec-2023	27-Dec-2023	27-Dec-2023

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref: 40000324 Location: Cork

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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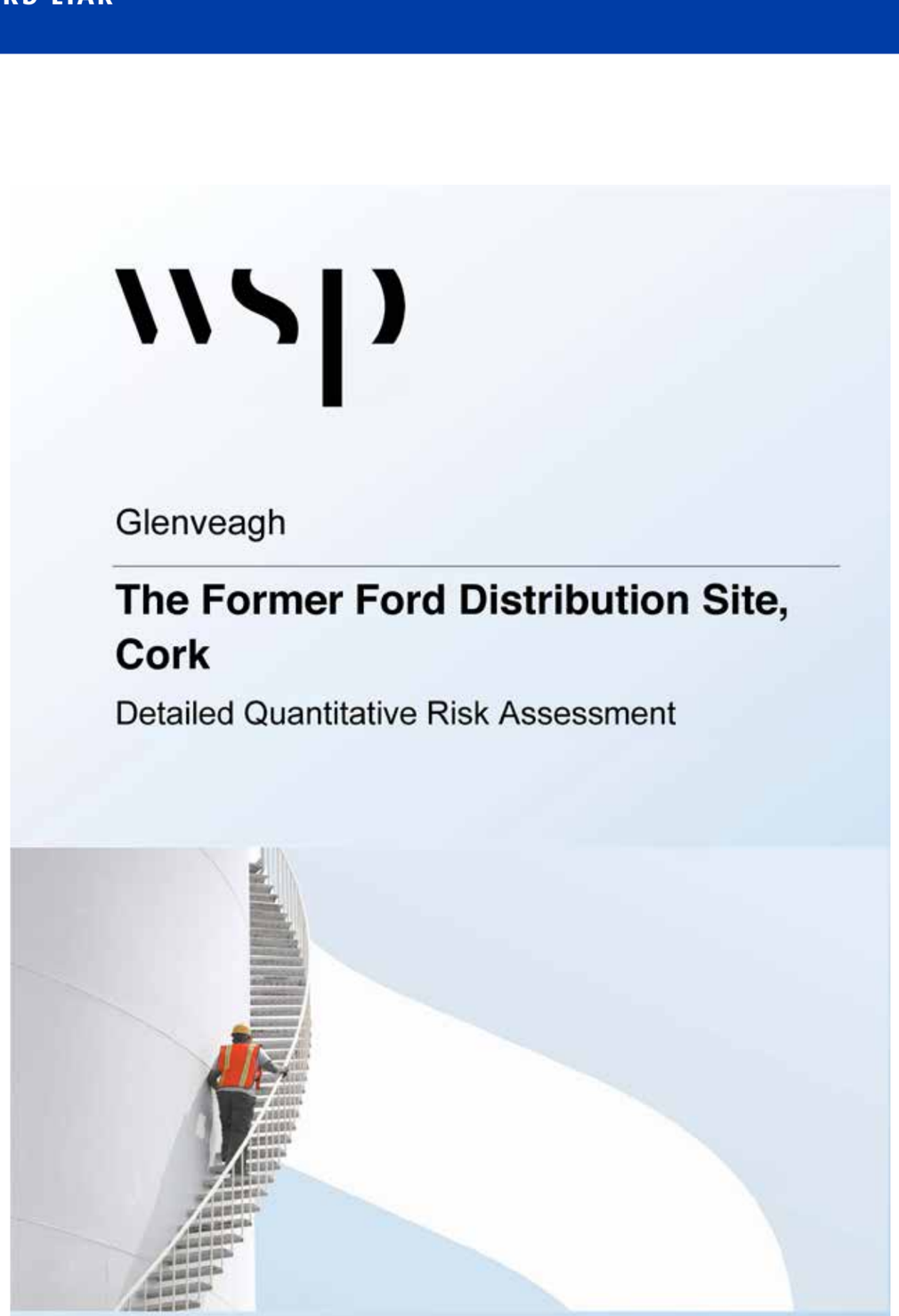
APPENDIX 9.2

Controlled Waters Risk Assessment or Detailed Quantitative Risk Assessment

Glenveagh

The Former Ford Distribution Site, Cork

Detailed Quantitative Risk Assessment



40000324.R04.A0
November 2024

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Glenveagh

The Former Ford Distribution Site, Cork

Detailed Quantitative Risk Assessment

Type of document (version) Confidential

Project no. 40000324

Our Ref. No. 40000324.R04.A0

Date: November 2024

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Quality control

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The Former Ford Distribution Site, Cork
Project No.: 40000324 | Our Ref No.: 40000324.R04.A0
Glenveagh

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Historical Site Investigation

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Borehole Logs

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Groundwater Laboratory Certificates

Executive summary

WSP Ireland Ltd was appointed by Glenveagh Properties PLC (Glenveagh) to carry out an intrusive site investigation and risk assessment at the site of the Former Ford Distribution Site on Centre Park Road, South Dockland, Cork. The investigation is required to assess the potential significance of soil and groundwater contamination, particularly in respect of chlorinated hydrocarbons (CHC) and petroleum hydrocarbons, encountered during previous investigations and to support redevelopment of the Site. Glenveagh intends to redevelop the Site for residential use consisting of twelve apartment blocks. The site is located within the city of Cork on the south side of the River Lee. The development is known as Marina Quarter.

Prior to the WSP investigation, two intrusive investigations were carried out by RSK in 2018 and Arup 2019. The investigations included window sample and cable percussion boreholes with standpipes for groundwater monitoring and sampling, and trial pits for soil sampling. The samples obtained were submitted for laboratory analysis for a range of determinants potentially associated with the site's former use for motor vehicle manufacturing.

The WSP investigation was intended to address data gaps identified following a review of the available data. A human health risk assessment that considered the impacts in made ground/soils and groundwater to residential receptors across the Site was completed and is presented under separate cover[1]. This report considers the potential environmental impacts i.e. impacts to groundwater and surface waters receptors. The Site investigation phase related to groundwater mainly focussed on groundwater sampling but included the installation of additional groundwater monitoring wells where data gaps were identified.

[1] WSP report reference 40000324.R04.B0 "Human Health Risk Assessment- Marina Quarter Development Cork".

The Former Ford Distribution Site, Cork
Project No.: 40000324 | Our Ref No.: 40000324.R04.A0
Glenveagh

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The site is located on reclaimed land on former mud flats in the River Lee. The intrusive investigations found that the site is underlain by variable made ground to a depth of 2 – 3m below ground level (BGL) and that this was underlain by alluvial silt to a depth of approximately 5m BGL. The silt is underlain by sandy gravel. While some groundwater was encountered towards the base of the made ground and in the upper part of the silt, the main groundwater unit is contained in the underlying gravel. The Environment Protection Agency (EPA) has assigned groundwater in the gravel aquifer to the to the locally important River Lee Valley Gravels Aquifer. At the site, the aquifer is brackish and therefore unsuitable for potable supply. The aquifer is hydraulically connected to the River Lee and is strongly influenced by the tide. Discharge into the river of groundwater passing below the site is likely at low tide.

Soil sampling at the site identified impact by petroleum hydrocarbons including fuel (probable diesel) and possible aliphatic solvents (hexane) and chlorinated hydrocarbons, specifically trichloroethene (TCE), cis-1,2-dichlorethene (DCE), and vinyl chloride (VC). The compounds were relatively widespread at low concentrations although marked impact was present in the extreme northwest and southwest. A similar range of contaminants was identified in groundwater. It was found that groundwater impacts were present in groundwater in the made ground/silt but that high concentrations were also present in the gravel aquifer. Note that TCE was formerly widely used for degreasing in the motor vehicle manufacturing industry, but that DCE and VC are produced by the biodegradation of TCE. While no observational evidence of dense non-aqueous phase liquid (DNAPL) has been reported, the concentrations detected may indicate that DNAPL is present.

Given the unsuitability of groundwater in the gravel aquifer to support potable supply, a key objective of this investigation was to assess the potential impact of the contamination on the River Lee. The approach adopted was a simple mass balance one in which the ratio of flow in the river to discharge of groundwater is used to derive a dilution factor.

The analysis suggests that concentrations of CHC currently present in groundwater at the site are unlikely to be present in the River Lee at detectable concentrations. Surface water monitoring completed at the River Lee throughout the enabling works programme did not detect these compounds. The assessment is based on reasonably conservative assumptions. WSP completed a qualitative sensitivity analysis which demonstrated that further investigations or analysis will likely lower the potential risk/predicted impact t the River Lee.

A remedial action plan to remove potential risks to human health was implemented for the Site (remedial excavations of impacted COPCs across the Site). This remedial excavation has significantly reduced the mass of COPCS present on the Site that could potentially impact the aquifer beneath the Site. Therefore, long term groundwater quality at the site and potential risk to offs Site receptors is expected to improve over time.

1 Introduction

1.1 Background

WSP Ireland Consulting Limited (WSP) was appointed by Glenveagh Properties PLC (Glenveagh) to carry out an intrusive site investigation and risk assessment at the site of the Former Ford Distribution Site on Centre Park Road, South Dockland, Cork. The site location is presented as Figure 1 (Appendix A). The works described in this report are set out in WSP Proposal No. 40000279.P1.V0, dated 02/06/2023.

1.2 Objectives

The investigation described in this report is required to assess the potential significance of soil and groundwater contamination, particularly in respect of chlorinated hydrocarbons and petroleum hydrocarbons, encountered during previous investigations and to support redevelopment of the site. Glenveagh intends to redevelop the site for residential use consisting of twelve apartment blocks. The work builds on previous investigations.

The main objective of the investigation was to address data gaps identified by WSP in its review of existing reports pertaining to the site. Specifically, the objectives of the investigation are to:

- Establish the hydrogeological regime at the site and develop robust conceptual site model (CSM). Note that a CSM was not developed significantly during previous investigations.
- Identify whether there may be a potentially significant environmental risks to groundwater and surface watercourses from soil or groundwater contamination that may require mitigation to render the site suitable for its proposed development.
- Provide sufficient data to develop a soil management plan for construction to minimise the potential impact of site soils on the environment.

1.3 Scope of Works

The following works were carried out to support the objectives above.

- Review existing reports made available to WSP by Glenveagh and develop and preliminary CSM.
- Develop a soil and groundwater sampling and analysis plan taking account of the available information and data gaps identified during review of previous investigations.
- Carry out four rounds of groundwater and seven rounds of surface water sampling at existing boreholes and monitoring locations with laboratory analysis for contaminants of potential concern (COPC) identified in previous investigations.
- Carry out an intrusive investigation comprising of four new groundwater monitoring boreholes.

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- Carry out a further round of groundwater sampling and surface water sampling to include the new boreholes and existing and new surface water sampling points with laboratory analysis for COPC.
- Carry out a detailed quantitative risk assessment DQRA to assess the potential impact of COPC on the River Lee adjacent to the site.
- Provide recommendations for further work, if appropriate.

1.4 WSP Terms and Conditions

WSP Ireland Terms and Conditions are provided in Appendix B.

2 SITE SETTING

2.1 Site Location and Topography

The site consists of an approximately rectangular parcel of land with an area of 4 hectares (ha). The approximate centre of the site is located at Irish Grid Reference W69360 72010.

The site is situated in the city of Cork, adjacent to the River Lee 50m northeast. It is bounded to the west/northwest by Centre Park Road and by Marquee Road to the south/southwest. There is an area of unused land immediately to the northeast and the Lee Rowing Club beyond. A road named The Marina lies between the rowing club and the River Lee. The SuperValu Pairc Ui Chaoimh stadium and Marina Park form the east/southeast boundary.

The site is largely flat and lies at an elevation of 1.7m to 2.3m above Ordnance Datum at Malin Head (m AOD). The topography immediately surround is flat but begins to rise 400m to the south, to the south of Monahan Road.

2.2 Site History

The earliest historical mapping available for review dates from 1841 and shows the site area as part of an extensive mudflat on site south bank of the River Lee. There was an embankment that separated the mudflat from City Park to the west. Navigation Walk was shown along the northern part of the mudflat adjacent to the River Lee. A north-westerly flowing watercourse was shown below the current site area.

It appears that by 1900, the site and surrounding area had been reclaimed from the mudflats. A railway line followed the approximate location of the east/northeast boundary.

Mapping for 1949 shows the site still vacant. Several drainage ditches crossed the site. The 1949 map shows buildings identified as Ford Works (Autos & Tractors) approximately 200m to the west of the site at its closest approach. While map evidence was not available, it is known that the former Ford Works extended eastwards onto the site in 1967 when the building came to occupy and area of 117,000 square feet (11,000m^2).

More recent information on the site history was obtained from aerial mapping published by the Ordnance Survey of Ireland. The earliest useful imagery dates from 2001. Earlier imagery dating to 1995 is poor resolution. The 2001 imagery shows that most of the site was occupied by what appear to be recreational rides with carparking in the southwest. The site was subsequently occupied by a marquee and carparking and used as the Live at the Marquee concert venue.

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2.3 Geology

2.3.1 Published Geology

Geological mapping (scale 1:100,000) published by the Geological Survey of Ireland (GSI) indicates that the site and surrounding area is underlain by urban sediments, i.e. artificial ground. The bedrock below most of the site comprises sandstone and mudstone (Cuskinny Member). The southernmost corner of the site is underlain by limestone and shale (Ballysteen Formation).

The GSI holds a copy of the findings of a site investigation at the adjacent athletic grounds. The investigation was carried out in 1973[2]. Details of the geology encountered are presented in Table 2-1.

Table 2-1 – Geology (Historical Investigation)

Unit	Lithology	Depth to Top (m)	Thickness (m)
Made Ground ('Fill')	Variable. Includes ash, clinker, hardcore brick, clay, stones, cobbles	0.0	1.3 – 1.9
Alluvial deposits	Organic silt/clay, or sandy silt.	0.9– 1.9	3.4 – 5.8
	Sandy gravel	4.0 – 8.0	1.2 – 4.3
	Silt. Locally contains shells and stones.	5.2 – 10.0	0.5 – 3.1
Glacial deposits	Sandy coarse gravel or gravelly sand.	6.9 – 10.5	1.0 – 13.7
	Stiff silty sandy clay	12.9 – 21.3	Up to 57.0 proven
Bedrock	Not described	18.5 – 37.5	> 6.3

[2] Available at https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228 Last accessed 29 July 2024.

2.4 Hydrogeology

Background information on the hydrogeology of the site is provided in the Groundwater Data Viewer published by the Geological Survey of Ireland (GSI)[3].

The site lies on the Lee Valley Gravels aquifer, a locally important gravel aquifer (category Lg).

Groundwater in the bedrock is associated with Dinantian Mudstones and Sandstones (Cork Group) aquifer. The bedrock aquifer is a locally important aquifer which is moderately permeable only in local zones (category Ll). Groundwater is reported to be moderately vulnerable to pollution.

Based on topographic mapping included with the Data Viewer, the topography falls to the north. Groundwater flow is likely to reflect the topography. The estimated topographic gradient is 0.002. The elevation of the River Lee adjacent to the to the site is 0m AOD.

It is reported that groundwater recharge is in the range 101 – 150mm per year.

Water Framework Directive data for the groundwater is available from the Environmental Protection Agency indicates that groundwater in the wider Lee Valley Gravels aquifer achieved 'good' qualitative and quantitative status between 2013 and 2018.

The EPA/GSI has compiled data on the properties of aquifers throughout Ireland, including transmissivity data[4]. No specific data for the Lee Valley Gravels are provided. The available data relate to all locally important gravel aquifers (category Lg). Based on 31 data points, the EPA/GSI quotes a geomean transmissivity of 350 m^2/d. The reported range is 44 – 2,650 m^2/d. The geomean transmissivity of the bedrock is reported to be 5 m^2/d.

Further information on the properties of the Lee Valley Gravels was obtained from Allen et al (2012)[5]. Based on various data sources including pump tests at an infiltration gallery at Cork Waterworks and a well at Cork County Hall, an average hydraulic conductivity value of 5 x 10^{-3} m/s (430 m/d). Transmissivity values in the range 1,050 – 1,250 m^2/d were reported.

[3] https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/Pages/default.aspx Last accessed August 2024.
[4] Kelly, C., Hunter Williams, T., Misstear, B.M., Motherwell, K. 2015 Irish Aquifer Properties – A reference manual and guide. Prepared on behalf of the Geological Survey of Ireland and the Environmental Protection Agency.
[5] Allen, A., MacCarthy, I., Kostic, S., and Milosevic, D. 2012. Hydrogeology and Resource Potential of Intergranular Buried Valley Ribbon Aquifers of the Cork Area, SW Ireland. Published by the China Geological Survey. Available at https://en.cgs.gov.cn/achievements/201601/t20160112_35414.html

According to the Structural Engineering Resources database[6], the hydraulic conductivity of gravel/sandy gravel with few fines is in the range 40 – 4,000 m/d.

2.5 Hydrology

The northern boundary of the site lies approximately 70m to the south of the River Lee.

The River Lee is a transitional waterbody and is tidal within the city of Cork. It enters Lough Mahon approximately 4km downstream from the site. The tidal range in Cork is around 2m[7].

It achieved moderate WFD status for 2016 – 2021. The Lee Estuary is reported to be "at risk" of not meeting its environmental objectives.

Two further surface waterbodies are present. These consist of linear drainage ditches on the northern and southern boundaries. Both flow in a northeasterly direction. The ditch to the north lies between the northern boundary and Centre Park Road, entering the site at the junction with Marquee Road. This drain flowed north during flood and is culverted and passes through a non-return valve to a pond on the opposite side of centre park road. In lower flow this generally flows south to Marquee Road and follows the watercourse that leads to the Atlantic Pond.

The drainage channel to the south flows northwest between the site boundary the adjacent Marina Park. It appears to flow towards an unnamed pond immediately north of Pairc Ui Chaoimh draining into Atlantic Pond to the east of Pairc Ui Chaoimh. Atlantic Pond drains to the River Lee. Water from the north drainage channel does not enter the south drainage channel. The complex drainage of the site is to be expected given it consists of reclaimed land.

The long term annual average rainfall for Cork Airport is reported as 1,228mm[8]. An attempt was made to identify long term flow data for the River Lee. However, while several water level gauging stations are available on the river as it flows through the city of Cork, the nearest upstream flow gauging station is at Inniscarra Tailrace 11 km to the west.

The nearest river flow monitoring station for the River Lee is at Inniscarra, 11 km upstream to the west[9]. Flow monitoring is not carried out on tidal parts of the river downstream. The data indicate that under low flow conditions (Q_{95}), flow in the river is 3.13 m^3/s (270,400 m^3/day). The median (Q_{50}) flow is reported to be 17.11 m^3/s (1,480,000 m^3/day). The gauging station is upstream of several tributaries of the River Lee, namely the River

[6] Available at https://structx.com/Soil_Properties_007.html Last accessed July 2024.
[7] https://waterlevel.ie/hydro-data/#/overview/stations/station/197650/Currach%20Club/Waterlevel?period=P7D Last accessed August 2024.
[8] https://www.met.ie/climate/available-data/monthly-data Last Accessed August 2024.
[9] https://waterlevel.ie/hydro-data/#/overview/Waterlevel/station/201495/Inniscarra%20Tailrace/statistic Last accessed August 2024.

Shournagh, the River Curagheen, River Bride and River Glen. Given their contribution, the river discharge passing the site will be considerably larger than recorded at Inniscarra. The River Lee is approximately 120m wide adjacent to the site. The channel attains of depth of around 25m. The river is approximately 30m wide at Inniscara. The catchment extends to an area of 790m^2.

It is likely that groundwater in the Lee Valleys Gravel Aquifer discharges to the River Lee.

2.6 Designated Sites

There are no designated or protected ecological sites onsite or in the immediate vicinity of the site. The nearest designated site is the non-statutory proposed National Heritage Area (pNHA) (no details provided) and the Cork Harbour Special Protection Area (SPA), both approximately 1,800m downstream to the east[10].

[10] https://experience.arcgis.com/experience/edf34d92e28040fd87d3d14f55d8d95f#data_s=id%3Aa098bb9afd314c0897703b17b4a8f1cb-18a40c83b2d-layer-11%3A198 Last accessed August 2024.

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3 PREVIOUS INVESTIGATIONS

3.1 RSK 2018

3.1.1 Scope of Works

RSK carried out an intrusive investigation at the then Marquee Entertainment Venue (which comprises the current Site) in September 2018[11]. The purpose of the investigation was to investigate the presence of soil and groundwater contamination and develop a generic quantitative risk assessment (GQRA) for human health and the water environment. The risk assessment was carried out in the context of possible redevelopment for low density residential use, i.e. with gardens.

The following field work was carried out.

- Ten boreholes with soil logging and sampling drilled to 6.0m below ground level (BGL). All boreholes were completed with standpipes for groundwater monitoring and sampling. Samples were screened in the field using a photo-ionisation detector (PID). The boreholes were distributed approximately evenly across the site.
- Twenty-five machine excavated trial pits with soil logging, sampling and PID screening to a maximum of 3.0m BGL. The trial pits were distributed on an approximately regular grid across the site.
- Sixty-nine soil samples collected during drilling of boreholes and during trial pitting were submitted for laboratory analysis for the following:
  - Trace metals: Arsenic, cadmium, copper, lead, mercury, nickel, selenium zinc.
  - Asbestos screen and identification.
  - Total petroleum hydrocarbons (TPH) (Criteria Working Group) (TPHCWG).
  - Polycyclic aromatic hydrocarbons (PAH).
  - Benzene, toluene, ethylbenzene and xylene (BTEX) and methyl tert-butyl ether (MTBE).
  - Volatile organic compounds (VOC).
- Groundwater monitoring and sampling of all ten boreholes between 1 and 3 October 2018. Samples were obtained using a low flow method and field water quality parameters (pH, temperature, electrical conductivity, dissolved oxygen and redox) recorded. Groundwater samples were analysed for the same determinands as the soil samples, except asbestos.

[11] Generic Quantitative Risk Assessment Marquee Entertainment Venue, Marquee Road, Ballintemple, Cork City, Co. Cork. Report prepared for Glenveagh Properties PLC by RSK Ireland. Report reference 602303-R01(00), dated November 2018.

- Four rounds of ground gas monitoring were carried out in the newly installed wells between 12 September and 9 November.
- Generic Quantitative Risk Assessment (GQRA) to assess to potential significance of the soil and groundwater contamination identified during the site investigation.

A drawing prepared by RSK showing their exploratory locations is provided in Appendix C.

3.1.2 Findings

3.1.2.1 Geology

The site was found to be underlain by made ground to a maximum depth of 3.0m BGL. The made ground was variable in nature but typically comprised sandy gravel fill overlying sandy gravelly clay or silt. It frequently included brick and clinker.

The made ground was underlain mainly by silt, which in turn was underlain by gravel at approximately 5.0m BGL. The thickness of the gravel was not proven during the investigation.

3.1.2.2 Groundwater

During drilling, groundwater strikes were recorded in natural deposits in nine boreholes at 5.0 – 5.8m BGL. Strikes were reported close to the base of the made ground and underlying silt at two borehole locations. Strikes in the made ground at depths of between 2.0 and 2.5m BGL were recorded in several trial pits.

During groundwater level gauging of the boreholes, the depth to groundwater varied between 2.001 and 3.865m BGL. Groundwater elevations were between 0.227m and 0.859m AOD. A hydraulic gradient to the northeast towards the River Lee was inferred.

3.1.2.3 Contamination

Observations

No visual or olfactory evidence of possible contamination was reported during drilling. Except for BH105 where a reading was of 14 ppm was reported in soil between 2.0 and 3.0m depth, all PID readings were <0.1 ppm. No corresponding visual or olfactory observations of contamination were noted in BH105.

During trial pitting, hydrocarbon odours or sheen associated with groundwater ingress were reported at several locations. They occurred at depths of 2.0 – 3.0m BGL. The report states that globules of suspected hydrocarbons were observed during trial pitting. These are not noted in the logs. All PID readings were negligible.

Laboratory Analysis

Soil

Laboratory analysis of soil samples found that soil had been impacted by several organic contaminants as follows:

- Petroleum hydrocarbons, mainly >C12 – C16 carbon bandings at most locations. Maximum TPH (aliphatic and aromatic >C5 – C35) concentration of 3,350 mg/kg.
- PAH, mainly high carbon number compounds. Naphthene concentrations were negligible. The maximum concentration of PAH (total) was 36.8 mg/kg.
- VOCs: Chlorinated hydrocarbons (CHC) comprising dichloromethane (DCM), cis-1,2-dichloroethene (DCE) and trichloroethene (TCE). CHC impacts were concentrated mainly in the northwest and in the southwest corner of the site. Concentrations were mostly within an order of magnitude of the MDL (mainly 1µg/kg) although slightly higher concentrations were occasionally reported.
- VOCs: BTEX and related compounds. Minor concentrations of ethyl benzene and xylene at one location (BH116). Benzene and toluene were not detected. Minor trimethylbezene concentrations were recorded in TP101 and TP116.
- Several trace metals occur in soil at relatively low concentrations. Their presence in soil does not necessarily imply contamination and a possible risk to the environment from leaching. Given that the focus of this report is on ground- and surface water, greater emphasis is placed on the concentrations of metals in groundwater than in soil.

Groundwater

Laboratory analysis of water samples found that groundwater had been impacted by contaminants as follows:

- Petroleum hydrocarbon fractions: BH105 (TPH >C5-C35 3,732µg/l), predominantly aromatic fractions (TPH aromatic >C8-C12 range 3,488µg/l). Negligible concentrations were reported elsewhere.
- PAH: Naphthalene (22.54µg/l) in BH105. Minor concentrations in BH103, BH104, BH106 and BH107 (to a maximum concentration of 0.23µg/l). All other PAH compounds below or close to MDL.
- VOC: Chlorinated hydrocarbons. The highest concentrations of CHC were recorded in BH105. Contaminants present included vinyl chloride (313µg/l), trans-1,2-dichloroethene (60 µg/l), 1,1-dichloroethene (60 µg/l) and cis-1,2-dichloroethene (7,572 µg/l). CHC were recorded at lower concentrations in BH104, BH106, BH107 and BH108.
- VOC: BTEX and related compounds. Recorded in BH105 only. Reported concentrations were benzene (5µg/l), toluene (40 µg/l), ethyl benzene (16 µg/l), xylene (61 µg/l), 1,3,5-trimethlybenzene (83 µg/l) and 1,2,4-trimethylbenzene (29 µg/l).
- Trace metals. Except for arsenic in two samples and zinc in two samples, the concentrations of dissolved trace metals were within one order of magnitude of or below the MDL. The maximum concentration of arsenic was 122 µg/l (BH105) while that of zinc was 40 µg/l (BH106).

3.1.2.4 Generic Quantitative Risk Assessment

RSK carried out a GQRA to assess the potential significance of the potential significance of the contamination encountered. The assessment included a risk to human health as well as an assessment of risk to the water environment. Risk to the water environment was

assessed by comparing the concentrations of contaminants of potential concern (COPC) in groundwater with European Union Groundwater Target Values (GTVs)[12]. These values are intended for the protection of drinking water supplies; they are not Environmental Quality Standards (EQS) as stated by RSK. While the European Union has published also EQS for several priority substances in surface waters[13], they do not include the substances listed in Table 3-1. In any event, the presence of CHC indicates anthropogenic contamination since (except for chloroform) these compounds do not occur naturally.

RSK identified exceedances as presented in Table 3-1. It appears that RSK appears to have omitted to include the GTV for 1,2-dichloroethene, which has been added.

Table 3-1 – Exceedances of GTV in Groundwater (RSK 2018 Data)

Analyte	GTV	Exceedance Location (Concentration)
Arsenic	7.5	BH105 (122 µg/l), BH106 (29 µg/l).
Lead	7.5	BH105 (8 µg/l).
Naphthalene	0.075	BH105 (22.54 µg/l).
Benzene	0.75	BH105 (4 µg/l)
TPH (>C2 – C40)	0.075	BH103 (13 µg/l), BH104 (44 µg/l), BH105 (3,732 µg/l), BH107 (27 µg/l).
Vinyl Chloride	0.375	BH104 (18 µg/l), BH105 (313 µg/l), BH107 (40 µg/l), BH110 (89 µg/l).
1,2-Dichloroethene	0.375	BH104 (178 µg/l), BH105 (7,572 µg/l), BH106 (40 µg/l), BH107 (85 µg/l), BH108 (2 µg/l), BH110 (84 µg/l).

RSK November 2018

Based on the findings of the investigation, RSK concluded that groundwater contamination, particularly CHC, may be discharging into the River Lee. The principal source of contamination appears to be associated with BH105 in the north of the site.

[12] Statutory Instrument No. 366/2016 European Union Environmental Objectives (Groundwater) (Amendment) Regulations 2016
[13] Statutory Instrument No. 77/2019 – European Union Environmental Objectives (Surface Waters) (Amendment) Regulations 2019.

Given the exceedances for arsenic and lead were isolated and marginal, trace metals are not considered further in this report. The focus of the report is organic contamination, specifically CHC and petroleum hydrocarbons.

3.2 Arup 2019

3.2.1 Scope of Works

An intrusive investigation was carried out at the site between 24 September and 3 October 2019 under supervision by Arup. The work was intended to supplement that undertaken by RSK in 2018. Factual data obtained during the investigation are presented in the report prepared by Priority Geotechnical Ltd[14]. It is not known whether the boreholes installed by RSK were serviceable at the time of the Arup investigation. No data pertaining to these wells were reported by Arup. The positions of Arup intrusive exploratory locations and surface water samples are presented on the drawing in Appendix C, prepared by Arup.

The following works were carried out:

- Six boreholes (BH201 – BH206) drilled to a maximum depth of 11.5m BGL with soil logging and sampling. Completed with standpipes for groundwater monitoring and sampling. These were targeted to the gravel aquifer.
- Eleven trial pits (TP201 – TP211) to a maximum depth of 5.0m BGL with soil logging and sampling.
- Fourteen window samples (WS201 – WS210) to a maximum depth of 5.0m BGL. Seven window sample boreholes (WS204, WS205, WS206 – WS210) were completed with standpipes for groundwater monitoring. These were targeted to the made ground and top of the underlying silt.
- 101 soil samples were collected. Thirty-seven were submitted for laboratory chemical analysis that included the following determinands:
  - Trace metals (As, Ba, Cd, Co, Cr, Mn, Mo, Sb, Cu, Hg, Ni, Pb, Se and Zn)
  - Total petroleum hydrocarbons (TPH) (Criteria Working Group) (TPHCWG).
  - Mineral oil.
  - Polycyclic aromatic hydrocarbons (PAH).
  - Volatile organic compounds (VOC).
  - Polychlorinated biphenyls (PCB).

[14] Marina Quarter Geoenvironmental Ground Investigation, Factual Report. Report prepared by PFL Property Geotechnical for Messrs. Arup. Report reference P19189, dated 26 August 2020.

- Groundwater samples (BH201 – BH206 and WS201 – WS210) were collected on three occasions (12 Oct 2019, 19 Nov 2019 and 8 Jan 2020). They were submitted for laboratory analysis that included the following determinands:
  - Trace metals (As, Ba, Cd, Co, Cr, Mn, Mo, Sb, Cu, Hg, Ni, Pb, Se and Zn).
  - Iron and manganese
  - Major ions (Ca, Mg, K, Na, Cl, SO_4) and alkalinity.
  - Ammoniacal-nitrogen and nitrate.
  - BOD/COD
  - TPH-CWG
  - VOC and SVOC (Sample from WS201 only for 14 Oct 2019 sampling round. All samples were subsequently analysed).
- Surface water samples as below were collected along with the groundwater samples on three occasions and submitted for the same suite of laboratory analyses as the groundwater samples.
  - Three samples (SW201 – SW203) from the River Lee upstream of the site.
  - Three samples at various points in the north ditch including upstream of the site (SW204, SW206, SW208).
  - Three samples at various points from the south ditch (SW205, SW207, SW209).
  - One sample from the ditch to the northwest (SW210).

3.2.2 Investigation Findings

3.2.2.1 Geology

Details of the site geology identified during the Arup investigation are presented in Table 3-2.

Table 3-2 – Geology (Arup Investigation)

Unit	Lithology	Depth to top (m)	Thickness (m)
Made Ground	Brown to dark brown, sandy gravelly silt/silty gravel with cobbles and bounders. Contains 10 – 20% brick, metal, concrete, timber, glass and wood.	0.0	2.0 – 4.0
Alluvial deposits	Grey/brown slightly sandy, slightly gravelly silt with occasional shell fragments and organic material.	2.0 – 4.0	1.0 – 3.0
Glacial deposits	Gravel to silty gravel.	3.0 – 7.0	>4.0 (Base not proven)

Made ground was present at every investigation location. It was found to extent to depths of 2.0 - 4.0m BGL. The made ground was variable in composition and consisted of sandy gravel or gravelly silt or clay. It contained fragments of brick, metal, timber, glass and concrete.

The natural superficial deposits below the made ground consisted of slightly gravelly silt with occasional shell fragments varying in thickness between 1.0m and 3.0m. Below this, gravel or silty gravel was encountered. Its proven thickness exceeded 4.0m.

No information on the bedrock was obtained.

3.2.2.2 Groundwater

Groundwater was encountered in all the deeper boreholes (BH201 – BH206) during drilling. Typically, it was encountered close to the base of the silt where it overlies gravel. Strikes were recorded at depths of between 2.0m and 7.5m BGL. Rises of between 1.0m and 3.4m were observed when drilling was suspended.

During trial pitting and drilling of window sample boreholes, groundwater was observed within the made ground, typically at depths of 1.8 – 2.6m BGL.

The Arup report does not include groundwater monitoring data for review. The report makes the following comments:

- The inferred direction of groundwater flow was towards the southwest and locally towards the open drainage channels which flow along the southeast and northwest of the site. It is unclear from the Arup report whether this refers to groundwater in the made ground or in the underlying deposits.
- Groundwater in the gravel aquifer was found to be tidally influenced and to fluctuate in a single cycle by up to 2.25m with negligible lag. Water levels in the made ground and upper part of the silt appeared unaffected by the tide.
- The direction of groundwater flow in the gravel aquifer was observed to be variable and to depend on the state of the tide.

3.2.3 Contamination

3.2.3.1 Observations

Visual and olfactory evidence indicating the presence of contamination reported during the Arup investigation identified contamination at several locations. Observations relate mainly to hydrocarbon odours and straining in the made ground and underlying silt.

No observations made during groundwater sampling were made available for review.

3.2.3.2 Laboratory Analysis

Based on the results of the soil and groundwater analysis carried out by Arup, the following observations can be made:

- While low levels of petroleum and chlorinated hydrocarbon impact were recorded in soil across the site, impact was most marked in WS201 in the northwest and WS206/206A in the southwest. Chlorinated hydrocarbon impacts included trichloroethene (TCE), cis-1,2-dichloroethene. This is consistent with the findings of the RSK investigation.
- Detections of CHC were reported in groundwater in the made ground and in the gravel aquifer underlying the silt. CHC were detected in groundwater at all the locations sampled. CHC detected include cis-1,2-dichloroethene (DCE), vinyl chloride (VC) and trichloroethene (TCE). Minor detections of trichloromethane (TCM) (chloroform) and dichloropropene were also reported.
- The highest CHC concentrations in groundwater in the made ground were reported in WS201 where DCE concentrations of up to 7,300µg/l and VC concentrations of up to 6,500µg/l were recorded. At this location, the soil was found to contain cis-1,2-DCE (5,000µg/kg) and VC (110µg/kg). WS201 is located close to the northern boundary, approximately 100m from the River Lee.
- The highest CHC concentrations in the gravel aquifer were recorded in BH205. At this location, concentrations of DCE of up 79,000µg/l, VC up to 7,400µg/l and TCE up to 350µg/l were recorded. No soil analyses for samples obtained from BH205 during drilling were reported. CHC were detected in soil sampled from WS206A, located 13m to the northwest. At this location, concentrations of DCE of up to 1,100µg/kg and TCE of up to 400µg/kg were recorded. The maximum concentration of VC in soil was 13µg/kg.
- CHC were detected at low concentrations (<10µg/l) in surface water samples taken from the drainage ditches that surround the site.

4 WSP Site Investigation

4.1 Scope of Works

The site works carried out by WSP comprised the following:

- Three groundwater level monitoring and sampling rounds of BH201 – BH205 and WS201 – WS210 on 24 August 2023, 19 September 2023 and 15 December 2023. Groundwater sampling was completed by low flow methods using a peristaltic pump and a flow through cell. Field water quality measurements for pH, specific conductivity, dissolved oxygen and oxidation-redox potential (ORP) were recorded using a field calibrated water quality meter.
- Laboratory analysis of groundwater samples for the following determinands:
  - Trace metals: Aluminium, mercury, antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, strontium, titanium, vanadium, zinc. As noted above,
  - Major ions: Nitrate, chloride, alkalinity, fluoride, sulphate, calcium, potassium, magnesium.
  - Organics: Total petroleum hydrocarbons with carbon banding and aliphatic/split per Criteria Working Group (TPHCWG), speciated polycyclic aromatic hydrocarbons (PAH), volatile organic compounds (VOC) +tentatively identified compounds (TICs), semi-volatile organic compounds (SVOC) + TICs, formaldehyde, alcohols and acetates, glycols, PCBs.
  - Natural attenuation parameters: Ammoniacal-nitrogen, nitrate, nitrite, manganese (II), iron (III), iron (dissolved filtered), sulphide, dissolved gases (methane, ethane, ethene, carbon dioxide, propane).
- Drill four boreholes (DMW1 – DMW4) by cable percussive means to a depth of 8.0m BGL. The boreholes were installed with standpipes for monitoring and sampling of groundwater in the gravel aquifer. The drilling was carried out under WSP supervision between the 8 and 10 January 2024.
- One further round of groundwater monitoring and sampling on 31 January 2024. The monitoring included the four newly installed boreholes as well those sampled previously.
- Laboratory analysis of groundwater samples as above.
- Surface water sampling at eleven locations and laboratory analysis as per the groundwater samples. Surface water monitoring to be completed throughout the enabling works at the Site.
- Carry out in situ hydraulic conductivity tests in the newly installed boreholes (DMW1 – DMW4).

The installation of monitoring wells was supervised on a full-time basis to ensure that an appropriate seal between the upper made ground and silts and the lower gravel aquifer was in place. Screens did not extend across the upper made ground and lower gravels.

The locations of all WSP intrusive and surface water sampling locations are shown on Figure 2, 3 and 4 (Appendix A). Borehole logs are included as Appendix D. The results of the groundwater monitoring are included as Appendix E. Chemical analytical laboratory certificates are included as Appendix F.

4.2 Investigation Findings

4.2.1 Geology

The WSP investigation encountered made ground comprising silty gravelly sand or sandy gravel to depths of between 1.5m and 2.9m BGL. The made ground was thickest in DMW3 in the north of the site.

The made ground was underlain by sandy silt to depths of 3.2m to 4.5m BGL. This was underlain by gravelly sand (DMW1 and DMW2) or by sandy medium gravel (DMW3 and DMW4). This unit appears to become gravellier towards the north of the site.

4.2.2 Groundwater

4.2.2.1 Groundwater Occurrence

Groundwater was encountered in all four boreholes during drilling at strike depths of between 3.8m and 4.5m BGL. Ingress was reported to be fast. On suspension of drilling, a rise of 1.0m was observed in DMW4 and of 0.5m in DMW3. Slight rises of 0.2 – 0.3m were observed in the other two wells. At all four locations, groundwater strikes were at or close to the interface between the silt and the underlying granular deposits.

4.2.2.2 Groundwater Monitoring

Groundwater level gauging across monitoring rounds of boreholes (BH201 – BH205) installed in the sand and gravel in January 2024 recorded groundwater at depths of between 0.899m and 3.001m BGL. These are depths are equivalent to elevations of -1.304m and 0.925m AOD. Variation between monitoring rounds of up to 1m (BH202), potentially reflected the influence of the tide, was observed. Very little difference in groundwater elevation was observed between monitoring rounds in BH201. During both monitoring rounds, a hydraulic gradient towards the south, i.e. away from the River Lee, was observed.

Groundwater elevations in the boreholes installed in made ground were in the range -0.757m to 0.006m AOD. They were less variable between monitoring rounds (maximum difference 0.28m) than the boreholes installed in the made ground. They suggest that groundwater from the made ground and underlying silt may be draining to the ditches on either side of the site. Where boreholes installed in the sand and gravel and in the made ground are adjacent to one another, e.g., BH205/WS206 and BH201/WS201, the piezometric surface in the gravel aquifer was above the phreatic surface in the shallower groundwater unit. This is consistent with observations during drilling and suggests a net upward hydraulic gradient into the silt, at least partially. The data suggest that when groundwater elevations in the sand and gravel fall in response to the tide, groundwater in

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the two units is closer to equilibrium. At times of low tide, a net downward gradient may also occur.

4.2.2.3 Hydraulic Conductivity Testing

GII attempted rising head tests in all the newly installed monitoring wells (DMW1 – DW4) by using a submersible pump to lower the water level in the well and record its recovery to its pretest level. In all cases it was found impossible to lower the water level in the well suggesting almost instant recharge and high hydraulic conductivity. It appears moreover that the groundwater level in each well was influenced by the tide while the test was underway. In DMW2, for example, a drawdown of only 0.04m with 0.02m recovery by 1 minute before the water level began to fall again. In DMW3, a drawdown of 0.3m was achieved, which remained static before the groundwater level began to fall after 20 minutes. In DMW4, a recovery of 0.12m was observed before the water level began to fall after 4 minutes. The difficulty with these wells is that the measured recovery in the well reflects both the recovery of the groundwater following pumping as well as the fall in groundwater level in response to the tide. The rapid response of groundwater to the fluctuating tide suggests that the conductivity of the gravel aquifer is likely to be high.

A slightly different response was observed in DMW1 a drawdown of 0.67m was reported at the start of the test with an initial recovery of 0.23m by 0.5 minutes and slow recovery in the ensuing 2 hours. It is less clear how much influenced by the tide this well was. If it is assumed that the initial response reflects that of the well to the pumping only, i.e. that the influence of the tide is negligible, an estimate of the hydraulic conductivity can be made. Using the Hvorslev method, a value of approximately 1 m/d is obtained. This value is low for the lithology described (cf. Section 2.5). It is discussed further in Section 6.3.

4.2.3 Observations of Contamination

A “strong hydrocarbon odour” was reported in silt directly below the made ground in DMW1. The silt was black in contrast to the underlying grey silt and extended between 2.0 and 2.5m BGL.

No other visual or olfactory evidence of the potential presence of contamination was reported during drilling.

4.2.4 Groundwater Analysis

4.2.4.1 Trace Metals

The concentrations of chromium and aluminium were below their MDL. The concentrations of the remaining metals are discussed in the GQRA presented in Section 6.

Analysis for major ions and natural attenuation parameters was carried out to support general characterisation of the groundwater and as a line of evidence to support natural attenuation of CHCs and is discussed in Section 5.2.

4.2.4.2 Petroleum Hydrocarbons

Persistent occurrences of petroleum hydrocarbon fractions were recorded in BH201, BH203, BH205, WS201 and WS206. Sporadic detections close to the MDL in several other boreholes are unlikely to be significant and are not considered further. BH201, BH203 and BH205 were located adjacent to the ditch on the northern boundary of the site. WS201 and WS206 were in the northwest and southwest of the respectively.

Except in WS201, petroleum hydrocarbons recorded in groundwater were predominantly in the aliphatic >C5-C6 carbon number range (maximum concentration 4,220µg/l). Minor concentrations of mid-range aliphatic fractions were sometimes detected although aromatic fractions were mainly absent. These data are not as would be expected from petroleum hydrocarbon fuels and may imply impact by aliphatic solvents such as hexane or cyclohexane.

Possible hydrocarbon fuel was detected in WS201 where the concentrations of total aliphatics (>C12-C35) and total aromatics (>EC12-EC35) of 2,250µg/l and 490µg/l were reported. GRO was present at a maximum concentration of 206µg/l.

4.2.4.3 Polycyclic Aromatic Hydrocarbons

PAH were relatively widely distributed but at low concentrations that were often within one order of magnitude of the MDL. They were present in several boreholes where petroleum hydrocarbons were absent. Naphthalene, the predominant PAH compound in petrol, was present in WS201 at a maximum concentration of 0.464µg/l.

4.2.4.4 Volatile Organic Compounds

Two groups of VOCs were detected. Firstly, aromatic hydrocarbons that include BTEX and related compounds were detected.

BTEX were limited mainly to WS201 where suspect fuel was encountered. The concentrations were low with a maximum sum of BTEX of 7.79 µg/l. Low concentrations of compounds including propylbenzene, butylbenzene and trimethylbenzene were also reported. The fuel additive MTBE was detected close to the MDL at small number of locations.

During the most recent three rounds of monitoring, CHC were reported as indicated in Table 4-1. Concentrations three orders of magnitude higher than the MDL of 1 µg/l are highlighted.

Table 4-1 – CHC in Groundwater

Analyte	Location (Max. Concentration)
Vinyl chloride	BH201 (12.6 µg/l), BH202 (22.5 µg/l), **BH203 (5,490 *µg/l*)**, **BH205 (4,360 *µg/l*)**, GW02 (26.2 µg/l), **WS201 (1,290 *µg/l*)**, **WS202 (5,070 *µg/l*)** WS206 (8.53 µg/l), DMW3 (10.7 µg/l)

Chloroform	DMW2 (2.61 µg/l)
1,1-dichloroethene	BH201 (1.41 µg/l), BH203 (6.03 µg/l), BH205 (4.49 µg/l), WS202 (2.43 µg/l), WS206 (1.17 µg/l), WS206A (1.42 µg/l)
1,1-dichloroethane	BH206A (2.61 µg/l)
Trans-1,2-dichloroethene	BH201 (5.28 µg/l), BH203 (41.8 µg/l), BH205 (26.7 µg/l), GW02 (2.23 µg/l), WS202 (19.6 µg/l), WS206A (5.66 µg/l), DMW1 (1.61 µg/l)
Cis-1,2-dichloroethene	**BH201 (2,010 *µg/l*)**, BH202 (6.44 µg/l), **BH203 (21,900 *µg/l*), BH205 (11,700 *µg/l*)**, GW02 (140 µg/l), WS201 (50.9 µg/l), **WS202 (6,360 *µg/l*),** WS204 (32.6 µg/l), WS205 (2.42 µg/l), WS206 (168 µg/l), **WS206A (1,220 *µg/l*)**, DMW1 (161 µg/l), DMW3 (1.68 µg/l), DMW3 (1.68 µg/l), DMW4 (51 µg/l)
Trichloroethene	BH201 (81.1 µg/l), BH203 (575 µg/l), BH205 (547 µg/l), GW02 (7.19 µg/l), WS205 (1.51 µg/l), WS206 (61.5 µg/l), **WS206A (19,500 *µg/l*)**, WS209 (3.44 µg/l), DMW1 (7.03 µg/l). DMW4 (13.4 µg/l).

It can be seen from Table 4-1 that the highest concentrations of CHC, which are frequently greater than one or two orders of magnitude than elsewhere, were recorded in boreholes WS101, WS202, WS206A, BH201, BH203 and BH205.

WS101, WS202 and WS206 were drilled in the northwest, centre and southwest parts of the site respectively. They are screened in the made ground. The Arup investigation found the highest concentrations of CHC in WS201. The data suggest that while CHC impact on groundwater appears widespread, principal source areas in the made ground in the vicinity of WS201 and WS202 in the northwest corner and WS206 in the southwest corner appear to be present. This is consistent with the soil analyses carried out by RSK (Section 3.1.2.3).

BH201, BH203 and BH205 were drilled close to the northern boundary and drainage ditch beyond. There are screened in the gravel aquifer. They suggest marked impact on the gravel aquifer by CHC at these locations. In addition, hydrocarbon impact has been recorded in BH205. BH205 recorded the highest concentrations of CHC during the Arup investigation. The findings of the WSP investigation are consistent with the Arup findings.

The WSP investigation included four additional boreholes (DMW1 – DMW4) in the gravel aquifer. CHC contamination was encountered at all four locations although typically at low concentration close to the MDL. The exception was cis-1,2-DCE, which was reported at 161µg/l and 51µg/l in DMW1 and DMW4 respectively. These data are consistent with observations above concerning potential source areas in the northwest and southwest of the site.

4.2.4.5 Other Organic Compounds

Formaldehyde was recorded at a concentration of 2.24µg/l in groundwater sampled from WS201.

The concentrations of the other organic chemical determinands, i.e. alcohols, acetates, glycols, PCBs, and SVOCs were below their respective MDL.

4.2.5 Surface Water

A report summarising the surface water monitoring completed at the Site during the enabling works is presented under separate cover (WSP report number 40000324.L03.A0, October 2024). The surface wate monitoring at the Site can be summarised as follows:

- Surface water samples were collected from eleven locations on and adjacent to the Site between August 2023 and September 2024;

Surface water samples were obtained at multiple locations identified as SW201 – SW206 and SW301 – SW304 on 15 December 2023 and 2 February 2024. The following discussion relates only to organic compounds:

Chloroform was detected in SW206 (northern drainage channel slightly upstream) and SW301 – SW303 (southern watercourse to Atlantic Pond) at concentrations of 1.01 – 4.84µg/l. Note, however, that chloroform is widely present at low concentrations, including in drinking water supplies. Chloroform was recorded in two trip blanks at concentrations of 1.63µg/l and 1.75µg/l. No other CHC were detected in the trip blanks. The concentrations of chloroform detected are unlikely to be significant. Chloroform is not a daughter product in the breakdown of chlorinated ethenes such as those detected on site. Chloroform was not detected in any of the soil samples collected as part of the WSP site investigation (with the exception of a single trace detection at the limit of detection in soils). The detection of chloroform in surface water samples whilst not significant is not considered to be sourced from the Marina Quarter Site.

- Cis-1,2-dichlorethene was detected in samples from SW206, SW209, SW301 and SW304 at concentrations of between 1.21µg/l (SW301) and 12.7µg/l (SW206). Vinyl chloride was detected in SW206 only at a concentration of 1.36µg/l. These low concentrations close to the MDL of 1µg/l appear persistent. Impact from the site cannot be ruled out. On the other hand, the highest concentration was found in SW206, slightly upstream, while at CHC were not detected at downstream location SW204. Note that no evidence of impact on the River Lee was detected.
- MTBE was reported at SW301 at a concentration of 2.98µg/l during the February monitoring round only.
- Trace concentrations of PAH compounds close to their MDL were reported in several surface water samples, including SW204, SW206, SW209, SW301 and SW302. PAH was not detected in water samples recovered from the River Lee.

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- The results of the surface water monitoring programme demonstrate that the enabling works programme has not had a significant impact on surface water quality at, or downgradient of the Site.

5 Hydrogeological Conceptual Site Model

5.1 Introduction

The Conceptual Site Model (CSM) represents the geological and hydrogeological characteristic of the site in relation to the transport and fate of soil and groundwater contamination. It identifies the following:

- Sources or potential sources of contamination with the potential to adversely affect identified receptors. Sources of contamination may be present in soil or groundwater.
- Pathways or the means or route by which receptors may be affected by identified contamination.
- Receptors such as the health of human beings, groundwater, surface water, ecosystems or buildings and other property that may be affected by the contamination.

5.2 Contaminant Sources

5.2.1 General

The principal contaminants of potential concern at the site are CHC, particularly TCE, DCE and VC. Based on the findings of three intrusive investigations, these were located primarily in the northwest (vicinity of WS201/BH201/WS202) and southwestern corner (vicinity of WS206/206A/BH205) of the site. They were found to be present in soil and groundwater in both the made ground and underlying silt as well as in the gravel aquifer. The highest concentrations were several orders of magnitude higher than the MDL, as well as GTV screening values used by RSK. High concentrations of CHC were also recorded in BH203. Like BH201 and BH205, BH203 is located close to the boundary drainage ditch on the northern side of the site. It is uncertain whether the contamination in these wells represents a continuous contaminant plume close to the site boundary. Given the complexity of the hydrogeological regime, which is influenced by the state of the tide in the River Lee, some mixing and lateral smearing of contaminants in groundwater may be present.

Contamination by petroleum hydrocarbons, potentially including aliphatic solvents such as hexane or cyclohexane and diesel, was also recorded. While petroleum hydrocarbons were detected in groundwater thorough the site, particularly high concentrations were recorded in BH205 in the southwest corner.

5.2.2 Presence of DNAPL

Several CHC are dense non-aqueous phase liquids (DNAPL), i.e. they possess limited solubility, are denser than water and therefore tend to sink to the base of the aquifer as an immiscible liquid. For example, the solubility of TCE is ~1,100 mg/l while its density is 1.46kg/m^3. The density of cis-1,2-DCE is 1.26kg/m^3 while its solubility is ~3,500mg/l, both at

25°C[15]. VC is a gas at room temperature but is slightly soluble in water[16]. No field evidence of the potential presence of DNAPL was recorded during any of the known site investigations (including checking base of all wells using an interface probe). It is noted, however, that as a rule of thumb, NAPL may be present where the reported concentration in groundwater is greater than one percent of the pure phase aqueous solubility[17]. Given the maximum reported concentration of 19.5 mg/l represents just over 1% of the aqueous solubility of TCE, the potential presence of DNAPL in the aquifer cannot be ruled out. While the highest concentrations of the other CHC recorded are less than one percent of their individual pure phase solubilities, it should be noted that the CHC present are likely to form mixtures of CHC in which the aqueous solubility of individual components is less than that of their pure phase solubilities (Raoult's Law). Therefore, even where the concentrations of CHC in measured in groundwater are less than 1% of their laboratory measured pure phase solubilities, DNAPL may still be present. The low solubility and high specific gravity of many CHC may account for their presence in the gravel aquifer.

Note that where present, DNAPL may provide a 'reservoir' of contamination with the potential to replenish and maintain CHC concentrations in groundwater.

5.2.3 Potential for Biodegradation

Several CHC are used as solvents. TCE, for example, was formerly widely used for degreasing metals, including in motor vehicle manufacturing[18]. Its presence in soil and groundwater at the site is likely to be related to the site's previous use. The other principal CHC detected, i.e. cis-DCE and VC, are not used in this way, however. As noted, VC is a gas at room temperature and while trans-1,2-DCE is used as a solvent in the electronics industry and was detected onsite at low concentrations, cis-1,2-DCE is not used in this way. Where present on former manufacturing sites, cis-1,2-DCE is more likely to be daughter product of the biodegradation under anaerobic conditions of TCE. Trans-1,2-DCE as well as 1,1-DCE may also be produced in this way although degradation via cis-1,2-DCE represents the main degradation pathway. Where suitable conditions are present, DCE is reduced to vinyl chloride and then to ethene.

VC is produced by the reductive dichlorination of DCE and in turn yields ethene. While TCE is degraded only under strongly anaerobic conditions, DCE and VC may also be degraded

[15] https://archive.epa.gov/water/archive/web/pdf/archived-technical-fact-sheet-on-1-2-dichloroethylene.pdf Last accessed August 2024.
[16] https://semspub.epa.gov/work/05/437069.pdf Last accessed August 2024.
[17] BH Kueper, GP Wealthall, JWN Smith, SA Leharne and DN Lerner (2003) An Illustrated Handbook of DNAPL Transport and Fate in the Subsurface. Environment Agency.
[18] https://webarchive.nationalarchives.gov.uk/ukgwa/20140328084622/http://publications.environment-agency.gov.uk/pdf/SCHO0195BJLI-e-e.pdf Last accessed August 2024.

aerobically. The biodegradation half-lives for these CHC in groundwater depend on the redox conditions in the aquifer.

Two sources of information on redox conditions in the aquifer are available. Firstly, dissolved oxygen (DO) and oxidation-reduction potential (ORP) are measured in the field using a water-quality meter during groundwater sampling. Field measurements are included as Appendix E. The data show than during sampling in August and September 2023, DO was negligible (close to 0.0mg/l) in all the boreholes sampled, including those installed in the gravel aquifer. The median value across the site was 0.19mg/l. ORP was also low with a range of in the gravel aquifer of -223 to -11mV. The median value in the gravel aquifer was --118mV while that for gravel at shallow depth was -92mV. These low values indicate reducing conditions and are consistent with the low dissolved oxygen concentrations.

It is noted that to allow comparison with published redox potentials for the reduction of key redox couples, ORP must be converted to Standard Redox Potential. The conversion depends on the type of electrode used to measure ORP and the temperature of the water. As a rule of thumb, 200mV can be added to the field values[19]. In that case, the standard redox potential of the groundwater in the gravel aquifer is approximately 100mV. With reference to the standard redox potential (Eh) for principal electron donors and acceptors such as O_2/H_2O, NO_3/NH_4, Mn(IV)/Mn(II), Fe(III)/Fe(II), etc., published by Noble and Morgan (2002), iron would be expected to be in its reduced iron(II) form at Eh of 100mV[20].

Secondly, the results of the groundwater analyses can be checked for the presence of the species anticipated. Significantly, iron (II) was present in several groundwater samples from the gravel aquifer. The highest concentrations were recorded in BH205, where some of the highest concentrations of CHC were recorded. As would be expected, dissolved manganese was also present. Since Mn(IV) is largely insoluble, dissolved manganese is likely to be in the reduced Mn(II) form. The data are therefore consistent with strongly reducing conditions.

In addition to evidence of reduction of iron(III), there is evidence of possible reduction of carbonate to form methane. Methane was detected at low concentration in several groundwater samples, particularly at BH205 where the highest concentration of methane (242µg/l) was recorded. This may suggest the presence of methanogenic conditions. Methanogenesis takes place at redox potentials of less than -450mV.

Noble and Morgan (2002) indicate that in gravel aquifers, TCE is potentially biodegraded under methanogenic conditions. During WSP groundwater monitoring, TCE was present in

[19] https://www.vanwalt.com/pdf/information-sheets/RedoxReporting.pdf Accessed August 2024.
[20] P Noble and P Morgan (2002) The Effects of Contaminant Concentration on the Potential for Natural Attenuation. R & D Technical Report P2-228/TR. Environment Agency.

groundwater (547µg/l) in BH205 along with cis-1,2-DCE (11,700µg/l) and vinyl chloride (4,360µg/l). Ethene was also detected (23.4µg/l).

Taken together, the data provide strong evidence that biodegradation of CHC is taking place at the site, including in source areas. This will tend to reduce concentrations of CHC in source overs over time.

Note this does not constitute a full analysis of natural attenuation although it may support a more robust assessment[21].

5.3 Receptors

5.3.1 Groundwater

The site lies on the Lee Valley Gravels aquifer, a locally important gravel aquifer (category Lg). The gravel aquifer is overlain by silt and made ground. The deposits overlying the gravel aquifer are likely to yield only small quantities of groundwater. Groundwater in the bedrock underlying the River Lee Gravels Aquifer is associated with Dinantian Mudstones and Sandstones (Cork Group) aquifer, which is also a locally important aquifer. However, given the proximity of the site to the transitional River Lee, approximately 50m to the northwest at its closest approach, and the evident tidal influence, groundwater in the gravel and bedrock aquifers is not suitable for potable supply. This is reinforced by reference to the concentrations of major ions, particularly sodium and chloride, in the groundwater sampled that indicate concentrations of sodium and chloride in the gravel aquifer of up to 526mg/l and 1,390mg/l respectively. These concentrations suggest brackish conditions. Salinity appears to vary between monitoring rounds, presumably reflecting the tide and the extent of saline incursion. Given its proximity to the river/harbour, active abstraction at a groundwater well onsite is likely to draw in water from the river, potentially resulting in even higher salinity in the abstracted groundwater.

Note that according to the Groundwater Directive (2006/118/EC), hazardous substances, which include CHC, should be prevented from entering groundwater. In this case, however, the CHC recorded represents 'legacy contamination' that has already entered the groundwater and that the prevent requirement of the Groundwater Directive may not apply. In these circumstances, groundwater requires protection only as a migration pathway to other water environment receptors. This includes the River Lee.

[21] CL:AIRE 2024. Guidance on the Assessment and Monitoring of Natural Attenuation of Contaminants in Groundwater. CL:AIRE, Reading.

5.3.2 Surface Water

The River Lee is considered the principal water environment receptor for the site. As noted above, the river is tidal, and flow is anticipated to be substantial.

The drainage ditches to the north and south of the site are intended to drain the former mudflats and are not considered in themselves to represent potential receptors. They may intercept groundwater in the shallow superficial deposits.

5.4 Pathways

The following principal migration pathways have been identified:

- Vertical migration of NAPL towards the water table in the silt.
- Horizontal migration of COPC in solution towards the drainage ditches.
- Discharge via the drainage ditches to the River Lee.
- Potential vertical migration of DNAPL into the River Lee Valley Gravels Aquifer.
- Horizontal migration of COPC in solution towards the River Lee.
- Mixing and dilution of impacted groundwater in the River Lee.

Note that monitoring of the drainage ditches recorded only minor contamination close to the MDL. In view of this and given that discharge from the drains is likely to be negligible, they have not been considered further as a potentially important migration pathway. The emphasis in the remainder of the report is the significantly impacted groundwater in the gravel aquifer.

6 Detailed Quantitative Risk Assessment

6.1 Introduction

The principal object of the work described in this report is to develop a CSM to quantitatively assess the impact of the contamination encountered onsite to the River Lee. This can be achieved in two ways. Firstly, contaminant migration in the aquifer can be assessed using a contaminant fate and transport model. The objective is to model the movement of contaminants in groundwater down hydraulic gradient of a source taking account of attenuation process such as biodegradation. Contaminant concentrations are assessed as an agreed compliance point, such as adjacent to a surface watercourse, at an abstraction well, or at an arbitrary compliance point intended to provide assurance that the aquifer is protected. Where relevant, it may be appropriate to also take dilution in a receiving watercourse into account.

A simpler approach is to use a simple dilution/mass balance model. This approach has been adopted here for two reasons. Firstly, the receptor of interest is the River Lee and given its size, dilution in the river of any impacted groundwater discharging into the river is likely to be the main control of concentrations in the river itself. Secondly, at its closest point, the site is approximately 50m from the river. Given the anticipated high hydraulic conductivity of the gravel aquifer and relatively rapid groundwater flow, the potential for attenuation along groundwater flow paths may be limited. The model is likely to be conservative.

6.2 Modelling Approach

A simple mass balance approach has been adopted. The following formulae were used[22]:

$$Q_c = K.i.w.b$$

$$DF = \frac{Q_C + Q_U}{Q_C}$$

Where:

DF = Dilution factor (dimensionless).

Q_C = Groundwater flow below site (m^3/d).

Q_U = Flow in river upstream of discharge point (m^3/d).

K = Hydraulic conductivity (m/d).

[22] MA Carey, PA Marsland, and JWN Smith (2006). Remedial Targets Methodology. Hydrogeological Risk Assessment for Land Contamination. Environment Agency.

i = Hydraulic gradient (dimensionless).

w = Width of contaminated zone perpendicular to groundwater flow (m).

b = Aquifer thickness (m).

6.3 Model Parameterisation

6.3.1 Hydraulic Gradient

Because the aquifer is tidal and water levels are subject to changes in groundwater level of up to 2.5m over a tidal cycle, it is difficult to infer a value for the hydraulic conductivity with confidence. The available data suggest flow towards the River Lee at low tide with a reverse gradient away from the river at high tide.

In view of this, an estimated average value for the hydraulic gradient based on the highest groundwater elevation reported in the gravel aquifer is conservatively proposed.

Based on recent data for the site, the highest groundwater elevation was recorded in BH202 (southeast corner of site) in November 2023. The distance between BH202 and the river indicate groundwater elevations of 0.925. The distance between BH202 and the River Lee is approximately 380m. If it is assumed that the average elevation in the River Lee is 0.0 m AOD, the estimated hydraulic gradient between BH202 and the river is 0.0024. This compares well with the estimated average topographic gradient of 0.002 (Section 2.5). While uncertainty remains, this value is considered a reasonable estimate upon which to base subsequent calculations.

6.3.2 Mixing Zone Thickness

The aquifer thickness is the saturated thickness of the gravel aquifer. While its thickness was not proven on site (>4m reported by Arup), it was found to attain a maximum thickness of 13.7m on the adjacent site (Table 2-1). For an order of magnitude calculation, a value of 10m was adopted.

6.3.3 Hydraulic Conductivity

Of all the model parameters required, the hydraulic conductivity is the one associated with the greatest uncertainty. This is because it was not possible to carry out successful hydraulic conductivity tests in a substantially tidally influenced aquifer.

One way of estimating the hydraulic conductivity of the gravel aquifer is to carry out a simplified water balance calculation. The objective is to estimate recharge to the aquifer from precipitation and compare is with estimates of groundwater discharge made using Darcy's Law. To estimate groundwater recharge, estimates of the length sub-catchment parallel to groundwater flow and infiltration are required.

It is difficult from the information available to estimate the length of the sub-catchment over which recharge occurs since the direction of groundwater flow is uncertain. If a broadly northerly flow is assumed (Section 2.5), however, the catchment can be inferred to extend

to the vicinity of Blackrock Road where the topography rises to approximately 25m AOD before falling again to around 10m AOD. The distance to the high point is approximately 670 m. The width of the site perpendicular to groundwater flow is 150m. GSI information in Section 2.5 indicates that infiltration across the aquifer is 101 – 150mm/year. The estimated recharge to the aquifer is therefore 15,000 m^3/year or 40m^3/day.

Having estimated the recharge to the aquifer, is discharge can be estimated by re-arranging Darcy's Law as follows:

$$K = \frac{Q_C}{i.b.w}$$

Inputting the values above, the hydraulic conductivity of the aquifer K is approximately 10m/d. For an aquifer of 10 m thickness, the transmissivity is 100 m^2/d.

The value estimated for the transmissivity falls at the lower end of the range for locally important gravel aquifers reported by GSI of 40 – 2,650 m^2/d. The estimated hydraulic conductivity seems low given the apparently rapid response of the aquifer to the state of the tide and difficulty in pumping out sufficient water to carry out useful hydraulic conductivity tests. As noted previously, a pumping test at Cork Waterworks and a well at Cork County Hall, an average hydraulic conductivity value of 430 m/d.

Over against this, the groundwater discharge is limited by the available recharge. This allows for higher values for the hydraulic conductivity, up to 100 m/d, say, if a proportionately lower value for the hydraulic gradient is allowed for. For the estimated recharge of 40m^3/d, a hydraulic conductivity value of 100 m/d would require a hydraulic gradient of 0.0002. These values are not unrealistic for the site setting and provide some confidence that the estimated groundwater discharge is likely to be broadly reasonable.

Note that for the hydraulic conductivity and hydraulic gradient values chosen, seepage velocity in the gravel aquifer is approximately 0.08m/d. This assumes a value for the effective porosity of the gravel aquifer derived from the specific yield of gravel of 0.25[23]. The un-retarded travel time between the site and the River Lee is therefore less than 200 days. Given that CHC are not significantly retarded even in soils with modest organic carbon content, and that the organic carbon content of the gravel aquifer is low, the potential for significant retardation and biodegradation along horizontal aquifer flow pathways is low. To set this in context, the half-life for TCE of TCE under strongly anaerobic conditions (methanogenic) in sand/gravel aquifers is in the range 100 – 1,000 days[24].

[23] PA Domenicp and FW Schwartz (1990) Physical and Chemical Hydrogeology. John Wiley & Sons.
[24] P Noble and P Morgan (2002) The Effects of Contaminant Concentration on the Potential for Natural Attenuation. R & D Technical Report P2-228/TR.

6.4 Model Output

6.4.1 Dilution Factor

In the equation above, the dilution factor is essentially the ratio of the discharge in the river and that entering the river as groundwater.

The nearest river flow monitoring station for the River Lee is at Inniscarra, 11 km upstream to the west. It is reported that under low flow conditions (Q_{95}), flow in the river is 270,400m^3/d (Section 2.3). Clearly the estimated groundwater discharge of 40m^3/d is negligible in comparison. Using low flow data for Inniscarra, the estimated dilution factor is 7,500. Median flow is reported to be 1,480,000m^3/d yielding a dilution factor of 37,000.

It has already been noted that flow in the River Lee adjacent to the site is likely to be significantly higher than at Inniscarra although it is difficult to estimate how much higher. The following qualitative observations can be made:

- The gauging station at Inniscarra is located 11 km upstream of the site. There River Lee intercepts several tributaries downstream of the monitoring station.
- The catchment upstream of Inniscarra extends to approximately 790km^2. The total catchment for the River Lee is 1,253km^2. This potentially provides 40% more flow.
- The width of the River Lee adjacent to the site is 120m. At Inniscarra, it is approximately 40m.
- The depth of the river channel adjacent to the site is substantial at approximately 25m. While the depth of the channel at Inniscarra is unknown, it is likely to be significantly lower than at the site.
- The long-term average total discharge in the River Lee is 40.4m^3/s or 3,490,560m^3/d[25]
- The river is tidal with a range of approximately 2m adjacent to the site. This is likely to provide more mixing between groundwater entering the river than would be the case for a non-tidal river.

It is usual for dilution calculations of this type to rely on Q_{95} at the nearest upstream flow gauging station. For the reasons given, this is likely to be unrealistically conservative for the site. For this reason, the median flow an Inniscarra of 1,480,000m^3/d and dilution factor of 37,000 has been used in the mass balance calculation below.

It is recommended that dilution calculations in receiving watercourses should be based on 10% of the flow. This is to allow for incomplete mixing and possible laminar flow at the point

[25] South Eastern River Basin District Management System Initial Characterisation Report (2009 – 2015). Available at https://www.catchments.ie/download/south-easter-river-basin-management-plan-2009-2015/ Last accessed August 2024.

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of groundwater input[26]. Given the size of the River Lee and its tidal range, this is considered not to be appropriate in this instance.

6.4.2 Mass Balance

The mass balance aspect of the calculation was carried out by simply applying the dilution factor to the concentrations of COPC in the groundwater. The calculation conservatively assumes that contamination is present across the entire width of the site perpendicular to the assumed direction of groundwater flow.

As previously noted, the highest concentrations of CHC occur in BH201, BH203 and BH205. The highest concentrations of any of the COPC recorded relate to cis-1,2-DCE in BH203 and BH205. In BH203 the concentration of cis-1,2-DCE on 18 September were 21,900µg/l and 11,700µg/l.

Based the dilution factor of 37,000, the expected concentration of cis-1,2-DCE after mixing would be 0.6µg/l, i.e. below the MDL of 1µg/l. It should be noted, that given the evident effect of the tide in the River Lee on the hydraulic gradient at the site, potentially impacted groundwater is anticipated to discharge to the river at low tide only. This reduces groundwater discharge. Clearly, the concentrations of the other COPC recoded in groundwater at lower concentrations than that of cis-1,2-DCE will be lower in the river than that of cis-1,2-DCE. Over against this, concentrations of DCE as well as those of the other biodegradation products will increase as the concentration of TCE decreases. Possible DNAPL in the gravel aquifer may act to replenish COPC in the groundwater.

6.5 DQRA Summary

The DQRA in this section of the report adopts a conservative mass balance approach to estimate to concentration of COPC encountered in groundwater, principally in the gravel aquifer below the site, to estimate to concentration of COPC in the River Lee after mixing due to discharge of impacted groundwater. Based on the available information, it is considered that any impact is likely to be negligible.

The calculation adopts a conservative approach. Nevertheless, the following uncertainties remain as follows:

- The hydraulic gradient and hydraulic conductivity in the gravel aquifer are uncertain. This is because the aquifer is tidal, and the hydrogeology is complex. Assumptions based on a simple sub-catchment water balance were made.

[26] MA Carey, PA Marsland and JWN Smith (2006) Remedial Targets Methodology - Hydrogeological Risk Assessment for Land Contamination. Environment Agency.

- The daily flow in the River Lee adjacent to the site is uncertain. The calculation is based on reported flow measurements 11km upstream of the site. This is likely to be unrealistically conservative.
- While there is evidence of probable biodegradation of CHC at the site, a full analysis is outside the scope of this report and has not been carried out.
- The long-term impact of possible DNAPL in the gravel aquifer is uncertain.

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7 Sensitivity Analysis

WSP recognise that the DQRA has uncertainty associated with the data sets available for the analysis as highlighted above. Table 7.1 below provides a qualitative assessment of addresses uncertainties/sensitivities for the DQRA and potential impact on the risk evaluation for the Site.

Description	Comment	Impact on Assessment
Hydraulic Gradient	Tidal influence on groundwater understood. At least partial reverse of gradient daily. Means less groundwater (and COPCs) discharging from the Site to the receptor	Lower mass of COPC reaching the receptor i.e. Lower potential impact
River Lee Volumetric Flow	Nearest station 11km upstream of Site. Significantly underestimates the capacity of the receptor at the River Lee/Cork Harbour	Significantly lowers the potential impact at the Receptor
Natural Attenuation (NA) potential	Insufficient data to confirm natural attenuation i.e. breakdown and mass reduction of COPCs beyond initial assessments.	Relatively minor: If NA is occurring then the mass of COPCs will be degrading over time.
Distribution of COPCS in Gravel aquifer	DQRA assumes that the worst case concentrations of COPS in the gravel aquifer are uniformly present across the Site. Likely overly conservative as groundwater monitoring has shown including WSP installed monitoring wells where screening across the Silt and gravel layers was avoided. This likely conservatively over estimates the concentrations of COPCs in groundwater. Further data could allow a compartmentalisation of the contaminant flux from the Site.	Lower the potential impact on the rececptor as compartmentalisation would consider a more refined flux from the Site i.e. less COPCs leaving the Site to the Receptor.

As can be seen in Table 7.1 above the main uncertainties in the DQRA process indicate that the model is overly conservative and a sensitivity analysis considering these parameters would likely further reduce the potential predicted impact to the identified receptors. Therefore, WSP has not considered sensitivity analysis further in this assessment.

8 Remedial Action at the Site (Human Health)

The WSP HHRA identified a potential risk to residents from the concentrations of COPCs in soil and groundwater at the Site. A remedial strategy was developed to address this (refer to WSP report 40000324.R03.B0, May 2024). In brief the remedial strategy required removal of impacted soils and installation of a vapour barrier to protect the residents at the Site.

A remedial excavation was completed to remove COPCs in the made ground and shallow soils to acceptable levels identified in the HHRA. WSP completed a soil validation exercise for the site as presented in “Soil Validation Report. Marina Qtr Development” (WSP report # 40000324.R12.A1, October 2024).

Drawing 05 (Appendix A) shows the final validation areas for all remedial excavations at the Site. During the remedial excavation in certain areas of the Site previously unknown localised source areas of impact were identified. As shown in the soil validation report these were mainly historically deposited oil/solvent cans and drums. outside of providing betterment and significantly reducing the mass of COPCs at the Site the following specific benefits to groundwater quality are considered from the remedial excavation area (refer to Drawing 05):

Hotspot 08: Area extended towards Site boundary and towards centre of Site based on visual and olfactory evidence of impact during the remedial excavation. BH203 was drilled by third parties to approximately 8.625m bgl (measured during monitoring). This well consistently reported significantly elevated TPH, TCE cDCE and VC concentrations during monitoring.

Hotspot 07: Area significantly extended to north and south as several solvent cans/drums and oil cans encountered during the remedial excavation. Monitoring wells BH201 (dip to 4.933 m bgl) and WS201 (Dip to 2.9656 m bgl) are located in this area of the Site. These wells also identified significantly elevated concentrations of COPCs in groundwater during monitoring.

It is recognised the remedial excavation has significantly reduce the mass of COPCs in the made ground and shallow soils beneath the Site and can have significant impacts on groundwater quality. This is considered significant considering the potential identified in Site investigations for historic third party wells to have screened across impacted made ground into the gravel aquifer beneath.

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9 Conclusions

WSP Ireland Consulting Limited (WSP) was appointed by Glenveagh Properties PLC (Glenveagh) to carry out an intrusive site investigation and risk assessment at the site of the Former Ford Distribution Site on Centre Park Road, South Dockland, Cork. The investigation is required to assess the potential significance of soil and groundwater contamination, particularly in respect of chlorinated hydrocarbons (CHC), encountered during previous investigations and to support redevelopment of the site.

The key conclusions are as follows:

- The site is underlain by a gravel aquifer that is anticipated to discharge to the adjacent River Lee. Groundwater levels in the aquifer are influenced by the state of the tide in the river resulting in a very variable hydraulic gradient.
- Groundwater is also present in made ground and silt overlying the gravel aquifer. This does not appear to be tidally influenced. It is likely to discharge to drainage ditches that surround the site.
- The groundwater in both the made ground/silt and the gravel aquifer is impacted by CHC. Principally these are trichloroethene and its degradation products, cis-1,2-dichloroethene and vinyl chloride. There is evidence that biodegradation is taking place.
- Evidence indicating the presence of dense non-aqueous phase liquid (DNAPL) has not been reported. Given the high concentrations of CHC recorded in groundwater, its presence in the aquifer cannot be discounted.
- An attempt was made to measure the hydraulic conductivity of the gravel aquifer. This proved unsuccessful due to rapid tidal response at the test wells. An estimate of the hydraulic conductivity was made using a simplified sub-catchment water balance calculation.
- The potential impact of CHC present in groundwater on the River Lee was made using a mass balance approach. It is thought that given the proximity of the site to the river, a fate and transport model is unlikely to yield useful results. The mass balance was carried out by estimating the discharge in the River Lee adjacent to the site and the groundwater discharge into the river that passes through the site using conservative assumptions.
- Since CHC were recorded in the ditches that surround the site at concentrations that were negligible or below the method detection limit MDL), migration of CHC into the River Lee by these service watercourses was discounted as a significant pathway.
- Utilising conservative assumptions, the mass balance was applied to the highest reported concentration of cis-1,2-DCE. It was found that expected concentrations in the River Lee after dilution were likely to be below the MDL.
- It is recognised that there are uncertainties in the assessment. A qualitative sensitivity analysis has shown that the model was appropriately conservative and changes to parameters used in the calculations would demonstrate an even lower risk to the River Lee.

A remedial action plan was developed as part of the human health risk assessment for the Site. this remedial action included removal of impacted made ground/shallow soils from the Site. During the remedial excavations, previously unknown localised areas of impact containing cans/drums of oils and or solvents were uncovered. This material was removed and soil validation sampling completed. These remedial excavations identified source areas that can be attributable to some the most significantly impacted areas of groundwater beneath the Site. The remedial excavation to remove source areas protective of human health will also likely provide a long term improvement in groundwater quality beneath the Site.

10 Abbreviations

AOD	Above Ordnance Datum (Malin Head)
BGL	Below Ground Level
CHC	Chlorinated Hydrocarbons
COPC	Contaminants of Potential Concern
CSM	Conceptual Site Model
DCE	Dichloroethene
DNAPL	Dense Non-Aqueous Phase Liquid
DO	Dissolved Oxygen
DQRA	Detailed Quantitative Risk Assessment
EPA	Environment Protection Agency (Ireland)
GQRA	Generic Quantitative Risk Assessment
GSI	Geological Survey of Ireland
MDL	Method Detection Limit
MTBE	Methyl Tert-Butyl Ether
ORP	Oxidation-Reduction Potential
PAH	Polycyclic Aromatic Hydrocarbons (PAH)
PID	Photo-Ionisation Detector
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
VC	Vinyl chloride
VOC	Volatile Organic Compounds
WFD	Water Framework Directive

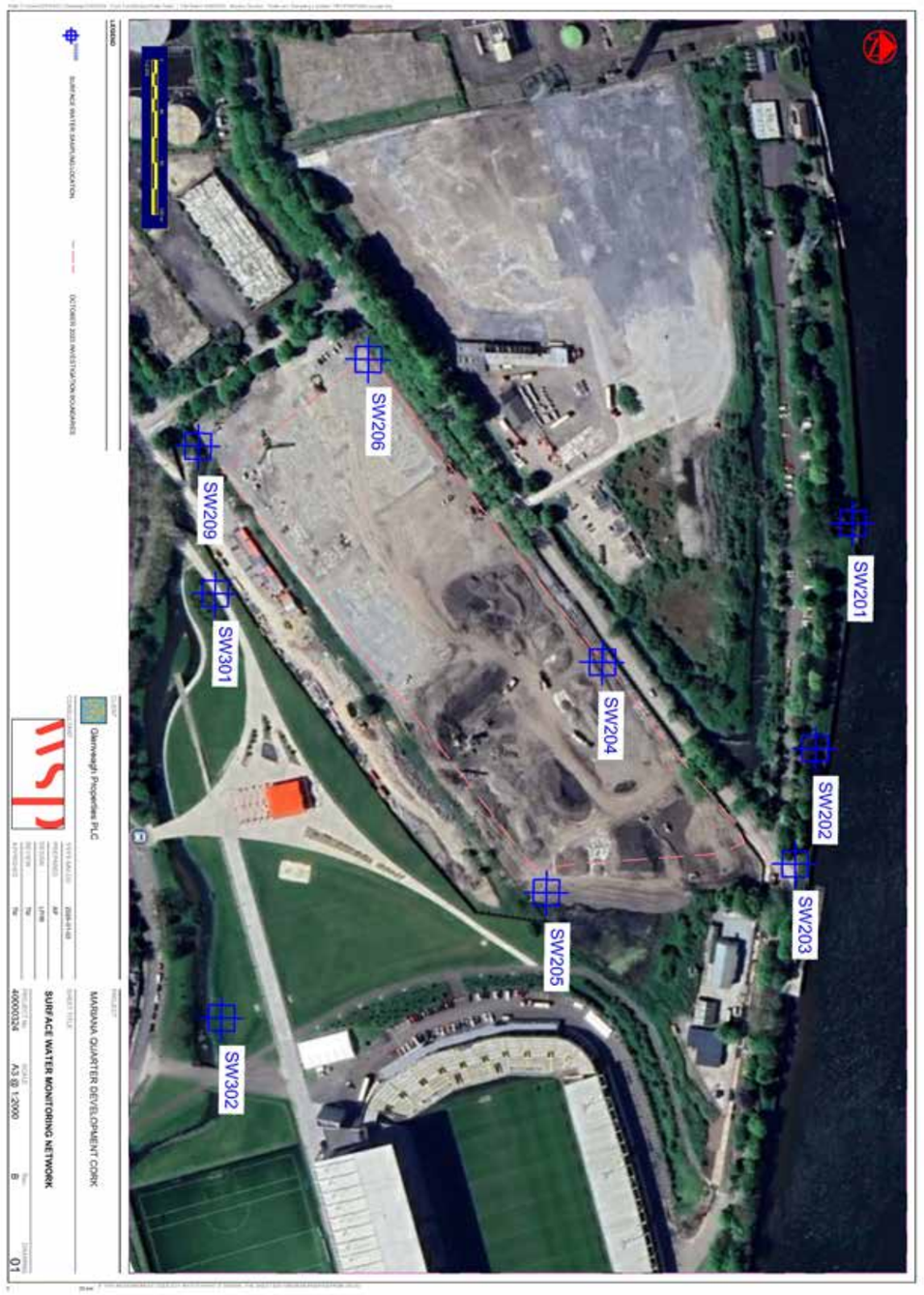
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Appendix A

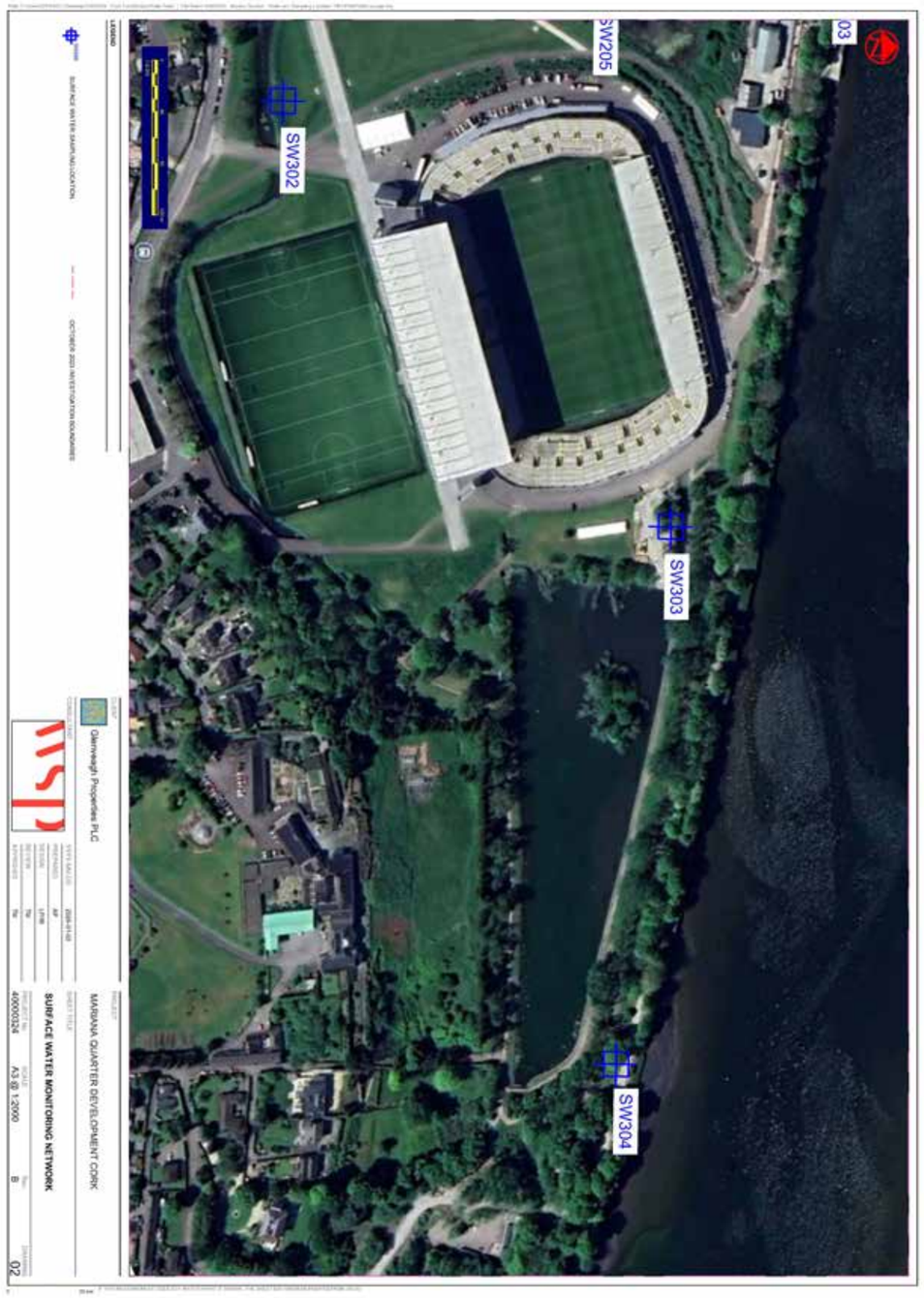
Drawings

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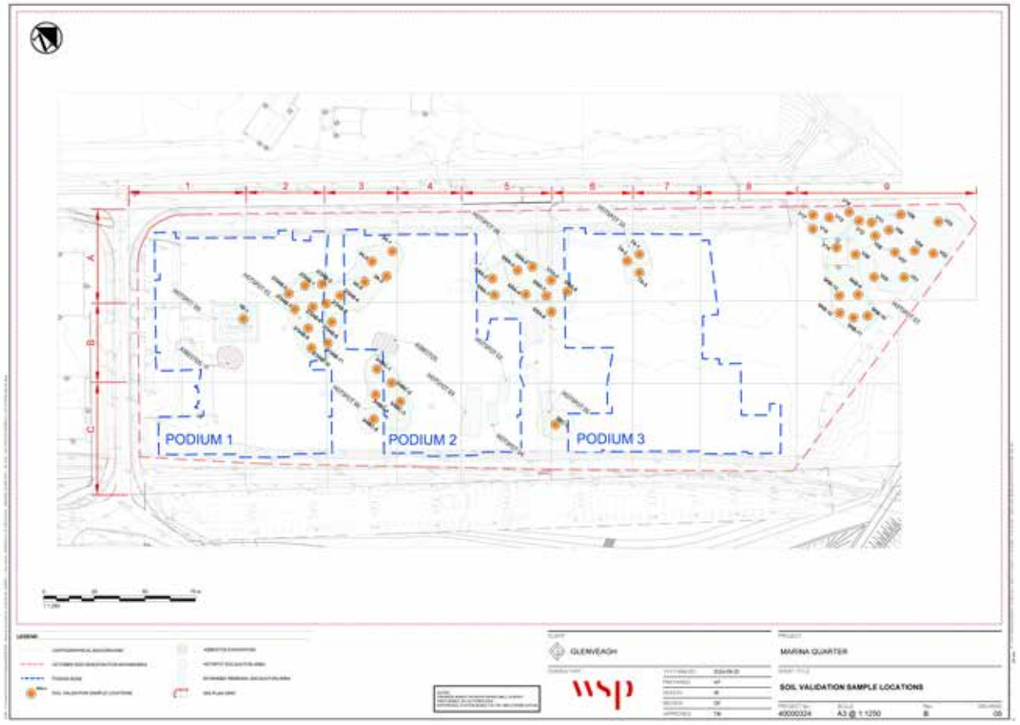
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Appendix B

Terms and Conditions

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Terms and Conditions

1. BACKGROUND

1.1 For the purpose of this Appointment the following words and expressions shall have the meaning defined below:

Appointment - means these terms and conditions together with the Fee Proposal and all other documents referred to in the Fee Proposal.

Client - means the legal entity requiring the Services to be performed by WSP as identified in the Fee Proposal, its successors and permitted assigns.

Fee – means the sum specified in the Fee Proposal payable to WSP for the performance of the Services, as that sum may be adjusted from time to time in accordance with this Appointment.

Fee Proposal - means the written submission by WSP to the Client detailing the Services, Time Frame and Fee.

Services - means the work and activities to be performed by WSP as detailed in the Fee Proposal unless varied in accordance with clause 2.9.

Time Frame - means the period or date by when the Services are to be completed or any given part of the Services are to be completed. The Time Frame is subject to adjustment in accordance with clause 2.9.

WSP – means WSP Ireland Consulting Limited incorporated and registered in the Republic of Ireland with company number IE30223 whose registered office is at Town Centre House, Dublin Road, Naas, Co. Kildare, W91 TD0P, Republic of Ireland.

2. WSP OBLIGATIONS

2.1 Any Services provided to you prior to the date of this Appointment are deemed to have been provided pursuant to the terms of this Appointment.

2.2 In performing the Services WSP shall exercise the reasonable skill, care and diligence to be expected of a properly qualified professional experienced in providing services of a similar size, scope and complexity as the Services.

2.3 The Fee Proposal shall detail those who are to perform the Services, including both the senior WSP personnel managing the performance of the Services and any third parties to be engaged by WSP to perform any aspect of the Services. WSP shall secure the Client's agreement before appointing any other third party to perform any of the Services.

2.4 In undertaking the Services, WSP shall maintain an internal management control system certified to the standards of ISO 9001 or any successor standard with the aim of ensuring quality of service.

2.5 WSP shall perform the Services in accordance with the Time Frame subject to the terms of this Appointment.

2.6 WSP shall maintain professional indemnity insurance cover of the Euro equivalent at the date of this Appointment of Pounds Sterling £1,000,000 in the aggregate providing that such insurance is available in the United Kingdom on reasonable terms and rates.

2.7 WSP grants to the Client a non-exclusive, royalty free licence with the right to copy for any purpose in relation to the Services all of the reports, information, drawings, designs, specifications, deliverables or other material howsoever issued by WSP to the Client as part of the Services (**"Documents"**) and the Client shall have the right to grant sub-licences. WSP shall not be liable for the use by any person of any of the Documents for any purpose other than that for which such Documents were prepared by or on behalf of WSP. WSP shall also not be liable for any copyright infringement by the Client and/or any other person of the copyright in protected Ordnance Survey Ireland base data. WSP reserves the right at any time to revoke this licence for any period or periods during which any monies payable to WSP under this Appointment are outstanding.

2.8 No collateral warranty, third party rights or letters of reliance will be provided by WSP in respect of this Appointment.

2.9 WSP shall perform any changes to the Services defined in the Fee Proposal as reasonably requested by the Client. In the event of such request the parties shall exercise their best endeavours to agree a revision to the Services, and a new Time Frame and Fee in respect of the changed Services.

2.10 Save to the extent that such liability may not be limited or excluded by law, WSP's total liability under and/or in connection with this Appointment shall be limited to the Euro equivalent at the date of this Appointment of Pounds Sterling £1,000,000 (one million pounds) in the aggregate, whether arising out of breach of contract, tort, breach of statutory duty or otherwise. WSP shall not be liable for indirect or consequential loss, loss of profit or loss of business. WSP shall not be liable for any claims in relation to asbestos.

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2.11 Should WSP fail to perform the Services in accordance with this Appointment WSP shall only be liable for that amount which it would be just and equitable for the Client and/or any claimant to recover from WSP based on all third parties contributing in the same percentage as their respective responsibility in causing the event or events which led to such damage, loss, expense or cost incurred by the Client and/or such claimant.

2.12 Neither party shall be in breach of this Appointment nor liable for delay in performing, or failure to perform, any of its obligations under this Appointment if or to the extent that such delay or failure results from events, circumstances or causes beyond its reasonable control (including without limitation any epidemic or pandemic). In such circumstances the affected party shall be entitled to a reasonable extension of the time for performing such obligations and the parties shall work together to agree how to best protect their respective interests under this Appointment. If the period of delay or non-performance continues for more than three months, then either party may terminate this Appointment by giving 7 days' written notice to the other party.

2.13 Each party warrants to the other that in performing its obligations under this Appointment, neither it nor any associated person shall act in contravention of the Criminal Justice (Corruption Offences) Act 2018 or any applicable laws against bribery, slavery, tax evasion or anti-competitive activity, Each party shall maintain adequate procedures to ensure compliance with such legislation for the duration of this Appointment

3. CLIENT OBLIGATIONS

3.1 The Client shall pay (by BACS or CHAPS transfer) the Fee, plus any expenses and other disbursements and all taxes properly chargeable, in accordance with any stage payments specified in the Fee Proposal, or in the event that the Fee Proposal does not provide for stage payments then WSP shall issue an invoice to the Client at the end of the month in which the Services or any part thereof have been performed.

3.2 Where this Appointment constitutes a "construction contract" for the purposes of the Construction Contracts Act 2013 (as amended from time to time), every invoice issued by WSP shall constitute a payment notice issued by the payee for the purposes of section 4(2) of the Construction Contracts Act 2013. The due date for payment is the date of the invoice and the final date for payment is 28 days after the due date. If payment is not received in full by the final date for payment then WSP may charge any sums which it is entitled to levy pursuant to the Late Payment in Commercial Transactions Regulations 2012 until payment is received by WSP.

3.3 The Client shall provide WSP with all information, support and assistance either stated within the Fee Proposal or otherwise reasonably required by WSP to perform the Services at no charge to WSP at such time as required to enable WSP to carry out the Services in accordance with the Time Frame.

4. SUSPENSION

4.1 The Client shall be entitled to suspend the performance of the Services upon providing WSP with seven days' written notice. If the Client fails to pay any monies payable to WSP by the final date for payment, WSP may suspend the performance of any or all of its Services or other obligations under this Appointment by giving not less than seven days' written notice to the Client.

4.2 In the event of suspension, WSP shall be entitled to invoice the Client for the Services rendered up to the date of suspension, including any expenses and disbursements payable under this Appointment together with any taxes properly chargeable in respect of the same which shall be payable as if it were an invoice issued under clause 3.

4.3 WSP shall only be obliged to recommence the performance of the Services upon the Client satisfying its obligations under this Appointment, including paying any invoice issued under clause 4.2, and the parties agreeing any changes to the Fee and Time Frame resulting from the suspension.

5. TERMINATION

5.1 The Client may terminate this Appointment for any reason upon 28 days written notice. Either party may terminate this Appointment upon seven days' written notice in the event that the other party is in breach of this Appointment provided that the breaching party has been advised of the material breach and has failed to commence within 28 days' such actions as necessary to remedy the material breach.

5.2 WSP may terminate this Appointment upon seven days' written notice to the Client if any period of suspension under this clause 5 shall last for more than three months.

5.3 Termination by either party does not affect the parties' respective rights and entitlements pursuant to this Appointment.

WSP Ireland Consulting Ltd

6. DATA PROTECTION

6.1 For the purposes of these terms, "**controller**", **"data subject"** and **"personal data"** and "processing" have the meanings given under the Regulation; "**processing**" has the meaning given under the Regulation (and "**process**", "**processed**" and "**processes**" shall be construed accordingly); and "**Regulation**" means the General Data Protection Regulation (EU) 2016/679.

6.2 To the extent that the Client provides WSP with or makes available to WSP personal data relating to the Client's employees or representatives in connection with and operationally required by WSP for the performance of the Appointment, the Client agrees that the Client and WSP shall each be independent controllers of the personal data in their own right.

6.3 The Client hereby warrants in respect of such personal data that it has the authority and lawful basis to provide the personal data to WSP and that the Client shall comply with all applicable laws in respect of the personal data, including by providing the relevant information to the data subjects as is required by such laws and obtaining such consent as may be required by WSP from time to time to enable WSP to process the personal data in connection with the performance of the Appointment (and the Client shall provide WSP with records of such consent promptly upon request).

6.4 The Client acknowledges that WSP may process the personal data as set out in the privacy pages at WSP.com/en-GB or as otherwise provided by WSP to the Client from time to time, and that personal data may be transferred to and otherwise processed outside the European Economic Area in connection with delivering the relevant Services, including by WSP group companies in India and/or Serbia who each provide complimentary resource (with whom WSP have entered into standard contractual clauses).

6.5 If during the course of delivering the Services WSP provides the Client with access to any personal data relating to WSP employees or representatives, the Client, as independent controller of such personal data, acknowledges and agrees that it shall only use such personal data for the purpose for which it was disclosed, and assumes responsibility for its own compliance with applicable data protection law.

7. DISPUTE RESOLUTION

7.1 If a dispute or difference arises under this Appointment which the parties are unable to resolve by way of direct negotiations acting in good faith then the parties shall refer such dispute or difference to mediation using the Centre for Effective Dispute Resolution Ireland.

7.2 If a dispute or difference arises under this Appointment which either party wishes to refer to adjudication then the nominating body shall be Engineers Ireland.

8. GENERAL

8.1 Save as may be necessary for the performance of the Services, or as required by law each party agrees to maintain, the confidentiality of confidential information provided to it by another party. Where it is necessary to disclose confidential information to a third party in performance of any obligations under this Appointment, the disclosing party shall take reasonable steps to ensure that the third party provides an equivalent confidentiality undertaking.

8.2 This Appointment constitutes the entire agreement between the parties with respect to the performance of the Services and under no circumstances will the terms of this Appointment be renegotiated. No prior discussions, negotiations, statements, representations whether written or oral, except as recorded in this Appointment shall be binding upon the parties. Terms and conditions of the Client that diverge from the terms and conditions of this Appointment shall not be valid even if WSP has performed the Services without reservation.

8.3 If any provision of this Appointment is or becomes illegal or invalid, it shall not affect the legality and validity of the other provisions.

8.4 Should there be any conflict between the terms and conditions of this Appointment and any other documentation (including the Fee Proposal) then the terms and conditions of this Appointment shall prevail.

8.5 Nothing in this Appointment, any report or any other material howsoever issued by WSP to the Client as part of the Services shall confer any rights to enforce any of its terms on any person who is not a party to this Appointment.

8.6 This Appointment and the Fee Proposal describe the terms on which we will act for you and your continued instructions will be taken as acceptance of this Appointment and our Fee Proposal.

8.7 The Client may assign its rights and interests in this Appointment on two occasions without WSP's consent. Any further assignments shall be subject to WSP's prior written consent.

8.8 No action, claim or proceedings in respect of this Appointment shall be commenced against WSP after the period of six years from the completion of the Services or termination of this Appointment, whichever is earlier.

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8.9 WSP warrants that it is not aware of any material conflict of interests in respect of the Services. The Client acknowledges that the mere fact of WSP having advised, or received information from other persons, in relation to the same or similar subject matter as the Services, shall not prima facie constitute a conflict of interests.

9. GOVERNING LAW

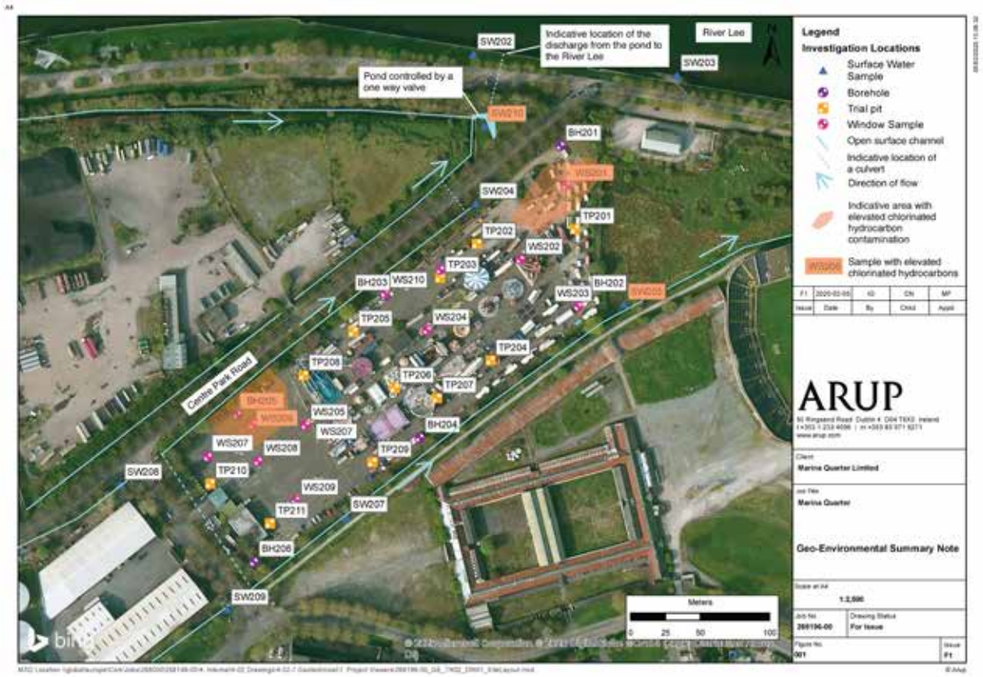
The law of the Republic of Ireland shall apply to the interpretation of this Appointment and govern the performance of the Services, and subject to clause 7 the parties agree to submit to the exclusive jurisdiction of the Irish Courts.

Appendix C

Historical Site Investigation

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VOLUME III LRD EIAR APPENDICES





VOLUME III LRD EIAR APPENDICES

Appendix D

Borehole Logs

wsp

Confidential

wsp	Client : Glenveagh		Hole No. DMW1
Site : Ballintemple, Co. Cork	Project : Marina Qtr		Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 08/01/2024 Completed : 09/01/2024 Logged by : IB		Ground Level (mAOD) : Co-ordinates : E 569652.7 N 572007.9

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.30	MADE GROUND comprising light brown sandy silty gravel. Sand is fine to coarse. Gravel is medium to coarse subangular to subrounded.
								(1.70)	MADE GROUND comprising grey mottled brown slightly silty gravelly sand. Gravel is fine to coarse subangular to subrounded. Sand is fine to coarse.
								2.00	Strong hydrocarbon odour at 2m BGL
								(0.50)	Black sandy SILT. Sand is fine to medium.
								2.50	Grey mottled black slightly sandy SILT. Sand is fine to medium.
▼1								(2.00)	
								4.50	Groundwater encountered at 4.5m; Quick infiltration Grey slightly gravelly SAND. Gravel is fine to medium subangular to subrounded. Sand is fine to medium.
								(3.50)	
								8.00	*End of Hole at 8.00m*

Remarks :
Borehole reached target depth at 8.0m BGL
Groundwater encountered at 4.5m BGL; fast ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 8m to 6m BGL.
50mm plain standpipe with a bentonite seal installed from 6m to GL with a raised cover.

Checked By: GF

Scale 1:43

wsp	Client : Glenveagh	Hole No. DMW2
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 08/01/2024 Completed : 09/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569692.1 N 571972.5

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.30	MADE GROUND comprising light brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								(1.20)	MADE GROUND comprising dark brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								1.50	Dark grey sandy SILT. Sand is fine to medium.
								(1.90)	
								3.40	Light grey sand SILT. Sand is fine to medium.
								(0.40)	
▽ 1								3.80	Groundwater encountered at 3.8m; Quick infiltration Grey slightly gravelly SAND. Gravel is fine to medium subangular to subrounded. Sand is fine to medium.
								(4.20)	
								8.00	*End of Hole at 8.00m*

Remarks :
Borehole reached target depth at 8.0m BGL
Groundwater encountered at 3.8m BGL; fast ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 8m to 6m BGL.
50mm plain standpipe with a bentonite seal installed from 6m to GL with a raised cover.

Checked By: GF
Scale 1:43

wsp	Client : Glenveagh	Hole No. DMW3
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 09/01/2024 Completed : 10/01/2023 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569795.1 N 572039.7

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.06	MADE GROUND comprising tarmacadam.
								0.20	MADE GROUND comprising sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded. MADE GROUND comprising light brown sandy silty clayey gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to angular.
								(2.70)	
								2.90	Grey sandy SILT. Sand is fine to medium.
								(1.60)	
▽ 1								4.50	Groundwater encountered at 4.5m; Quick infiltration Grey silty sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium subrounded to rounded.
								(2.50)	
								7.00	Grey slightly silty sandy GRAVEL. Sand is fine to coarse. Gravel is fine to medium subrounded to rounded.
								(1.00)	
								8.00	*End of Hole at 8.00m*

Remarks :
Borehole reached target depth at 8.0m BGL
Groundwater encountered at 4.5m BGL; fast ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 8m to 6m BGL.
50mm plain standpipe with a bentonite seal installed from 6m to GL with a raised cover.

Checked By: GF
Scale 1:43

wsp	Client : Glenveagh	Hole No. DMW4
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 09/01/2024 Completed : 10/01/2023 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569797.1 N 572101.9

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.07	MADE GROUND comprising tarmacadam.
								0.25	MADE GROUND comprising brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								(1.95)	MADE GROUND comprising brown sandy silty gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.20	Grey sandy SILT. Sand is fine to medium.
								(1.00)	
								3.20	Grey slightly clayey sandy GRAVEL. Sand is fine to medium. Gravel is fine to medium subangular to subrounded.
								(1.30)	
								4.50	Groundwater encountered at 4.5m; Quick infiltration Brown silty sandy GRAVEL. Sand is fine to medium. Gravel is fine to medium subrounded to rounded.
								(3.50)	
								8.00	*End of Hole at 8.00m*

Remarks :
Borehole reached target depth at 8.0m BGL.
Groundwater encountered at 4.5m BGL; fast ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 8m to 6m BGL.
50mm plain standpipe with a bentonite seal installed from 6m to GL with a raised cover.

Checked By: GF
Scale 1:43

wsp	Client : Glenveagh	Hole No. LGW1
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 11/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569610.6 N 571970.3

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								(2.50)	MADE GROUND comprising grey sandy gravelly clay. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded.
								2.50	*End of Hole at 2.50m*

Remarks :
Borehole reached target depth at 2.5m BGL.
Groundwater encountered at 2m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF
Scale 1:43

	Client : Glenveagh	Hole No. LGW2
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 11/01/2023 Completed : 12/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569658.3 N 571941.9

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.05	MADE GROUND comprising tarmacadam.
								0.30	MADE GROUND comprising sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								(2.00)	MADE GROUND comprising sandy gravelly clay. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded.
								2.30	
								2.50	Grey mottled black slightly sandy SILT. Sand is fine to medium.
									Groundwater encountered at 2.5m; Slow infiltration *End of Hole at 2.50m*

Remarks :
Borehole reached target depth at 2.5m BGL
Groundwater encountered at 2.5m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF

Scale 1:43

	Client : Glenveagh	Hole No. LGW3
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 11/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569681.7 N 572012.5

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								(2.30)	MADE GROUND comprising slightly silty slightly clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.30	
								2.50	Grey sandy SILT with inclusions of wood. Sand is fine to medium.
									End of Hole at 2.50m

Remarks :
Borehole reached target depth at 2.5m BGL
No groundwater encountered
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF

Scale 1:43

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wsp	Client : Glenveagh	Hole No. LGW4
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 11/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569718.8 N 572058.0

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.20	MADE GROUND comprising brown sandy gravel. Sand is fine to coarse. Gravel is fine to medium subrounded to rounded.
								(2.30)	MADE GROUND comprising black mottled brown sandy clayey gravel. Sandy is fine to coarse. Gravel is fine to coarse subangular to subrounded.
									Groundwater encountered at 2m; Slow infiltration
								2.50	*End of Hole at 2.50m*

Remarks :
Borehole reached target depth at 2.5m BGL
Groundwater encountered at 2m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF

Scale 1:43

wsp	Client : Glenveagh	Hole No. LGW5
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 11/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569724.6 N 571995.2

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								(2.50)	MADE GROUND comprising black mottled brown sandy clayey gravel. Sandy is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.50	*End of Hole at 2.50m*

Remarks :
Borehole reached target depth at 2.5m BGL
Groundwater encountered at 2.5m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF

Scale 1:43

wsp	Client : Glenveagh		Hole No. LGW6
Site : Ballintemple, Co. Cork	Project : Marina Qtr		Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 12/01/2024 Completed : 12/01/2024 Logged by : IB		Ground Level (mAOD) : Co-ordinates : E 569771.2 N 572071.6

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								(2.40)	MADE GROUND comprising slightly silty slightly clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.40	
								2.60	Grey sandy SILT. Sand is fine to medium.
									End of Hole at 2.60m

Remarks :
Borehole reached target depth at 2.6m BGL
Groundwater encountered at 2.5m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.6m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF
Scale 1:43

wsp	Client : Glenveagh		Hole No. LGW7
Site : Ballintemple, Co. Cork	Project : Marina Qtr		Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 12/01/2024 Completed : 12/01/2024 Logged by : IB		Ground Level (mAOD) : Co-ordinates : E 569756.3 N 572013.2

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.07	MADE GROUND comprising tarmacadam.
								0.20	MADE GROUND comprising brown sandy gravel. Sand is fine to coarse. Gravel is fine to medium subrounded to rounded.
								(2.30)	MADE GROUND comprising black mottled brown sandy clayey gravel. Sandy is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.50	
									End of Hole at 2.50m

Remarks :
Borehole reached target depth at 2.5m BGL
Groundwater encountered at 2.5m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 0.3m BGL.
50mm plain standpipe with a bentonite seal installed from 0.3m to GL with a raised cover.

Checked By: GF
Scale 1:43

	Client : Glenveagh	Hole No. SMW1
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 08/01/2024 Completed : 08/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569648.4 N 572015.2

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.30	MADE GROUND comprising light brown silty clayey sand. Sand is fine to coarse.
								(1.90)	MADE GROUND comprising dark brown silty clayey sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
▽1								2.20	Groundwater encountered at 2.2m; Quick infiltration
								(0.80)	Light grey sandy SILT. Sand is fine to medium.
								3.00	End of Hole at 3.00m

Remarks :
Borehole reached target depth at 3.0m BGL
Groundwater encountered at 2.2m BGL; slow ingress
Bentonite backfill from 3m to 2.3m BGL. 50mm slotted standpipe with geosock and pea gravel sorround installed from 2.3m to 1.3m BGL.
50mm plain standpipe with a bentonite seal installed from 1.3m to GL with a raised cover.

Checked By: GF

Scale 1:43

	Client : Glenveagh	Hole No. SMW2
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 08/01/2024 Completed : 08/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569685.6 N 571978.7

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								(2.60)	MADE GROUND comprising grey mottled brown sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.60	
								(0.40)	Grey sandy SILT. Sand is fine to medium.
								3.00	End of Hole at 3.00m

Remarks :
Borehole reached target depth at 3.0m BGL
No groundwater encountered
Bentonite backfill from 3m to 2.7m BGL. 50mm slotted standpipe with geosock and pea gravel sorround installed from 2.7m to 1.7m BGL.
50mm plain standpipe with a bentonite seal installed from 1.7m to GL with a raised cover.

Checked By: GF

Scale 1:43

wsp	Client : Glenveagh	Hole No. SMW3
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 10/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569789.6 N 572046.1

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.07	MADE GROUND comprising tarmacadam.
								0.20	MADE GROUND comprising sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								(2.40)	MADE GROUND comprising grey sandy slightly silty slightly clayey gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.60	Groundwater encountered at 2.5m; Slow infiltration *End of Hole at 2.60m*

Remarks :
Borehole reached target depth at 2.6m BGL
Groundwater encountered at 2.5m BGL; slow ingress
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.6m to 1.6m BGL.
50mm plain standpipe with a bentonite seal installed from 1.6m to GL with a raised cover.

Checked By: GF

Scale 1:43

wsp	Client : Glenveagh	Hole No. SMW4
Site : Ballintemple, Co. Cork	Project : Marina Qtr	Project No : 40000324
Equipment & Methods : CP	Contractor : Glenveagh Date Started : 10/01/2024 Completed : 11/01/2024 Logged by : IB	Ground Level (mAOD) : Co-ordinates : E 569789.9 N 572108.6

WATER/ PROGRESS	INSTALLATION /BACKFILL	SAMPLES Depth (m)	No.	Type	SPT 'N'	STRATA RECORD Level (mAOD)	Legend	Depth (Thickness) m	Description
								0.07	MADE GROUND comprising tarmacadam.
								0.20	MADE GROUND comprising sandy gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								(2.20)	MADE GROUND comprising grey sandy slightly silty slightly clayey gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.40	MADE GROUND comprising grey sandy slightly silty slightly clayey gravel with inclusions of cobbles and cobble sized brick. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded.
								2.70	Grey sandy SILT. Sand is fine to medium.
								3.00	*End of Hole at 3.00m*

Remarks :
Borehole reached target depth at 3.0m BGL
No groundwater encountered
50mm slotted standpipe with geosock and pea gravel sorround installed from 2.5m to 1.5m BGL.
50mm plain standpipe with a bentonite seal installed from 1.5m to GL with a raised cover.

Checked By: GF

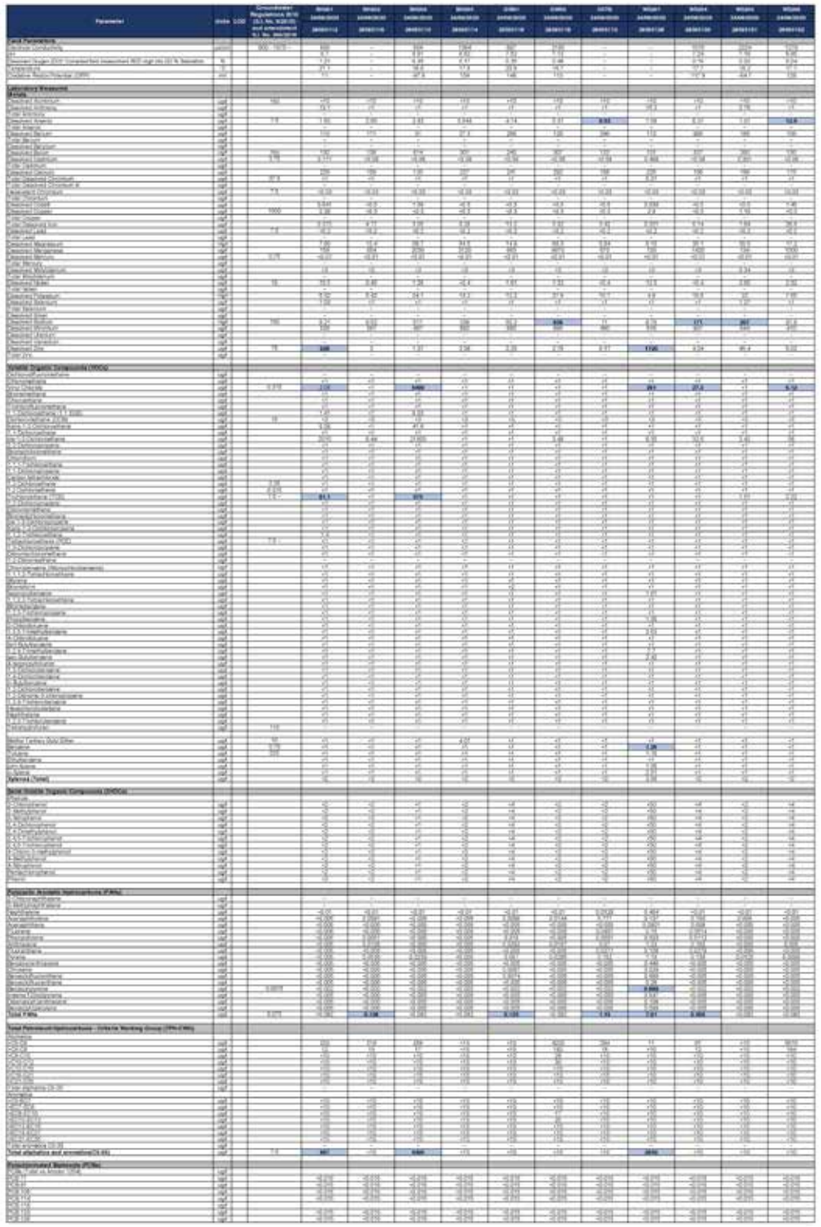
Scale 1:43

Appendix E

Groundwater Screening

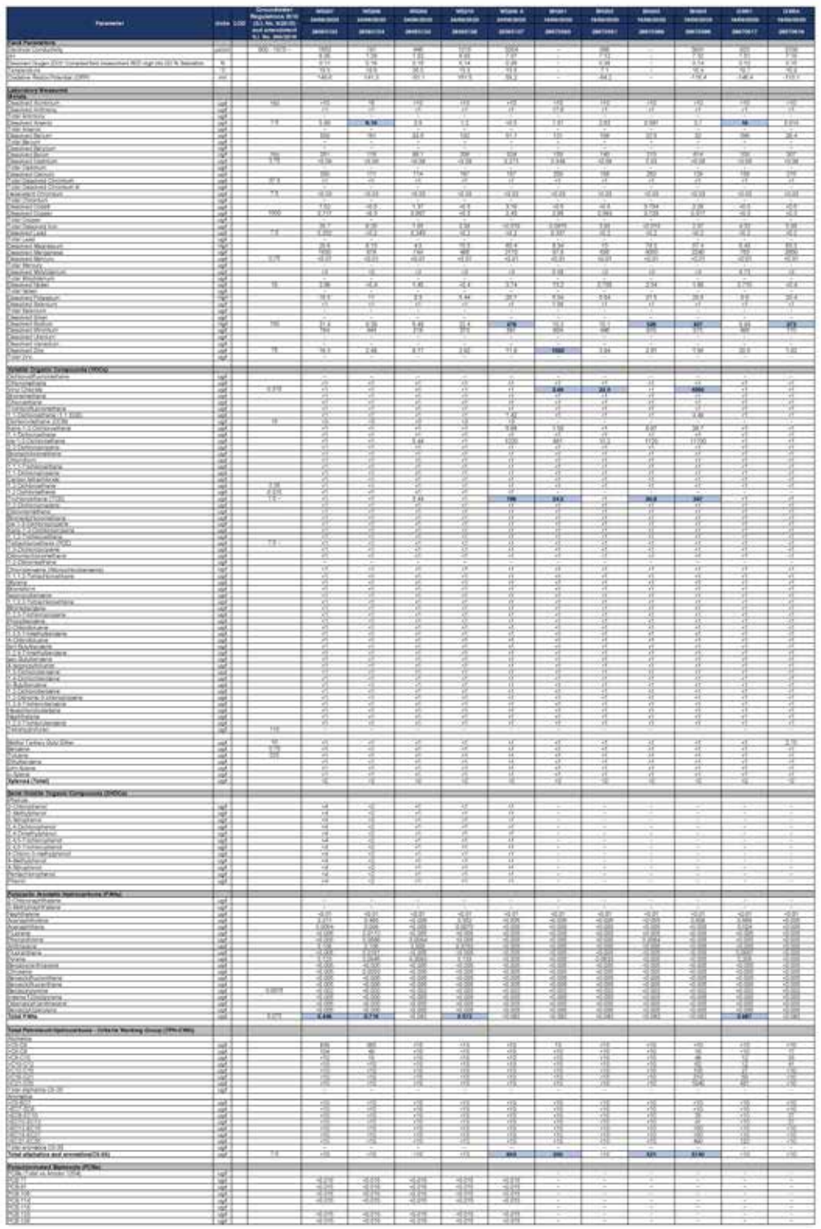
wsp

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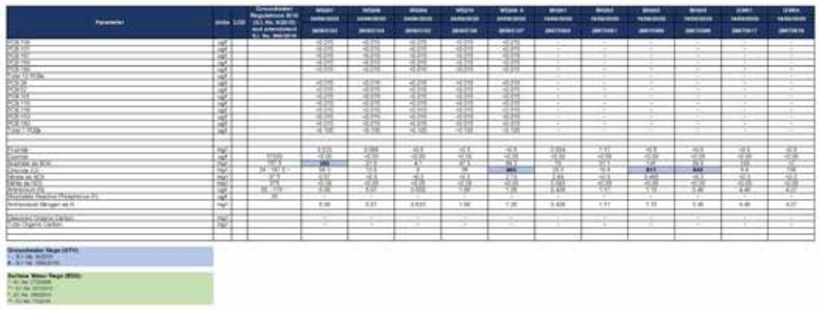


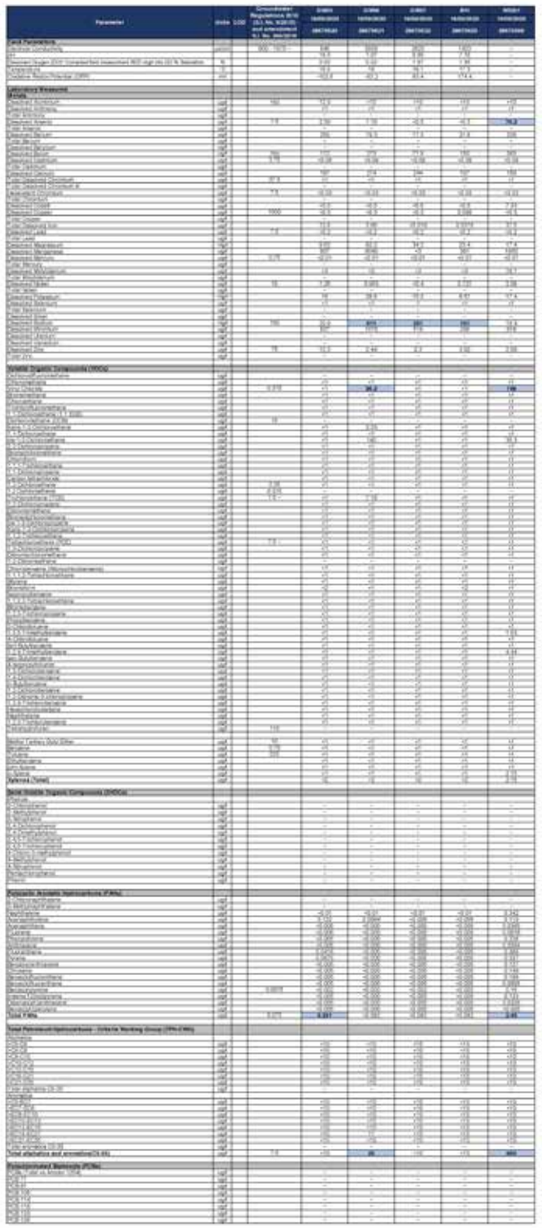
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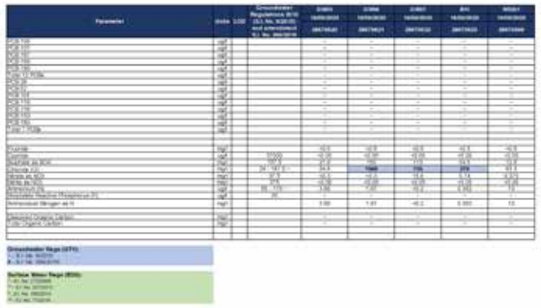


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Appendix F

Groundwater Laboratory Certificates

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VOLUME III LRD EIAR APPENDICES

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation: 05 October 2023
Customer: WSP Ireland Consulting Limited
Sample Delivery Group (SDG): 230922-76
Your Reference:
Location:
Report No: 706376
Order Number: 28003477

This report has been revised and directly supersedes 706040 in its entirety.

We received 29 samples on Thursday September 21, 2023 and 28 of these samples were scheduled for analysis which was completed on Monday October 02, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 05/10/2023

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28670593	BH201			19/09/2023
28670591	BH202			19/09/2023
28670589	BH203			19/09/2023
28670588	BH205			18/09/2023
28670617	GW01			18/09/2023
28670619	GW04			18/09/2023
28670620	GW05			18/09/2023
28670621	GW06			19/09/2023
28670622	GW07			19/09/2023
28670623	MH			18/09/2023
28670594	SW201			19/09/2023
28670595	SW202			19/09/2023
28670596	SW203			19/09/2023
28670597	SW204			19/09/2023
28670598	SW205			19/09/2023
28670609	SW206			19/09/2023
28670607	SW209			19/09/2023
28670599	WS201			19/09/2023
28670601	WS202			19/09/2023
28670604	WS204			19/09/2023
28670606	WS205			19/09/2023
28670610	WS206			19/09/2023
28670611	WS207			18/09/2023
28670613	WS208			18/09/2023
28670615	WS209			18/09/2023
28670603	WS210			19/09/2023
28670602	WS202A			19/09/2023
28670612	WS206A			19/09/2023
28670614	WS206A			19/09/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

11:05:46 05/10/2023

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	286705588	286705589	286705591	286705593
			Customer Sample Reference	BH205	BH203	BH202	BH201
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X	X	
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X	X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28			X	X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X	X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Fluoride	All	NDPs: 0 Tests: 28			X	X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28			X	X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X	X	
Mercury Dissolved	All	NDPs: 0 Tests: 28			X	X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28			X	X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X	X	
TPH CWG (W)	All	NDPs: 0 Tests: 28		X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28			X	X	

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			Lab Sample No(s)	286705620	286706617	286706619	286705588
			Customer Sample Reference	GW05	GW01	GW04	BH205
			AGS Reference				
			Depth (m)				
			Container	HNO3 Filtered (ALE204)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X		
Anions by Kone (w)	All	NDPs: 0 Tests: 28		X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28				X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X		
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28					X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28					X
Fluoride	All	NDPs: 0 Tests: 28		X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28				X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28		X			
Mercury Dissolved	All	NDPs: 0 Tests: 28			X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28				X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28					X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28		X			
TPH CWG (W)	All	NDPs: 0 Tests: 28			X		
VOC MS (W)	All	NDPs: 0 Tests: 28				X	

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
			286/70620	GW05			NaOH (ALE245)	GW
							Vial (ALE297)	GW
							0.5l glass bottle (ALE227)	GW
							500ml Plastic (ALE208)	GW
			286/70621	GW06			Vial (ALE297)	GW
							NaOH (ALE245)	GW
							HNO3 Filtered (ALE204)	GW
							H2SO4 (ALE244)	GW
			286/70622	GW07			Vial (ALE297)	GW
							NaOH (ALE245)	GW
							HNO3 Filtered (ALE204)	GW
							H2SO4 (ALE244)	GW
			286/70623	MH			NaOH (ALE245)	GW
							HNO3 Filtered (ALE204)	GW
							H2SO4 (ALE244)	GW
							500ml Plastic (ALE208)	GW
							0.5l glass bottle (ALE227)	GW
							Vial (ALE297)	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28						
Anions by Kone (w)	All	NDPs: 0 Tests: 28						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28						
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28						
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28						
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28						
Fluoride	All	NDPs: 0 Tests: 28						
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28						
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28						
Mercury Dissolved	All	NDPs: 0 Tests: 28						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28						
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28						
TPH CWG (W)	All	NDPs: 0 Tests: 28						
VOC MS (W)	All	NDPs: 0 Tests: 28						

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			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
			286/70623	MH			Vial (ALE297)	GW
							0.5l glass bottle (ALE227)	SW
							500ml Plastic (ALE208)	SW
			286/70594	SW201			Vial (ALE297)	SW
							NaOH (ALE245)	SW
							HNO3 Filtered (ALE204)	SW
							H2SO4 (ALE244)	SW
			286/70595	SW202			500ml Plastic (ALE208)	SW
							0.5l glass bottle (ALE227)	SW
							Vial (ALE297)	SW
							NaOH (ALE245)	SW
							HNO3 Filtered (ALE204)	SW
							H2SO4 (ALE244)	SW
			286/70596	SW203			500ml Plastic (ALE208)	SW
							0.5l glass bottle (ALE227)	SW
							Vial (ALE297)	SW
							NaOH (ALE245)	SW
							HNO3 Filtered (ALE204)	SW
							H2SO4 (ALE244)	SW
			286/70597	SW204			500ml Plastic (ALE208)	SW
							0.5l glass bottle (ALE227)	SW
							Vial (ALE297)	SW
							NaOH (ALE245)	SW
							HNO3 Filtered (ALE204)	SW
							H2SO4 (ALE244)	SW
							500ml Plastic (ALE208)	SW
							0.5l glass bottle (ALE227)	SW
							Vial (ALE297)	SW

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28670597	28670598	28670609	28670607
			Customer Sample Reference	SW204	SW205	SW206	SW209
			AGS Reference				
			Depth (m)				
			Container	H2SO4 (ALE244)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	SW	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28			X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
Fluoride	All	NDPs: 0 Tests: 28			X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28			X	X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28		X	X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28			X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28			X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28			X	X	X

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			Lab Sample No(s)	28670604	28670599	28670601	28670607
			Customer Sample Reference	WS204	WS201	WS202	SW209
			AGS Reference				
			Depth (m)				
			Container	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28			X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28			X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28			X	X	X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28			X	X	X
Fluoride	All	NDPs: 0 Tests: 28			X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28			X	X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28			X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28			X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28			X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28			X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28			X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28			X	X	X

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28670606	28670610	28670611	28670613
			Customer Sample Reference	WS205	WS206	WS207	WS208
			AGS Reference				
			Depth (m)				
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X	X	X	
Anions by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28		X	X	X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X	X	X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Fluoride	All	NDPs: 0 Tests: 28		X	X	X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28		X	X	X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28		X	X	X	
Mercury Dissolved	All	NDPs: 0 Tests: 28		X	X	X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	
TPH CWG (W)	All	NDPs: 0 Tests: 28		X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28		X	X	X	

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			Lab Sample No(s)	28670603	28670613	28670615	28670602
			Customer Sample Reference	WS210	WS208	WS209	WS202A
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28		X		X	
Anions by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28		X		X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28		X		X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Fluoride	All	NDPs: 0 Tests: 28		X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28		X		X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28		X	X	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 28		X		X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28		X		X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28		X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28		X	X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 28		X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 28		X		X	

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)								28670602	28670612
Customer Sample Reference								WS202A	WS206A
AGS Reference									
Depth (m)									
Container								NaOH (ALE245)	Vial (ALE297)
Sample Type								GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 28							
Anions by Kone (w)	All	NDPs: 0 Tests: 28							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 28						X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 28							
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28							
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 28							
Fluoride	All	NDPs: 0 Tests: 28							
GRO by GC-FID (W)	All	NDPs: 0 Tests: 28						X	X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 28							
Mercury Dissolved	All	NDPs: 0 Tests: 28							
Nitrite by Kone (w)	All	NDPs: 0 Tests: 28						X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 28							
Phosphate by Kone (w)	All	NDPs: 0 Tests: 28							
TPH CWG (W)	All	NDPs: 0 Tests: 28							
VOC MS (W)	All	NDPs: 0 Tests: 28						X	X

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4 Sample deviation (see appendix)

Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
Depth (m)						
Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
Sample Time						
Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.428 #	1.11 #	1.15 #	3.49 #	4.48 #	4.27 #
Fluoride	<0.5 mg/l	TM104	0.554 #	1.17 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	17.9 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.51 #	2.62 #	0.591 #	3.7 #	16 #	0.919 #
Barium (diss.filt)	<0.2 µg/l	TM152	121 #	156 #	22.5 #	32 #	296 #	28.4 #
Boron (diss.filt)	<10 µg/l	TM152	159 #	143 #	213 #	614 #	103 #	307 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.349 #	<0.08 #	0.33 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	0.754 #	2.26 #	<0.5 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	2.66 #	0.364 #	0.729 #	0.317 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.337 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	97.9 #	635 #	4050 #	2240 #	763 #	2850 #
Molybdenum (diss.filt)	<3 µg/l	TM152	5.58 #	<3 #	<3 #	<3 #	8.73 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	13.2 #	0.756 #	2.04 #	1.86 #	0.715 #	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	1.58 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	604 #	445 #	870 #	575 #	493 #	770 #
Titanium (diss.filt)	<1 µg/l	TM152	4.33 #	7.35 #	10.3 #	9.33 #	5.02 #	12.5 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	1330 #	3.94 #	2.81 #	1.56 #	20.5 #	1.92 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	10.3 #	10.1 #	526 #	437 #	8.94 #	272 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	8.34 #	13 #	79.3 #	57.4 #	5.43 #	63.3 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	5.04 #	5.64 #	21.5 #	25.8 #	9.9 #	20.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	209 #	158 #	263 #	129 #	138 #	215 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0815 #	3.85 #	<0.019 #	2.97 #	4.32 #	5.99 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.083 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	0.144 #	0.831 #	<0.05 #	0.126 #
Sulphate	<2 mg/l	TM184	70 #	31.1 #	141 #	28.9 #	128 #	<2 #
Chloride	<2 mg/l	TM184	25.3 #	16.8 #	811 #	844 #	8.8 #	736 #
Nitrate as NO3	<0.3 mg/l	TM184	2.84 #	<0.3 #	0.458 #	<0.3 #	<0.3 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 [B] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	3.88 #	1.97 #	<0.2 #	0.362 #	0.356 #	0.455 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	<0.5 #	<0.5 #	0.526	0.521
Aluminium (diss.filt)	<10 µg/l	TM152	12.9 #	<10 #	<10 #	<10 #	<100 #	<100 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<10 #	<10 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	2.39 #	1.76 #	<0.5 #	<0.5 #	<5 #	<5 #
Barium (diss.filt)	<0.2 µg/l	TM152	250 #	79.3 #	17.3 #	21.8 #	13.9 #	13.7 #
Boron (diss.filt)	<10 µg/l	TM152	172 #	273 #	71.9 #	150 #	2020 #	2010 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.8 #	<0.8 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<10 #	<10 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	<0.5 #	<0.5 #	<5 #	<5 #
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #	<0.3 #	<0.3 #	0.586 #	<3 #	<3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<2 #	<2 #
Manganese (diss.filt)	<3 µg/l	TM152	907 #	9040 #	<3 #	361 #	178 #	182 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<30 #	<30 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.26 #	0.903 #	<0.4 #	0.727 #	<4 #	<4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1 #	<1 #	<10 #	<10 #
Strontium (diss.filt)	<1 µg/l	TM152	627 #	1070 #	518 #	238 #	3620 #	3620 #
Titanium (diss.filt)	<1 µg/l	TM152	13.1 #	6.16 #	1.98 #	2.32 #	<10 #	<10 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	4.78 #	<1 #	<1 #	<10 #	<10 #
Zinc (diss.filt)	<1 µg/l	TM152	12.2 #	2.44 #	2.2 #	3.92 #	<10 #	<10 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	20.9 #	611 #	231 #	151 #	4210 #	4170 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	9.62 #	92.2 #	34.2 #	23.4 #	619 #	609 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	10 #	28.6 #	10.2 #	8.57 #	200 #	198 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	187 #	274 #	244 #	107 #	216 #	215 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	12.8 #	3.66 #	<0.019 #	0.0379 #	<0.19 #	<0.19 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	0.064 #	0.063 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	0.061 #	0.15 #	0.185 #
Sulphate	<2 mg/l	TM184	21.6 #	150 #	113 #	54.5 #	1310 #	1340 #
Chloride	<2 mg/l	TM184	34.8 #	1580 #	735 #	270 #	10300 #	10300 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	15.8 #	5.74 #	0.509 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05	<0.05
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03	<0.03

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 [B] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.357 #	0.381 #	<0.2 #	4.49 #	2.66 #	13 #
Fluoride	<0.5 mg/l	TM104	0.537	0.793	<0.5	0.817	<0.5	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<100 #	<10 #	<10 #	<100 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	1.08 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	<5 #	1.57 #	1.87 #	<5 #	1.22 #	70.2 #
Barium (diss.filt)	<0.2 µg/l	TM152	13.8 #	14.2 #	17 #	44.2 #	20.7 #	226 #
Boron (diss.filt)	<10 µg/l	TM152	2010 #	2660 #	33.4 #	1500 #	422 #	363 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.8 #	<0.08 #	<0.08 #	<0.8 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<5 #	<0.5 #	0.521 #	<5 #	<0.5 #	7.33 #
Copper (diss.filt)	<0.3 µg/l	TM152	<3 #	0.773 #	0.371 #	<3 #	1.11 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<2 #	<0.2 #	<0.2 #	<2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	184 #	119 #	874 #	145 #	118 #	1850 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<30 #	6.92 #	<3 #	<30 #	<3 #	16.1 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<4 #	0.534 #	0.809 #	4.69 #	0.867 #	2.08 #
Selenium (diss.filt)	<1 µg/l	TM152	<10 #	<1 #	<1 #	<10 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	3620 #	5140 #	244 #	2620 #	857 #	916 #
Titanium (diss.filt)	<1 µg/l	TM152	<10 #	2.58 #	1.99 #	<10 #	2.83 #	10.3 #
Vanadium (diss.filt)	<1 µg/l	TM152	<10 #	1.04 #	<1 #	<10 #	<1 #	1.93 #
Zinc (diss.filt)	<1 µg/l	TM152	<10 #	6.94 #	2.99 #	41.8 #	19.9 #	2.59 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	4280 #	6730 #	62.6 #	3410 #	1010 #	18.4 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	613 #	845 #	8.49 #	442 #	127 #	17.4 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	203 #	265 #	10.5 #	143 #	42.6 #	17.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	211 #	276 #	55.5 #	203 #	136 #	169 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.19 #	0.0237 #	0.339 #	<0.19 #	0.043 #	37.5 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.066 #	0.099 #	<0.05 #	0.808 #	0.79 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.147 #	0.385 #	0.126 #	1.21 #	0.398 #	<0.05 #
Sulphate	<2 mg/l	TM184	1320 #	2020 #	<2 #	965 #	290 #	12.6 #
Chloride	<2 mg/l	TM184	10100 #	15800 #	117 #	7090 #	1960 #	60.3 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	<0.3 #	6.66 #	12.2 #	0.375 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	4.73 #	1.93 #	0.262 #	1.67 #	7.24 #	5.17 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	0.782 #	<0.5 #	<0.5 #	0.625 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.31 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	13.8 #	4.41 #	1.1 #	9.41 #	6.5 #	7.68 #
Barium (diss.filt)	<0.2 µg/l	TM152	68 #	880 #	133 #	136 #	452 #	192 #
Boron (diss.filt)	<10 µg/l	TM152	195 #	367 #	207 #	206 #	223 #	142 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.113 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.655 #	<0.5 #	<0.5 #	2.5 #	0.758 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	0.311 #	<0.3 #	0.86 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	3630 #	1550 #	108 #	2190 #	1850 #	762 #
Molybdenum (diss.filt)	<3 µg/l	TM152	4.02 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	0.404 #	0.419 #	1.48 #	2.85 #	0.895 #	<0.4 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	912 #	821 #	520 #	513 #	700 #	530 #
Titanium (diss.filt)	<1 µg/l	TM152	16.9 #	8.01 #	6.17 #	9.12 #	15.9 #	11.9 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	1.24 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	2.46 #	3.16 #	16 #	8.15 #	3.04 #	1.34 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	386 #	155 #	82.1 #	259 #	24 #	9.45 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	96.8 #	33.2 #	19.4 #	36.8 #	17.2 #	9.27 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	21.3 #	16.1 #	15.3 #	12.8 #	15.8 #	12.4 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	263 #	161 #	146 #	167 #	245 #	169 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	34.7 #	3.58 #	1.94 #	21.1 #	23.8 #	7.46 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	43.5 #	24.1 #	62 #	92.6 #	33 #	15.3 #
Chloride	<2 mg/l	TM184	1080 #	307 #	126 #	530 #	33.6 #	10.5 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	0.502 #	<0.3 #	<0.3 #	<0.3 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.449 #	2.55 #	1.02 #	0.769 #		
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	<0.5 #	<0.5 #		
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	169 #		
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.5 #	<10 #		
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.46 #	1.25 #	2.08 #	<5 #		
Barium (diss.filt)	<0.2 µg/l	TM152	90.9 #	114 #	21.2 #	123 #		
Boron (diss.filt)	<10 µg/l	TM152	62.3 #	191 #	28.3 #	1010 #		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	1.02 #		
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.795 #	<0.5 #	<0.5 #	<5 #		
Copper (diss.filt)	<0.3 µg/l	TM152	1.59 #	<0.3 #	1.04 #	<3 #		
Lead (diss.filt)	<0.2 µg/l	TM152	0.478 #	<0.2 #	<0.2 #	<2 #		
Manganese (diss.filt)	<3 µg/l	TM152	542 #	633 #	249 #	2700 #		
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<30 #		
Nickel (diss.filt)	<0.4 µg/l	TM152	1.3 #	<0.4 #	0.938 #	9.95 #		
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Strontium (diss.filt)	<1 µg/l	TM152	215 #	460 #	89.7 #	3740 #		
Titanium (diss.filt)	<1 µg/l	TM152	3.97 #	4.25 #	4.07 #	<10 #		
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<10 #		
Zinc (diss.filt)	<1 µg/l	TM152	11.5 #	1.76 #	3.99 #	54.4 #		
Sodium (Dis.Filt)	<0.076 mg/l	TM152	4.39 #	25.4 #	9.79 #	3800 #		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	3.62 #	18.6 #	3.04 #	652 #		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	2.06 #	5.93 #	1.76 #	135 #		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	103 #	175 #	56 #	333 #		
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.398 #	1.39 #	0.974 #	<0.19 #		
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #		
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Sulphate	<2 mg/l	TM184	3.9 #	29.8 #	<2 #	1240 #		
Chloride	<2 mg/l	TM184	6 #	46.4 #	11 #	10000 #		
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	<0.3 #	1.19 #	<0.3 #		
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.006 #	0.669 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.024 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0687 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.0064 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0633 #	<0.005 #	<0.005 #	0.206 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.082 #	0.967 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	0.122 #	0.0064 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0416 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0675 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.231 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 Sample deviation (see appendix)

Customer Sample Ref			SW203	SW204	SW205	SW206	SW209	WS201
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
Date Sampled			19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
Sample Time								
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670596	28670597	28670598	28670609	28670607	28670599
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	0.342 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.104 #	0.0093 #	0.119 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0365 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0461 #	<0.005 #	0.369 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0115 #	<0.005 #	0.0564 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0263 #	<0.005 #	0.226 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0173 #	<0.005 #	0.0916 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.149 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0381 #	<0.005 #	0.337 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.127 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.186 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0895 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	0.16 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0326 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.133 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.243 #	<0.082 #	2.45 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 Sample deviation (see appendix)

Customer Sample Ref			WS202	WS204	WS205	WS206	WS207	WS208
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
Sample Time								
Date Received			21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
SDG Ref			230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
Lab Sample No.(s)			28670601	28670604	28670606	28670610	28670611	28670613
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.184 #	0.0122 #	<0.005 #	0.363 #	0.347 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0134 #	<0.005 #	<0.005 #	0.0113 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.179 #	<0.005 #	<0.005 #	0.343 #	0.0561 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.027 #	0.0093 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.059 #	0.0126 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0474 #	<0.005 #	<0.005 #	0.0211 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0225 #	<0.005 #	<0.005 #	0.0887 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.151 #	<0.005 #	<0.005 #	0.283 #	0.0533 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	0.007 #	<0.005 #	<0.005 #	0.0526 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0852 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0534 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	0.0831 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0295 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0439 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	0.605 #	<0.082 #	<0.082 #	1.54 #	0.479 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670615	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670603	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670602	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670612		
Component	LOD/Units	Method					
Naphthalene (aq)	<0.01 µg/l	TM178	0.0158 #	<0.01 #	<0.01 #	<0.01 #	
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0079 #	0.389 #	0.0078 #	<0.005 #	
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.0089 #	0.0094 #	<0.005 #	<0.005 #	
Fluoranthene (aq)	<0.005 µg/l	TM178	0.149 #	0.126 #	<0.005 #	<0.005 #	
Anthracene (aq)	<0.005 µg/l	TM178	0.0168 #	<0.005 #	<0.005 #	<0.005 #	
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0546 #	<0.005 #	<0.005 #	<0.005 #	
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Chrysene (aq)	<0.005 µg/l	TM178	0.0877 #	0.0222 #	<0.005 #	<0.005 #	
Pyrene (aq)	<0.005 µg/l	TM178	0.144 #	0.174 #	<0.005 #	<0.005 #	
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.0518 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	0.102 #	0.013 #	<0.005 #	<0.005 #	
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	0.0514 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	0.0856 #	0.0128 #	<0.002 #	<0.002 #	
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	0.0479 #	<0.005 #	<0.005 #	<0.005 #	
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	0.0611 #	<0.005 #	<0.005 #	<0.005 #	
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.885 #	0.746 #	<0.082 #	<0.082 #	

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670593	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670591	Ground Water (GW) 19/09/2023 - 21/09/2023 230922-76 28670589	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670588	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670617	Ground Water (GW) 18/09/2023 - 21/09/2023 230922-76 28670619
Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	98	94	95	94	95	90
GRO >C5-C12	<50 µg/l	TM245	249 #	<50 #	330 #	3750 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	222	<10	294	3570	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	12	<10	18	164	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	243	<10	321	3740	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94	96	90	96	94	98
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	13	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	23	<10	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	105	103	101	98	102	92
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	57 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	12
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	12
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	27
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	59
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	431
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	517
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	122
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	122
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	695
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	490

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 [J] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	86	101	96	98	91	91
GRO >C5-C12	<50 µg/l	TM245	1780 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	1740	<10	<10	17	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	13	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	11	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	11	<10	<10	<10	13
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	11	<10	<10	<10	13
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	1780	14	<10	28	<10	13
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 [J] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	95	106	93		
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	5480 #		
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	55		
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	5390		
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10		
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	5470		
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	103	103	103	102	114	119
Toluene-d8**	%	TM208	99.1	98.7	99.1	98.2	102	103
4-Bromofluorobenzene**	%	TM208	99.5	98.8	98	99.2	94.7	94.5
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	2.99 #	22.5 #	<1 #	4360 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	4.49 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.75 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	1.56 #	<1 #	6.87 #	26.7 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	881 #	10.2 #	1120 #	11700 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	24.3 #	<1 #	39.8 #	547 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW04
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670593	28670591	28670589	28670588	28670617	28670619
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	121	118	117	120	102	104
Toluene-d8**	%	TM208	104	103	103	103	99.5	98.5
4-Bromofluorobenzene**	%	TM208	91.8	93	93.9	94.1	98.3	101
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	26.2 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	2.23 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	140 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	7.19 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<2 #	<1 #	<1 #	<2 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	GW05	GW06	GW07	MH	SW201	SW202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	18/09/2023	19/09/2023	19/09/2023
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670620	28670621	28670622	28670623	28670594	28670595
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	108	105	105	102	110	105
Toluene-d8**	%	TM208	99.8	99.7	98.9	98.6	99.3	98.3
4-Bromofluorobenzene**	%	TM208	97.5	98.1	98.1	97.8	96.8	98.9
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	748 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	35.3 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	3.04 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.49 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.15 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<2 #	<1 #	<1 #	1.22 #	<2 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.53 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.44 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW203	SW204	SW205	SW206	SW209	WS201
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023	19/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670596	28670597	28670598	28670609	28670607	28670599
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	2.15
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS202	WS204	WS205	WS206	WS207	WS208
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	19/09/2023	19/09/2023	19/09/2023	19/09/2023	18/09/2023	18/09/2023
	Sample Time	-	-	-	-	-	-
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
	SDG Ref	230922-76	230922-76	230922-76	230922-76	230922-76	230922-76
	Lab Sample No.(s)	28670601	28670604	28670606	28670610	28670611	28670613
	AGS Reference						

Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	103	107	104	104	103	115
Toluene-d8**	%	TM208	98.6	98.2	98	99.1	98.1	102
4-Bromofluorobenzene**	%	TM208	98.6	98.1	97.2	98.5	98.4	96.3
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	4590 #	3.38 #	<1 #	8.53 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	2.43 #	<1 #	<1 #	1.17 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	19.6 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	6160 #	1.81 #	1.33 #	168 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.07 #	23 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	1.88 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Customer Sample Ref Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	WS202 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670601	WS204 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670604	WS205 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670606	WS206 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670610	WS207 Ground Water (GW) 18/09/2023 21/09/2023 230922-76 28670611	WS208 Ground Water (GW) 18/09/2023 21/09/2023 230922-76 28670613
Component	LOD/Units	Method					
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Customer Sample Ref Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	WS202 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670601	WS204 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670604	WS205 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670606	WS206 Ground Water (GW) 19/09/2023 21/09/2023 230922-76 28670610	WS207 Ground Water (GW) 18/09/2023 21/09/2023 230922-76 28670611	WS208 Ground Water (GW) 18/09/2023 21/09/2023 230922-76 28670613
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	119	106	110	111		
Toluene-d8**	%	TM208	103	98.8	99	105		
4-Bromofluorobenzene**	%	TM208	93.5	96.5	97.9	94.2		
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.23 #		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	15.1 #		
cis-1,2-Dichloroethene	<1 µg/l	TM208	3.35 #	<1 #	<1 #	184 #		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichloroethene	<1 µg/l	TM208	2.54 #	<1 #	<1 #	19500 #		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	2.96 #		
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time	-	-	-	-		
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	3.83 #		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1		

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS209	WS210	WS202A	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	18/09/2023	19/09/2023	19/09/2023	19/09/2023		
	Sample Time						
	Date Received	21/09/2023	21/09/2023	21/09/2023	21/09/2023		
	SDG Ref	230922-76	230922-76	230922-76	230922-76		
	Lab Sample No.(s)	28670615	28670603	28670602	28670612		
	AGS Reference						
Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2		
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5		

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040
Client Ref.: Location:

Data Amendment

Sample No. : 28670617 Date of Amendment : 05/10/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	GW1	USTN

Sample No. : 28670619 Date of Amendment : 05/10/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	GW4	USTR

Sample No. : 28670620 Date of Amendment : 05/10/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	GW5	GW01

Sample No. : 28670621 Date of Amendment : 05/10/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	GW6	GW02

Sample No. : 28670622 Date of Amendment : 05/10/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	GW07	WS203

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Table of Results - Appendix

Method No	Description
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM104	Determination of Fluoride using the Kone Analyser
TM152	Analysis of Aqueous Samples by ICP-MS
TM174	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

Validated

CERTIFICATE OF ANALYSIS

SDG: 230922-76 Report Number: 706376 Superseded Report: 706040

Client Ref.: Location:

Test Completion Dates

Lab Sample No(s)	28670593	28670591	28670589	28670588	28670617	28670619	28670620	28670621	28670622	28670623
Customer Sample Ref.	BH001	BH002	BH003	BH005	GW01	GW04	GW05	GW06	GW07	BH
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
Anions by Kone (w)	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	29-Sep-2023	27-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023	25-Sep-2023
Hexavalent Chromium (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023
Mercury Dissolved	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	28-Sep-2023	26-Sep-2023	28-Sep-2023	28-Sep-2023	26-Sep-2023	25-Sep-2023	26-Sep-2023	25-Sep-2023	28-Sep-2023	26-Sep-2023

Lab Sample No(s)	28670594	28670595	28670596	28670597	28670598	28670609	28670607	28670599	28670601	28670604
Customer Sample Ref.	SW201	SW202	SW203	SW204	SW205	SW206	SW209	WS201	WS202	WS204
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023
Anions by Kone (w)	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	26-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	27-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023
Hexavalent Chromium (w)	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023
Mercury Dissolved	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	29-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	26-Sep-2023	26-Sep-2023	27-Sep-2023	27-Sep-2023	26-Sep-2023	26-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	26-Sep-2023

Lab Sample No(s)	28670606	28670610	28670611	28670613	28670615	28670603	28670602	28670612
Customer Sample Ref.	WS205	WS206	WS207	WS208	WS209	WS210	WS202A	WS206A
AGS Ref.								
Depth								
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	29-Sep-2023	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Anions by Kone (w)	28-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	27-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023
Dissolved Metals by ICP-MS	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	02-Oct-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
Fluoride	29-Sep-2023	29-Sep-2023	27-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	27-Sep-2023
GRO by GC-FID (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	25-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023
Hexavalent Chromium (w)	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023
Mercury Dissolved	28-Sep-2023	28-Sep-2023	28-Sep-2023	27-Sep-2023	27-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023
Nitrite by Kone (w)	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023	27-Sep-2023
PAH Spec MS - Aqueous (W)	28-Sep-2023	28-Sep-2023	29-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023	28-Sep-2023	29-Sep-2023
Phosphate by Kone (w)	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
TPH CWG (W)	28-Sep-2023	29-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023	28-Sep-2023
VOC MS (W)	26-Sep-2023	26-Sep-2023	26-Sep-2023	26-Sep-2023	25-Sep-2023	26-Sep-2023	27-Sep-2023	28-Sep-2023

CERTIFICATE OF ANALYSIS

SDG: 230922-76 **Report Number:** 706376 **Superseded Report:** 706040
Client Ref: **Location:**

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation:	02 January 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	231219-74
Your Reference:	40000324
Location:	Cork
Report No:	716062
Order Number:	

This report has been revised and directly supersedes 715334 in its entirety.

We received 13 samples on Tuesday December 19, 2023 and 13 of these samples were scheduled for analysis which was completed on Tuesday January 02, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 02/01/2024

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29134700	BH201			15/12/2023
29134701	BH203			15/12/2023
29134702	BH205			15/12/2023
29134706	SW201			15/12/2023
29134707	SW202			15/12/2023
29134708	SW203			15/12/2023
29134709	SW301			15/12/2023
29134710	SW302			15/12/2023
29134712	SW303			15/12/2023
29134711	TB			15/12/2023
29134703	WS201			15/12/2023
29134704	WS202			15/12/2023
29134705	WS206A			15/12/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29134700	29134701
			Customer Sample Reference	BH201	BH203
			AGS Reference		
			Depth (m)		
			Container	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6			
Anions by Kone (w)	All	NDPs: 0 Tests: 6			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 6			
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 6			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 6			
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 6			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12			
EPH and CWG by FID	All	NDPs: 0 Tests: 12			
Ferrous Iron	All	NDPs: 0 Tests: 6			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 12			
Manganese II	All	NDPs: 0 Tests: 6			
Mercury Dissolved	All	NDPs: 0 Tests: 12			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 6			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 12			

Lab Sample No(s)	29134701										29134702			29134706			29134707			29134708	29134709
Customer Sample Reference	BH203										BH205			SW201			SW202			SW203	SW301
AGS Reference																					
Depth (m)																					
Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
						X															
				X																	
										X											
				X																	
								X					X			X			X		
		X																			
					X																
			X									X			X			X			X
		X										X			X			X			X
							X														
										X				X			X			X	
							X														
								X					X			X			X		
									X												
			X									X			X			X			X

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CERTIFICATE OF ANALYSIS

SDG: 231219-74
Client Ref.: 40000324
Report Number: 716062
Location: Cork
Superseded Report: 715334

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)												29134700									29134701
Customer Sample Reference												BH201									BH203
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 6			X										X						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 6			X										X						
Redox Potential	All	NDPs: 0 Tests: 6	X										X								
Sulphide	All	NDPs: 0 Tests: 6										X									
TPH CWG (W)	All	NDPs: 0 Tests: 12	X										X								
VOC MS (W)	All	NDPs: 0 Tests: 13									X										X

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Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type						
29134701	BH203			ZnAc (ALE246)	GW				X		
				0.5l glass bottle (ALE227)	GW			X		X	
				250ml Amber Gl. PTFE/PE (ALE219)	GW						
				500ml Plastic (ALE208)	GW	X	X				
				DO KIT + DO 250 ml glass	GW						
				H2SO4 (ALE244)	GW						
				HCl Filtered (ALE250)	GW						
				HNO3 Filtered (ALE204)	GW						
				NaOH (ALE245)	GW						
				Vial (ALE297)	GW						X
29134702	BH205			ZnAc (ALE246)	GW				X		
				0.5l glass bottle (ALE227)	SW					X	
				HNO3 Filtered (ALE204)	SW						
29134706	SW201			Vial (ALE297)	SW						X
				0.5l glass bottle (ALE227)	SW					X	
				HNO3 Filtered (ALE204)	SW						
29134707	SW202			Vial (ALE297)	SW						X
				0.5l glass bottle (ALE227)	SW					X	
				HNO3 Filtered (ALE204)	SW						
29134708	SW203			Vial (ALE297)	SW						X
29134709	SW301			0.5l glass bottle (ALE227)	SW					X	

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Lab Sample No(s)				29134709			29134710			29134712	29134711										29134703
Customer Sample Reference				SW301			SW302			SW303	TB										WS201
AGS Reference																					
Depth (m)																					
Container			HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6														X					
Anions by Kone (w)	All	NDPs: 0 Tests: 6												X							
Determination of Dissolved Gases	All	NDPs: 0 Tests: 6																		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 6												X							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12	X			X			X									X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 6										X									
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 6													X						
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12			X			X					X								
EPH and CWG by FID	All	NDPs: 0 Tests: 12			X			X				X									
Ferrous Iron	All	NDPs: 0 Tests: 6															X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 12		X			X			X										X	
Manganese II	All	NDPs: 0 Tests: 6															X				
Mercury Dissolved	All	NDPs: 0 Tests: 12	X			X			X									X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 6																	X		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 12			X			X					X								

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Lab Sample No(s)	29134704										29134705									
Customer Sample Reference	WS202										WS206A									
AGS Reference																				
Depth (m)																				
Container	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
					X										X					
			X										X							
									X										X	
			X										X							
							X										X			
	X										X									
				X										X						
		X										X								
	X										X									
						X										X				
									X										X	
						X										X				
							X										X			
								X										X		
		X										X								

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Client Ref.: 40000324 Report Number: 716062 Location: Cork Superseded Report: 715334

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			29134709		29134710			29134712		29134711	29134703									
Customer Sample Reference			SW301		SW302			SW303		TB	WS201									
AGS Reference																				
Depth (m)																				
Container			HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	0.5l glass bottle (ALE227)	HNO3 Filtered (ALE204)	Vial (ALE297)	Vial (ALE297)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 6												X							
Phosphate by Kone (w)	All	NDPs: 0 Tests: 6												X							
Redox Potential	All	NDPs: 0 Tests: 6										X									
Sulphide	All	NDPs: 0 Tests: 6																			X
TPH CWG (W)	All	NDPs: 0 Tests: 12			X			X				X									
VOC MS (W)	All	NDPs: 0 Tests: 13		X			X			X	X									X	

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29134705	WS206A			ZnAc (ALE246)	GW								X				
				Vial (ALE297)	GW												X
				NaOH (ALE245)	GW												
				HNO3 Filtered (ALE204)	GW												
				HCl Filtered (ALE250)	GW												
				H2SO4 (ALE244)	GW												
				DO KIT + DO 250 ml glass	GW												
				500ml Plastic (ALE208)	GW		X		X								
				250ml Amber Gl. PTFE/PE (ALE219)	GW												
				0.5l glass bottle (ALE227)	GW						X				X		
29134704	WS202			ZnAc (ALE246)	GW								X				
				Vial (ALE297)	GW												X
				NaOH (ALE245)	GW												
				HNO3 Filtered (ALE204)	GW												
				HCl Filtered (ALE250)	GW												
				H2SO4 (ALE244)	GW												
				DO KIT + DO 250 ml glass	GW												
				500ml Plastic (ALE208)	GW		X		X								
				250ml Amber Gl. PTFE/PE (ALE219)	GW												
				0.5l glass bottle (ALE227)	GW						X				X		

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend
- \# ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- (F) Trigger breach confirmed
- 1-4+§@ Sample deviation (see appendix)

Customer Sample Ref.			BH201	BH203	BH205	SW201	SW202	SW203
Depth (m)			-	-	-	-	-	-
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
Sample Time			-	-	-	-	-	-
Date Received			19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
SDG Ref			231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
Lab Sample No.(s)			29134700	29134701	29134702	29134706	29134707	29134708
AGS Reference								
Component	**LOD/Units**	**Method**						
Manganese II	<0.2 mg/l	TM005	<0.2	0.804	1.34			
Carbon, Organic (diss.filt)	<3 mg/l	TM090	5.75	<3	<3			
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	91.5	65.1	73.7			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.379 #	<0.2 #	1.23 #			
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	<0.01 #			
Redox potential	mV	TM110	196	192	171			
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 #	<0.1 #	2.1 #			
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.71 #	<0.5 #	2.43 #	<0.5 #	<0.5 #	<0.5 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.751 #	0.169 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	3.82 #	<0.3 #	<0.3 #	0.942 #	0.833 #	0.869 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	127 #	699 #	1020 #			
Nickel (diss.filt)	<0.4 µg/l	TM152	11.1 #	1.28 #	0.648 #	0.574 #	0.468 #	0.455 #
Selenium (diss.filt)	<1 µg/l	TM152	1.33 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	1160 #	3.72 #	5.64 #	8.53 #	7.09 #	7.11 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0631 #	<0.019 #	1.93 #			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	<100 #	<100 #	<100 #	<100 #	<100 #
Mercury (diss.filt)	<0.01 µg/l	TM183	0.0121 #	<0.01 #	<0.01 #	<0.01	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	0.06 #	<0.05 #	<0.05 #			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.073 #	0.107 #	0.068 #			
Sulphate	<2 mg/l	TM184	81.6 #	163 #	72.3 #			
Chloride	<2 mg/l	TM184	22.3 #	1270 #	456 #			
Nitrate as NO3	<0.3 mg/l	TM184	4.59 #	3.42 #	<0.3 #			
Oxygen, dissolved	<0.3 mg/l	TM187	2.11 #	0.51 #	<0.3 #			
Methane, dissolved	<1 µg/l	TM223	1.18	4.93	166			
Ethene, dissolved	<1 µg/l	TM223	<1	<1	23.4			
Ethane, dissolved	<1 µg/l	TM223	<1	<1	8.56			
Carbon dioxide, dissolved	<1.3 mg/l	TM223	42.5	22.6	17.7			
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1			
pH	<1 pH Units	TM256	8.32 @#	7.92 @#	7.63 @#			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	0.888 #	4.04 #	1.92 #			
Alkalinity, Total as CaCO3	<3 mg/l	TM256	470 #	283 #	340 #			

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Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
Manganese II	<0.2 mg/l	TM005					4.76	4	1.61
Carbon, Organic (diss.filt)	<3 mg/l	TM090					5.15	5.08	<3
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090					85	101	62.9
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099					8.01 #	3.56 #	<0.2 #
Sulphide	<0.01 mg/l	TM101					0.0175 #	<0.01 #	<0.01 #
Redox potential	mV	TM110					161	318	195
Iron, Ferrous	<0.1 mg/l	TM125					57.3 #	33 #	<0.1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.68 #	1.26 #	0.678 #		88.7 #	9.67 #	<0.5 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #		<0.08 #	<0.08 #	0.0988 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #		<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.03 #	0.891 #	0.701 #		<0.3 #	<0.3 #	0.453 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #		<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152					1850 #	3320 #	1340 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.28 #	1.01 #	0.687 #		1.12 #	1.41 #	2.56 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #		<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	26.4 #	19.7 #	10.7 #		6.36 #	12.4 #	13.9 #
Iron (Dis.Filt)	<0.019 mg/l	TM152					50.8 #	30.7 #	0.0549 #
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	146 #	<100 #	<100 #		127 #	139 #	188 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01		<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184					<0.05 #	<0.05 #	0.058 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184					<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184					<2 #	44.9 #	153 #
Chloride	<2 mg/l	TM184					72.7 #	979 #	1080 #
Nitrate as NO3	<0.3 mg/l	TM184					0.446 #	<0.3 #	4.15 #
Oxygen, dissolved	<0.3 mg/l	TM187					<0.3 #	0.41 #	0.93 #
Methane, dissolved	<1 µg/l	TM223					10200	7360	25.3
Ethene, dissolved	<1 µg/l	TM223					3370 3	874 3	<1
Ethane, dissolved	<1 µg/l	TM223					3700 3	1080 3	6.27
Carbon dioxide, dissolved	<1.3 mg/l	TM223					75.3	81.5	16.7
Propane, dissolved	<1 µg/l	TM223					<1	1.2	<1
pH	<1 pH Units	TM256					7.51 @#	7.73 @#	7.45 @#
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256					0.851 #	3.45 #	3.5 #
Alkalinity, Total as CaCO3	<3 mg/l	TM256					389 #	604 #	284 #

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Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.05 #	<0.05 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.01 #	<0.01 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.025 #	<0.025 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.41 #	<0.41 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	0.31 #	0.0117 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0294 #	0.013 #	<0.005 #	0.106 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0117 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0219 #	<0.005 #	<0.005 #	0.0532 #	0.0432 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0298 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.114 #	0.0259 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0577 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.031 #	0.041 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0235 #	<0.005 #	<0.005 #	0.0451 #	0.0387 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0143 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	0.0294 #	0.0364 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.728 #	0.194 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	112	101	101	103	102	105
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	254 #	<50 #	959 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	219	11	839	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	13	<10	104	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	245	15	953	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	WS201	WS202	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134703	29134704	29134705
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	104	102	103	99	95	104
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	156 #	1890 #	283 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	1850	31
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	17	11	213
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	33	<10	12
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	41	<10	11
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	27	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	27	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<20	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	156	1890	283

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	109	110	107	107	107	108
Toluene-d8**	%	TM208	99.6	105	99.8	100	100	100
4-Bromofluorobenzene**	%	TM208	101	99.6	98.6	98.8	101	100
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	12.6 #	<1 #	548 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.31 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	2.34 #	1.19 #	6.68 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1030 #	218 #	3210 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	23 #	20.6 #	313 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	SW201	SW202	SW203
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134700	29134701	29134702	29134706	29134707	29134708
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	112	111	113	108	107	104
Toluene-d8**	%	TM208	101	94.3	99.8	100	100	99.3
4-Bromofluorobenzene**	%	TM208	92	99.6	99.2	101	100	100
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1290 #	5070 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.98 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	12.3 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1.21 #	4.25 #	<1 #	<1 #	50.9 #	6360 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.17 #	1.01 #	1.15 #	1.63 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.21 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.52 #	2.12 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time						
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.38 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	3.68 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.57 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.25 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.65 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	9.21 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.82 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW301	SW302	SW303	TB	WS201	WS202
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023	15/12/2023
	Sample Time	-	-	-	-	-	-
	Date Received	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023	19/12/2023
	SDG Ref	231219-74	231219-74	231219-74	231219-74	231219-74	231219-74
	Lab Sample No.(s)	29134709	29134710	29134712	29134711	29134703	29134704
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2		5.06	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5		7.79	<5

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-
	Sample Type	Ground Water (GW)
	Date Sampled	15/12/2023
	Sample Time	-
	Date Received	19/12/2023
	SDG Ref	231219-74
	Lab Sample No.(s)	29134705
	AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	108
Toluene-d8**	%	TM208	101
4-Bromofluorobenzene**	%	TM208	99.8
Dichlorodifluoromethane	<1 µg/l	TM208	<1
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	2.71 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	125 #
2,2-Dichloropropane	<1 µg/l	TM208	<1
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	916 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited.	Depth (m)	
M mCERTS accredited.	Sample Type	Ground Water (GW)
aq Aqueous / settled sample.	Date Sampled	15/12/2023
diss.filt Dissolved / filtered sample.	Sample Time	
tot.unfilt Total / unfiltered sample.	Date Received	19/12/2023
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	231219-74
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29134705
(F) Trigger breach confirmed	AGS Reference	
1-4+[@ Sample deviation (see appendix)		

Component	LOD/Units	Method	
Tetrachloroethene	<1 µg/l	TM208	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Styrene	<1 µg/l	TM208	<1 #
Bromoform	<1 µg/l	TM208	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	WS206A
# ISO17025 accredited.	Depth (m)	
M mCERTS accredited.	Sample Type	Ground Water (GW)
aq Aqueous / settled sample.	Date Sampled	15/12/2023
diss.filt Dissolved / filtered sample.	Sample Time	
tot.unfilt Total / unfiltered sample.	Date Received	19/12/2023
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	231219-74
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29134705
(F) Trigger breach confirmed	AGS Reference	
1-4+[@ Sample deviation (see appendix)		

Component	LOD/Units	Method	
Sum of detected Xylenes	<2 µg/l	TM208	<2
Sum of BTEX	<5 µg/l	TM208	<5

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Extractable Petroleum Hydrocarbons (EPH) By GC-FID

EPH (DRO) (C10-C40)

Sample No	Customer Sample Ref.	Depth	Matrix (mg/kg)	EPH	Interpretation
29139068	BH201		ROUND_WATE	<100	
29139067	BH203		ROUND_WATE	<100	
29139064	WS201		ROUND_WATE	127	
29139062	WS202		ROUND_WATE	139	
29139063	WS206A		ROUND_WATE	188	
29139069	BH205		ROUND_WATE	<100	
29139211	SW303		JRFACE_WATE	<100	
29139468	SW202		JRFACE_WATE	<100	
29139477	SW201		JRFACE_WATE	<100	
29137930	SW203		JRFACE_WATE	<100	
29137933	SW301		JRFACE_WATE	146	
29137908	SW302		JRFACE_WATE	<100	

Extractable Petroleum Hydrocarbons (formally Diesel Range Organics) :- Any compound extractable in n-hexane within the carbon range C10-C40, includes Aliphatic (Min Oil), Aromatic (PAHs) and naturally occurring compounds.

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CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Table of Results - Appendix

Method No	Description
TM005	Manganese II by spectrophotometer
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM110	Redox Potential
TM125	Determination of Total/Ferrous Iron
TM152	Analysis of Aqueous Samples by ICP-MS
TM172	EPH in Waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM187	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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VOLUME III LRD EIAR APPENDICES

Validated

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref.: 40000324 Location: Cork

Test Completion Dates

Lab Sample No(s)	29134700	29134701	29134702	29134706	29134707	29134708	29134709	29134710	29134712	29134711
Customer Sample Ref.	BH001	BH003	BH005	SW001	SW002	SW003	SW001	SW002	SW003	TB
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	20-Dec-2023	20-Dec-2023	20-Dec-2023							
Anions by Kone (w)	27-Dec-2023	27-Dec-2023	27-Dec-2023							
Determination of Dissolved Gases	28-Dec-2023	28-Dec-2023	28-Dec-2023							
Dissolved Inorganic Carbon	28-Dec-2023	28-Dec-2023	28-Dec-2023							
Dissolved Metals by ICP-MS	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	
Dissolved Organic/Inorganic Carbon	27-Dec-2023	27-Dec-2023	27-Dec-2023							
Dissolved Oxygen by Titration	21-Dec-2023	21-Dec-2023	21-Dec-2023							
EPH (DRO) (C10-C40) Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	
EPH and CWG by FID	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	27-Dec-2023	27-Dec-2023	27-Dec-2023	28-Dec-2023	29-Dec-2023	
Ferrous Iron	21-Dec-2023	21-Dec-2023	21-Dec-2023							
GRO by GC-FID (W)	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	
Manganese II	20-Dec-2023	20-Dec-2023	20-Dec-2023							
Mercury Dissolved	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	22-Dec-2023	28-Dec-2023	
Nitrite by Kone (w)	21-Dec-2023	21-Dec-2023	21-Dec-2023							
PAH Spec MS - Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	
pH Value	02-Jan-2024	02-Jan-2024	02-Jan-2024							
Phosphate by Kone (w)	22-Dec-2023	22-Dec-2023	22-Dec-2023							
Redox Potential	28-Dec-2023	27-Dec-2023	27-Dec-2023							
Sulphide	28-Dec-2023	28-Dec-2023	28-Dec-2023							
TPH CWG (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023	28-Dec-2023	27-Dec-2023	27-Dec-2023	27-Dec-2023	28-Dec-2023	29-Dec-2023	
VOC MS (W)	27-Dec-2023	21-Dec-2023	27-Dec-2023	22-Dec-2023	22-Dec-2023	22-Dec-2023	21-Dec-2023	21-Dec-2023	21-Dec-2023	22-Dec-2023

Lab Sample No(s)	29134703	29134704	29134705
Customer Sample Ref.	WS001	WS002	WS05A
AGS Ref.			
Depth			
Type	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	20-Dec-2023	20-Dec-2023	20-Dec-2023
Anions by Kone (w)	27-Dec-2023	27-Dec-2023	27-Dec-2023
Determination of Dissolved Gases	28-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Inorganic Carbon	28-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Metals by ICP-MS	21-Dec-2023	21-Dec-2023	21-Dec-2023
Dissolved Organic/Inorganic Carbon	27-Dec-2023	28-Dec-2023	28-Dec-2023
Dissolved Oxygen by Titration	21-Dec-2023	21-Dec-2023	21-Dec-2023
EPH (DRO) (C10-C40) Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
EPH and CWG by FID	28-Dec-2023	28-Dec-2023	28-Dec-2023
Ferrous Iron	21-Dec-2023	21-Dec-2023	21-Dec-2023
GRO by GC-FID (W)	22-Dec-2023	22-Dec-2023	22-Dec-2023
Manganese II	20-Dec-2023	20-Dec-2023	20-Dec-2023
Mercury Dissolved	28-Dec-2023	22-Dec-2023	22-Dec-2023
Nitrite by Kone (w)	21-Dec-2023	21-Dec-2023	21-Dec-2023
PAH Spec MS - Aqueous (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
pH Value	02-Jan-2024	02-Jan-2024	02-Jan-2024
Phosphate by Kone (w)	22-Dec-2023	22-Dec-2023	22-Dec-2023
Redox Potential	27-Dec-2023	27-Dec-2023	27-Dec-2023
Sulphide	28-Dec-2023	28-Dec-2023	28-Dec-2023
TPH CWG (W)	28-Dec-2023	28-Dec-2023	28-Dec-2023
VOC MS (W)	27-Dec-2023	27-Dec-2023	27-Dec-2023

CERTIFICATE OF ANALYSIS

SDG: 231219-74 Report Number: 716062 Superseded Report: 715334
Client Ref: 40000324 Location: Cork

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation:	15 February 2024
Customer:	WSP Ireland Consulting Limited
Sample Delivery Group (SDG):	240207-91
Your Reference:	40000324
Location:	Cork
Report No:	720231
Order Number:	

This report has been revised and directly supersedes 719930 in its entirety.

We received 24 samples on Wednesday February 07, 2024 and 24 of these samples were scheduled for analysis which was completed on Thursday February 15, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29327592	BH201			01/02/2024
29327587	BH203			31/01/2024
29327588	BH205			31/01/2024
29327573	DMW1			01/02/2024
29327599	DMW2			01/02/2024
29327597	DMW3			01/02/2024
29327595	DMW4			01/02/2024
29327569	SMW1			01/02/2024
29327598	SMW2			01/02/2024
29327596	SMW3			01/02/2024
29327594	SMW4			01/02/2024
29327572	SMW1D			01/02/2024
29327576	SW204			02/02/2024
29327579	SW205			02/02/2024
29327575	SW206			02/02/2024
29327581	SW209			02/02/2024
29327585	SW301			02/02/2024
29327584	SW302			02/02/2024
29327582	SW303			02/02/2024
29327583	SW304			02/02/2024
29327586	TB			31/01/2024
29327589	WS202			31/01/2024
29327590	WS206			31/01/2024
29327591	WS206A			31/01/2024

Only received samples which have had analysis scheduled will be shown on the following pages.

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CERTIFICATE OF ANALYSIS

SDG: 240207-91
Client Ref.: 40000324
Report Number: 720231
Location: Cork
Superseded Report: 719930

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			29327592										29327587								
Customer Sample Reference			BH201										BH203								
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13					X										X				
Anions by Kone (w)	All	NDPs: 0 Tests: 13			X										X						
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13									X										X
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			X										X						
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13							X										X		
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13									X										X
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13				X										X					
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22	X										X								
EPH and CWG by FID	All	NDPs: 0 Tests: 22	X										X								
Ferrous Iron	All	NDPs: 0 Tests: 13						X										X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22									X										X
Manganese II	All	NDPs: 0 Tests: 13						X										X			
Mercury Dissolved	All	NDPs: 0 Tests: 14							X										X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13								X										X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22		X										X							

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Lab Sample No(s)	29327587	29327588										29327573									
Customer Sample Reference	BH203	BH205										DMW1									
AGS Reference																					
Depth (m)																					
Container	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml Amber Gl. PTFE/PE (ALE219)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen						X										X					
Anions by Kone (w)				X										X							
Determination of Dissolved Gases										X										X	
Dissolved Inorganic Carbon				X										X							
Dissolved Metals by ICP-MS								X										X			
Dissolved Organic/Inorganic Carbon		X										X									
Dissolved Oxygen by Titration					X										X						
EPH (DRO) (C10-C40) Aqueous (W)		X											X								
EPH and CWG by FID		X										X									
Ferrous Iron							X										X				
GRO by GC-FID (W)										X										X	
Manganese II							X										X				
Mercury Dissolved								X										X			
Nitrite by Kone (w)									X										X		
PAH Spec MS - Aqueous (W)			X										X								

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327587	29327592
			Customer Sample Reference	BH203	BH201
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X
Redox Potential	All	NDPs: 0 Tests: 13		X	
Sulphide	All	NDPs: 0 Tests: 13			
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	
VOC MS (W)	All	NDPs: 0 Tests: 24		X	

			Lab Sample No(s)	29327573	29327588	29327587
			Customer Sample Reference	DMW1	BH205	BH203
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X	
Redox Potential	All	NDPs: 0 Tests: 13				X
Sulphide	All	NDPs: 0 Tests: 13			X	
TPH CWG (W)	All	NDPs: 0 Tests: 22				X
VOC MS (W)	All	NDPs: 0 Tests: 24			X	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327597	29327599
			Customer Sample Reference	DMW3	DMW2
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13			X
Anions by Kone (w)	All	NDPs: 0 Tests: 13			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13			
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			
EPH and CWG by FID	All	NDPs: 0 Tests: 22			
Ferrous Iron	All	NDPs: 0 Tests: 13			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			
Manganese II	All	NDPs: 0 Tests: 13			
Mercury Dissolved	All	NDPs: 0 Tests: 14			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22			

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			Lab Sample No(s)	29327595	29327569
			Customer Sample Reference	DMW4	SMW1
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13			X
Anions by Kone (w)	All	NDPs: 0 Tests: 13			X
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13		X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13			X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13		X	
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13			X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22			X
EPH and CWG by FID	All	NDPs: 0 Tests: 22		X	
Ferrous Iron	All	NDPs: 0 Tests: 13			X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			X
Manganese II	All	NDPs: 0 Tests: 13			X
Mercury Dissolved	All	NDPs: 0 Tests: 14			X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13			X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22		X	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327597	29327599
			Customer Sample Reference	DMW3	DMW2
			AGS Reference		
			Depth (m)		
			Container	Vial (ALE297)	NaOH (ALE245)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X
Redox Potential	All	NDPs: 0 Tests: 13		X	
Sulphide	All	NDPs: 0 Tests: 13			
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	
VOC MS (W)	All	NDPs: 0 Tests: 24			

			Lab Sample No(s)	29327569	29327595	29327597
			Customer Sample Reference	SMW1	DMW4	DMW3
			AGS Reference			
			Depth (m)			
			Container	ZnAc (ALE246)	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 13		X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13		X	X	X
Redox Potential	All	NDPs: 0 Tests: 13			X	X
Sulphide	All	NDPs: 0 Tests: 13		X		X
TPH CWG (W)	All	NDPs: 0 Tests: 22			X	X
VOC MS (W)	All	NDPs: 0 Tests: 24		X		X

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327594	29327596	29327598
			Customer Sample Reference	SMW4	SMW3	SMW2
			AGS Reference			
			Depth (m)			
			Container	HCl Filtered (ALE250)	DO KIT + DO 250 ml glass	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13				
Anions by Kone (w)	All	NDPs: 0 Tests: 13				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13				
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13				
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13				
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22				
EPH and CWG by FID	All	NDPs: 0 Tests: 22				
Ferrous Iron	All	NDPs: 0 Tests: 13				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22				
Manganese II	All	NDPs: 0 Tests: 13				
Mercury Dissolved	All	NDPs: 0 Tests: 14				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22				

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			Lab Sample No(s)	29327584	29327585	29327575	29327581	29327575	29327579	29327576	29327572	29327594
			Customer Sample Reference	SW302	SW301	SW206	SW209	SW206	SW205	SW204	SMW1D	SMW4
			AGS Reference									
			Depth (m)									
			Container	0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	HNO3 Filtered (ALE204)
			Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13										
Anions by Kone (w)	All	NDPs: 0 Tests: 13										
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13										
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13										
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13										
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13										
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13										
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22										
EPH and CWG by FID	All	NDPs: 0 Tests: 22										
Ferrous Iron	All	NDPs: 0 Tests: 13										
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22										
Manganese II	All	NDPs: 0 Tests: 13										
Mercury Dissolved	All	NDPs: 0 Tests: 14										
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22										

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327594	29327596	29327598
			Customer Sample Reference	SMW4	SMW3	SMW2
			AGS Reference			
			Depth (m)			
			Container	HCl Filtered (ALE250)	DO KIT + DO 250 ml glass	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW
pH Value	All	NDPs: 0 Tests: 13			X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13			X	
Redox Potential	All	NDPs: 0 Tests: 13				
Sulphide	All	NDPs: 0 Tests: 13				
TPH CWG (W)	All	NDPs: 0 Tests: 22				
VOC MS (W)	All	NDPs: 0 Tests: 24				

			Lab Sample No(s)	29327584	29327585	29327581	29327575	29327579	29327576	29327572	29327594
			Customer Sample Reference	SW302	SW301	SW209	SW206	SW205	SW204	SMW1D	SMW4
			AGS Reference								
			Depth (m)								
			Container	0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	SW	SW	SW	SW	SW	SW	SW	GW
pH Value	All	NDPs: 0 Tests: 13									
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13									
Redox Potential	All	NDPs: 0 Tests: 13									
Sulphide	All	NDPs: 0 Tests: 13									X
TPH CWG (W)	All	NDPs: 0 Tests: 22				X		X		X	
VOC MS (W)	All	NDPs: 0 Tests: 24									

			Lab Sample No(s)	29327594	29327572	29327576	29327579	29327575	29327581	29327585	29327584
			Customer Sample Reference	SMW4	SMW1D	SW204	SW205	SW206	SW209	SW301	SW302
			AGS Reference								
			Depth (m)								
			Container	HNO3 Filtered (ALE204)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl. PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	GW	SW	SW	SW	SW	SW	SW	SW
pH Value	All	NDPs: 0 Tests: 13									
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13									
Redox Potential	All	NDPs: 0 Tests: 13									
Sulphide	All	NDPs: 0 Tests: 13			X						
TPH CWG (W)	All	NDPs: 0 Tests: 22			X	X	X	X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 24		X	X	X	X	X	X	X	X

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327584	29327582	29327583	29327586	29327589	29327590	29327591
			Customer Sample Reference	SW302	SW303	SW304	TB	WS202	WS206	WS206A
			AGS Reference							
			Depth (m)							
			Container	250ml Amber Gl PTFE/PE (ALE219)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	DO KIT + DO 250 ml glass	H2SO4 (ALE244)	HCl Filtered (ALE250)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
			Sample Type	SW	SW	SW	SW	SW	PW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 13									X					
Anions by Kone (w)	All	NDPs: 0 Tests: 13								X						
Determination of Dissolved Gases	All	NDPs: 0 Tests: 13													X	
Dissolved Inorganic Carbon	All	NDPs: 0 Tests: 13								X						
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13												X		
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 13							X							
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 13									X					
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 22		X	X	X		X								
EPH and CWG by FID	All	NDPs: 0 Tests: 22			X	X		X								
Ferrous Iron	All	NDPs: 0 Tests: 13											X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 22			X	X		X								X
Manganese II	All	NDPs: 0 Tests: 13											X			
Mercury Dissolved	All	NDPs: 0 Tests: 14												X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13													X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 22		X	X	X		X								

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	29327584	29327582	29327583	29327586	29327589
			Customer Sample Reference	SW302	SW303	SW304	TB	WS202
			AGS Reference					
			Depth (m)					
			Container	250ml Amber Gl PTFE/PE (ALE219)	Vial (ALE297)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	SW	SW	SW	SW	PW
pH Value	All	NDPs: 0 Tests: 13						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13						
Redox Potential	All	NDPs: 0 Tests: 13						X
Sulphide	All	NDPs: 0 Tests: 13						
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	X	X	X	
VOC MS (W)	All	NDPs: 0 Tests: 24		X	X	X	X	

			Lab Sample No(s)	29327590	29327591
			Customer Sample Reference	WS206	WS206A
			AGS Reference		
			Depth (m)		
			Container	250ml Amber Gl PTFE/PE (ALE219) 0.5l glass bottle (ALE227)	Vial (ALE297)
			Sample Type	GW	GW
pH Value	All	NDPs: 0 Tests: 13		X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13		X	X
Redox Potential	All	NDPs: 0 Tests: 13		X	
Sulphide	All	NDPs: 0 Tests: 13			X
TPH CWG (W)	All	NDPs: 0 Tests: 22		X	
VOC MS (W)	All	NDPs: 0 Tests: 24			X

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method					
Manganese II	<0.2 mg/l	TM005	0.235	1.5	1.07	0.713	<0.2	2.16
Carbon, Organic (diss.filt)	<3 mg/l	TM090	7.01	<3	3.19	<3	<3	<3
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	93.2	74.5	73.7	63.2	61.2	67
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.369 #	0.42 #	0.995 #	0.209 #	<0.2 #	<0.2 #
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Redox potential	mV	TM110	212	215	189	186	186	190
Iron, Ferrous	<0.1 mg/l	TM125	0.103 @#	<0.1 @#	1.8 @#	<0.1 @#	<0.1 @#	0.176 @#
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.51 #	0.779 #	2.21 #	<0.5 #	<0.5 #	1.08 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.501 #	0.24 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	3.22 #	0.807 #	<0.3 #	0.73 #	0.332 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.413 #	0.259 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	193 #	1490 #	944 #	628 #	77.7 #	1940 #
Nickel (diss.filt)	<0.4 µg/l	TM152	10.1 #	1.68 #	0.764 #	1.56 #	1.21 #	9.71 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	940 #	5.76 #	4.37 #	4.79 #	3.22 #	7.64 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.22 #	<0.019 #	1.61 #	<0.019 #	<0.019 #	0.307 #
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	374 #	153 #	<100 #	<100 #	116 #	110 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.065 #	<0.05 #	<0.05 #	0.099 #	0.256 #	0.129 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	0.135 #	0.088 #	0.066 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	86.1 #	162 #	67.5 #	119 #	82.8 #	83.7 #
Chloride	<2 mg/l	TM184	24.1 #	1390 #	389 #	755 #	338 #	348 #
Nitrate as NO3	<0.3 mg/l	TM184	2.47 #	3.85 #	<0.3 #	14 #	23.6 #	1.14 #
Oxygen, dissolved	<0.3 mg/l	TM187	2.21 #	1.21 #	1.85 #	1.87 #	2.11 #	1.98 #
Methane, dissolved	<1 µg/l	TM223	4.73	59	242	37.5	1.18	22.8
Ethene, dissolved	<1 µg/l	TM223	<1	<1	21.3	<1	<1	<1
Ethane, dissolved	<1 µg/l	TM223	<1	1.82	5.93	5.25	<1	<1
Carbon dioxide, dissolved	<1.3 mg/l	TM223	51.9	29.8	22.8	23.2	22.5	25.9
Propane, dissolved	<1 µg/l	TM223	<1	<1	<1	<1	<1	<1
pH	<1 pH Units	TM256	7.49 #	7.46 #	7.65 #	7.69 #	7.43 #	7.39 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	0.898 #	4.54 #	1.9 #	2.81 #	1.66 #	1.7 #
Alkalinity, Total as CaCO3	<3 mg/l	TM256	626 #	508 #	530 #	393 #	279 #	306 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SW204
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327576
	AGS Reference						

Component	LOD/Units	Method						
Manganese II	<0.2 mg/l	TM005	0.313	<0.2	2.27		1.1	
Carbon, Organic (diss.filt)	<3 mg/l	TM090	<3	4.91	27.4		5.8	
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090	61.6	74.8	187		82.2	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2 #	<0.2 #	20.6 #		0.912 #	
Sulphide	<0.01 mg/l	TM101	<0.01 #	<0.01 #	0.0393 #		<0.01 #	
Redox potential	mV	TM110	213	174	197		178	
Iron, Ferrous	<0.1 mg/l	TM125	<0.1 @#	<0.1 @#	5.69 @#		1.18 @#	
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.578 #	1.09 #	15.3 #		5.27 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.0851 #		<0.08 #	
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.32 #		<1 #	
Copper (diss.filt)	<0.3 µg/l	TM152	0.388 #	0.989 #	5.54 #		0.957 #	
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	0.299 #	6.63 #		0.391 #	
Manganese (diss.filt)	<3 µg/l	TM152	263 #	51.5 #	1210 #		875 #	
Nickel (diss.filt)	<0.4 µg/l	TM152	1.24 #	1.76 #	57.2 #		11.7 #	
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	1.08 #		<1 #	
Zinc (diss.filt)	<1 µg/l	TM152	3.75 #	22.1 #	12.3 #		9.55 #	
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019 #	0.0317 #	5.01 #		1.14 #	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	145 #	216 #	3040 #	143 #	<100 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	0.0131 #	<0.01 2 #	<0.01 #	
Nitrite as NO2	<0.05 mg/l	TM184	0.194 #	<0.05 #	<0.05 #		<0.05 #	
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.075 #	0.779 #	<0.05 #		<0.05 #	
Sulphate	<2 mg/l	TM184	212 #	115 #	840 #		96.4 #	
Chloride	<2 mg/l	TM184	1630 #	109 #	1050 #		57.2 #	
Nitrate as NO3	<0.3 mg/l	TM184	6.92 #	0.671 #	<0.3 #		<0.3 #	
Oxygen, dissolved	<0.3 mg/l	TM187	1.42 #	3.53 #	<0.3 #		1.99 #	
Methane, dissolved	<1 µg/l	TM223	8.3	1.22	2970		207	
Ethene, dissolved	<1 µg/l	TM223	<1	<1	18.9		<1	
Ethane, dissolved	<1 µg/l	TM223	1.19	<1	20.2		<1	
Carbon dioxide, dissolved	<1.3 mg/l	TM223	30.1	17.8	126		21.9	
Propane, dissolved	<1 µg/l	TM223	<1	<1	1.19		<1	
pH	<1 pH Units	TM256	7.27 #	7.66 #	7.55 #		7.92 #	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256	5.29 #	1.05 #	5.4 #		0.92 #	
Alkalinity, Total as CaCO3	<3 mg/l	TM256	285 #	344 #	1150 #		486 #	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref.: 40000324 **Location:** Cork

Results Legend	Customer Sample Ref	SW205	SW206	SW209	SW301	SW302	SW303
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327579	29327575	29327581	29327585	29327584	29327582
	AGS Reference						

Component	LOD/Units	Method						
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	103 #	<100 #	<100 #	<100 #	<100 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref.: 40000324 **Location:** Cork

Results Legend	Customer Sample Ref	SW304	WS202	WS206	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	02/02/2024	31/01/2024	31/01/2024	31/01/2024		
	Sample Time	-	-	-	-		
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024		
	SDG Ref	240207-91	240207-91	240207-91	240207-91		
	Lab Sample No.(s)	29327583	29327589	29327590	29327591		
	AGS Reference						

Component	LOD/Units	Method							
Manganese II	<0.2 mg/l	TM005		5.28	1.35	1.01			
Carbon, Organic (diss.filt)	<3 mg/l	TM090		6.58	6.58	<3			
Carbon, Inorganic (diss.filt)	<3 mg/l	TM090		108	80.6	70.5			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		3.74 #	1.52 #	0.25 #			
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #	<0.01 #			
Redox potential	mV	TM110		194	187	192			
Iron, Ferrous	<0.1 mg/l	TM125		36.4 @#	10.6 @#	<0.1 @#			
Arsenic (diss.filt)	<0.5 µg/l	TM152		10.2 #	5.23 #	<0.5 #			
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	0.126 #			
Chromium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #			
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3 #	<0.3 #	1.31 #			
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 #	<0.2 #	<0.2 #			
Manganese (diss.filt)	<3 µg/l	TM152		3550 #	1150 #	954 #			
Nickel (diss.filt)	<0.4 µg/l	TM152		1.47 #	1.54 #	2.69 #			
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #			
Zinc (diss.filt)	<1 µg/l	TM152		5.83 #	6.59 #	12 #			
Iron (Dis.Filt)	<0.019 mg/l	TM152		33.8 #	10.3 #	<0.019 #			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100 #	125 #	128 #	<100 #			
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #	<0.01 #			
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #			
Sulphate	<2 mg/l	TM184		41.7 #	102 #	113 #			
Chloride	<2 mg/l	TM184		927 #	245 #	729 #			
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	2.02 #			
Oxygen, dissolved	<0.3 mg/l	TM187		<0.3 #	0.93 #	1.91 #			
Methane, dissolved	<1 µg/l	TM223		627	<1	1.1			
Ethene, dissolved	<1 µg/l	TM223		18600	<1	<1			
Ethane, dissolved	<1 µg/l	TM223		1160	<1	<1			
Carbon dioxide, dissolved	<1.3 mg/l	TM223		89	44.8	23.9			
Propane, dissolved	<1 µg/l	TM223		<1	<1	<1			
pH	<1 pH Units	TM256		7.63 #	7.41 #	7.68 #			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM256		3.67 #	1.47 #	2.76 #			
Alkalinity, Total as CaCO3	<3 mg/l	TM256		796 #	499 #	418 #			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			BH201	BH203	BH205	DMW1	DMW2	DMW3
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327592	29327587	29327588	29327573	29327599	29327597
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	0.0592 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	0.0118 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	0.0474 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	0.0643 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	0.0335 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	0.0648 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.281 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			DMW4	SMW1	SMW2	SMW3	SMW4	SW204
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
Date Sampled			01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327595	29327569	29327598	29327596	29327594	29327576
AGS Reference								
Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	0.0161 #	<0.01 #	0.06 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	1.8 #	0.017 #	<0.005 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.111 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.147 #	0.0427 #	<0.005 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0197 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.139 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0231 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	0.107 #	0.0409 #	<0.005 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0125 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	2.36 #	0.156 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[i] Sample deviation (see appendix)

Customer Sample Ref			SW205	SW206	SW209	SW301	SW302	SW303
Depth (m)			-	-	-	-	-	-
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327579	29327575	29327581	29327585	29327584	29327582
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0236 #	<0.005 #	0.0226 #	0.0177 #	<0.005 #
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0241 #	<0.005 #	0.0204 #	0.0164 #	<0.005 #
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.00742 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.021 #	<0.005 #	0.0257 #	0.0181 #	<0.005 #
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #	<0.005 #
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #	<0.082 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[i] Sample deviation (see appendix)

Customer Sample Ref			SW304	WS202	WS206	WS206A		
Depth (m)			-	-	-	-		
Sample Type			Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
Date Sampled			02/02/2024	31/01/2024	31/01/2024	31/01/2024		
Sample Time			-	-	-	-		
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024		
SDG Ref			240207-91	240207-91	240207-91	240207-91		
Lab Sample No.(s)			29327583	29327589	29327590	29327591		
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 #	0.0127 #	<0.01 #	<0.01 #		
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0242 #	<0.005 #	0.0335 #		
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0127 #	<0.005 #	0.0261 #		
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	0.0231 #	<0.005 #	0.0357 #		
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	0.00732 #	<0.005 #	0.0166 #		
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	0.0328 #		
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 #	<0.002 #	<0.002 #	<0.002 #		
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 #	<0.005 #	<0.005 #	<0.005 #		
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 #	<0.082 #	<0.082 #	0.145 #		

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	101	103	103	98	99	102
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	298 #	123 #	435 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	258	91	365	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	17	12	49	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	289	115	427	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4 Sample deviation (see appendix)	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SW204
	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	02/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327576
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94	98	90	99	98	103
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW205	SW206	SW209	SW301	SW302	SW303
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327579	29327575	29327581	29327585	29327584	29327582
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	101	101	106	105	105	103
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

TPH CWG (W)

Results Legend	Customer Sample Ref	SW304	WS202	WS206	WS206A		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)	-	-	-	-		
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)		
	Date Sampled	02/02/2024	31/01/2024	31/01/2024	31/01/2024		
	Sample Time	-	-	-	-		
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024		
	SDG Ref	240207-91	240207-91	240207-91	240207-91		
	Lab Sample No.(s)	29327583	29327589	29327590	29327591		
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	102	97	98	97		
GRO >C5-C12 (HS_1D_TOTAL)	<50 µg/l	TM245	<50 #	960 #	<50 #	157 #		
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/l	TM245	<10	914	<10	64		
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/l	TM245	<10	16	<10	57		
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/l	TM245	<10	13	<10	12		
Aliphatics >C10-C12 (HS_1D_AL)	<10 µg/l	TM245	<10	<10	<10	10		
Aliphatics >C12-C16 (aq) (SPECD_AL1_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aliphatics >C16-C21 (aq) (SPECD_AL2_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aliphatics >C21-C35 (aq) (SPECD_AL3_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aliphatics >C12-C35 (aq) (EPHAL12_35T_GC_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10		
Aromatics >EC12-EC16 (aq) (SPECD_AROM1_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC16-EC21 (aq) (SPECD_AROM2_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Aromatics >EC21-EC35 (aq) (SPECD_AROM3_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aromatics >EC12-EC35 (aq) (EPHAR12_35T_GC_W)	<10 µg/l	TM439	<10	<50	<50	<10		
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM439	<10	960	<10	157		

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref			BH201	BH203	BH205	DMW1	DMW2	DMW3
Depth (m)			-	-	-	-	-	-
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327592	29327587	29327588	29327573	29327599	29327597
AGS Reference								
Component	**LOD/Units**	**Method**						
Dibromofluoromethane**	%	TM208	104	108	100	103	102	108
Toluene-d8**	%	TM208	101	111	92.6	89.4	91.9	98.8
4-Bromofluorobenzene**	%	TM208	99.3	98.8	105	100	91.7	97.4
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	421 #	<1 #	<1 #	10.7 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	1.41 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	1.08 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	2.26 #	3.41 #	4.71 #	1.61 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1210 #	513 #	1470 #	161 #	<1 #	1.68 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.61 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	29.3 #	34 #	148 #	7.03 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref			BH201	BH203	BH205	DMW1	DMW2	DMW3
Depth (m)			-	-	-	-	-	-
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
Sample Time			-	-	-	-	-	-
Date Received			07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
SDG Ref			240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
Lab Sample No.(s)			29327592	29327587	29327588	29327573	29327599	29327597
AGS Reference								
Component	**LOD/Units**	**Method**						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH203	BH205	DMW1	DMW2	DMW3
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	31/01/2024	31/01/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327592	29327587	29327588	29327573	29327599	29327597
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327572
	AGS Reference						

Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	101	111	106	102	106	104
Toluene-d8**	%	TM208	105	98.6	92.5	98.9	95.8	99.6
4-Bromofluorobenzene**	%	TM208	108	95.2	116	97.6	103	85.2
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	1.34 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	51 #	4.18 #	<1 #	<1 #	8.39 #	4.03 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	13.4 #	<1 #	<1 #	<1 #	11.4 #	1.2 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327572
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	DMW4	SMW1	SMW2	SMW3	SMW4	SMW1D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024	01/02/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327595	29327569	29327598	29327596	29327594	29327572
	AGS Reference						

Component	LOD/Units	Method					
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited.	Depth (m)	-	-	-	-	-	-
M mCERTS accredited.	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
aq Aqueous / settled sample.	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
(F) Trigger breach confirmed	AGS Reference						
1-4+[@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	102	111	99.9	102	110	104
Toluene-d8**	%	TM208	96.9	95.1	97	81.5	102	98.7
4-Bromofluorobenzene**	%	TM208	102	86.7	108	104	104	99.9
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	1.36 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.98 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	12.7 #	1.28 #	3.22 #	2.12 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	1.05 #	1.19 #	1.05 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	2.14 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited.	Depth (m)	-	-	-	-	-	-
M mCERTS accredited.	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
aq Aqueous / settled sample.	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
diss.filt Dissolved / filtered sample.	Sample Time	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
(F) Trigger breach confirmed	AGS Reference						
1-4+[@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW204	SW205	SW206	SW209	SW301	SW302
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024	02/02/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327576	29327579	29327575	29327581	29327585	29327584
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time	-	-	-	-	-	-
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	104	108		106	106	102
Toluene-d8**	%	TM208	101	101		80.5	90.6	98.9
4-Bromofluorobenzene**	%	TM208	104	107		105	126	102
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1		<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #		4830 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		1.44 #	1.08 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #		<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		6.38 #	<1 #	1.13 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #		3440 #	71.8 #	336 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1		<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.17 #	<1 #		<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #		<1 #	61.5 #	279 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #		1.24 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1		<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #		<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1		<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2		<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5		<5	<5	<5
Dibromofluoromethane**	%	TM208			107 3			
Toluene-d8**	%	TM208			92.8 3			
4-Bromofluorobenzene**	%	TM208			97 3			
Dichlorodifluoromethane	<1 µg/l	TM208			<1 3			
Chloromethane	<1 µg/l	TM208			<1 3			
Vinyl chloride	<1 µg/l	TM208			<1 3			
Bromomethane	<1 µg/l	TM208			<1 3			
Chloroethane	<1 µg/l	TM208			<1 3			
Trichlorofluoromethane	<1 µg/l	TM208			<1 3			
1,1-Dichloroethene	<1 µg/l	TM208			<1 3			
Carbon disulphide	<1 µg/l	TM208			<1 3			
Dichloromethane	<3 µg/l	TM208			<3 3			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208			<1 3			
trans-1,2-Dichloroethene	<1 µg/l	TM208			<1 3			
1,1-Dichloroethane	<1 µg/l	TM208			<1 3			
cis-1,2-Dichloroethene	<1 µg/l	TM208			<1 3			
2,2-Dichloropropane	<1 µg/l	TM208			<1 3			
Bromochloromethane	<1 µg/l	TM208			<1 3			
Chloroform	<1 µg/l	TM208			1.75 3			
1,1,1-Trichloroethane	<1 µg/l	TM208			<1 3			
1,1-Dichloropropene	<1 µg/l	TM208			<1 3			
Carbontetrachloride	<1 µg/l	TM208			<1 3			
1,2-Dichloroethane	<1 µg/l	TM208			<1 3			
Benzene	<1 µg/l	TM208			<1 3			
Trichloroethene	<1 µg/l	TM208			<1 3			
1,2-Dichloropropane	<1 µg/l	TM208			<1 3			
Dibromomethane	<1 µg/l	TM208			<1 3			
Bromodichloromethane	<1 µg/l	TM208			<1 3			
cis-1,3-Dichloropropene	<1 µg/l	TM208			<1 3			
Toluene	<1 µg/l	TM208			<1 3			
trans-1,3-Dichloropropene	<1 µg/l	TM208			<1 3			

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method							
1,1,2-Trichloroethane	<1 µg/l	TM208			<1 3				
1,3-Dichloropropane	<1 µg/l	TM208			<1 3				
Tetrachloroethene	<1 µg/l	TM208			<1 3				
Dibromochloromethane	<1 µg/l	TM208			<1 3				
1,2-Dibromoethane	<1 µg/l	TM208			<1 3				
Chlorobenzene	<1 µg/l	TM208			<1 3				
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208			<1 3				
Ethylbenzene	<1 µg/l	TM208			<1 3				
m,p-Xylene	<1 µg/l	TM208			<1 3				
o-Xylene	<1 µg/l	TM208			<1 3				
Styrene	<1 µg/l	TM208			<1 3				
Bromoform	<1 µg/l	TM208			<1 3				
Isopropylbenzene	<1 µg/l	TM208			<1 3				
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208			<1 3				
1,2,3-Trichloropropane	<1 µg/l	TM208			<1 3				
Bromobenzene	<1 µg/l	TM208			<1 3				
Propylbenzene	<1 µg/l	TM208			<1 3				
2-Chlorotoluene	<1 µg/l	TM208			<1 3				
1,3,5-Trimethylbenzene	<1 µg/l	TM208			<1 3				
4-Chlorotoluene	<1 µg/l	TM208			<1 3				
tert-Butylbenzene	<1 µg/l	TM208			<1 3				
1,2,4-Trimethylbenzene	<1 µg/l	TM208			<1 3				
sec-Butylbenzene	<1 µg/l	TM208			<1 3				
4-iso-Propyltoluene	<1 µg/l	TM208			<1 3				
1,3-Dichlorobenzene	<1 µg/l	TM208			<1 3				
1,4-Dichlorobenzene	<1 µg/l	TM208			<1 3				
n-Butylbenzene	<1 µg/l	TM208			<1 3				
1,2-Dichlorobenzene	<1 µg/l	TM208			<1 3				
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208			<1 3				
1,2,4-Trichlorobenzene	<1 µg/l	TM208			<1 3				
Hexachlorobutadiene	<1 µg/l	TM208			<1 3				
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208			<1 3				
Naphthalene	<1 µg/l	TM208			<1 3				

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Validated

CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

VOC MS (W)

Results Legend	Customer Sample Ref	SW303	SW304	TB	WS202	WS206	WS206A
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Process Water (PR)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	02/02/2024	02/02/2024	31/01/2024	31/01/2024	31/01/2024	31/01/2024
	Sample Time						
	Date Received	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024	07/02/2024
	SDG Ref	240207-91	240207-91	240207-91	240207-91	240207-91	240207-91
	Lab Sample No.(s)	29327582	29327583	29327586	29327589	29327590	29327591
	AGS Reference						

Component	LOD/Units	Method							
1,2,3-Trichlorobenzene	<1 µg/l	TM208			<1 3				
1,3,5-Trichlorobenzene	<1 µg/l	TM208			<1 3				

09:52:40 15/02/2024

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Extractable Petroleum Hydrocarbons (EPH) By GC-FID

EPH (DRO) (C10-C40)

Sample No	Customer Sample Ref.	Depth	Matrix (mg/kg)	EPH	Interpretation
29335405	WS206		ROUND_WATE	128	
29335413	WS202		ROUND_WATE	125	
29335411	SW204		JRFACE_WATE	<100	
29335518	DMW1		ROUND_WATE	<100	
29347719	SMW3		ROUND_WATE	3040	
29335516	DMW3		ROUND_WATE	110	
29335420	SW209		JRFACE_WATE	<100	
29335415	SW206		JRFACE_WATE	103	
29347630	SMW2		ROUND_WATE	216	
29347645	BH201		ROUND_WATE	374	
29335403	SW304		JRFACE_WATE	<100	
29335412	SW205		JRFACE_WATE	<100	
29335401	SW301		JRFACE_WATE	<100	
29347729	SMW1		ROUND_WATE	145	
29335408	WS206A		ROUND_WATE	<100	
29335416	SW303		JRFACE_WATE	<100	
29347655	BH205		ROUND_WATE	<100	
29335407	SW302		JRFACE_WATE	<100	
29347651	BH203		ROUND_WATE	153	
29335517	DMW4		ROUND_WATE	<100	
29347722	DMW2		ROUND_WATE	116	
29347633	SMW4		ROUND_WATE	143	

Extractable Petroleum Hydrocarbons (formally Diesel Range Organics) :- Any compound extractable in n-hexane within the carbon range C10-C40, includes Aliphatic (Min Oil), Aromatic (PAHs) and naturally occurring compounds.

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Table of Results - Appendix

Method No	Description
TM005	Manganese II by spectrophotometer
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM187	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM245	Determination of GRO by Headspace in waters
TM125	Determination of Total/Ferrous Iron
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM110	Redox Potential
TM152	Analysis of Aqueous Samples by ICP-MS
TM172	EPH in Waters
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser

NA = not applicable.
Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Test Completion Dates

Lab Sample No(s)	29327592	29327587	29327588	29327573	29327599	29327597	29327595	29327569	29327598	29327596
Customer Sample Ref.	BH001	BH003	BH005	DMW1	DMW2	DMW3	DMW4	SMW1	SMW2	SMW3
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	
Anions by Kone (w)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	12-Feb-2024	
Determination of Dissolved Gases	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	13-Feb-2024	13-Feb-2024	10-Feb-2024	10-Feb-2024	
Dissolved Inorganic Carbon	14-Feb-2024	15-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	15-Feb-2024	
Dissolved Metals by ICP-MS	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	
Dissolved Organic/Inorganic Carbon	14-Feb-2024	13-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	13-Feb-2024	
Dissolved Oxygen by Titration	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
EPH (DRO) (C10-C40) Aqueous (W)	14-Feb-2024	14-Feb-2024	14-Feb-2024	12-Feb-2024	14-Feb-2024	12-Feb-2024	12-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024
EPH and CWG by FID	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024
GRO by GC-FID (W)	09-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Manganese II	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	10-Feb-2024	
Mercury Dissolved	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	14-Feb-2024	13-Feb-2024
Nitrite by Kone (w)	08-Feb-2024	08-Feb-2024	08-Feb-2024	09-Feb-2024	08-Feb-2024	09-Feb-2024	09-Feb-2024	08-Feb-2024	08-Feb-2024	08-Feb-2024
PAH Spec MS - Aqueous (W)	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	14-Feb-2024	
Phosphate by Kone (w)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
Redox Potential	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	
Sulphide	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	13-Feb-2024	
TPH CWG (W)	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	12-Feb-2024	09-Feb-2024	12-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024

Lab Sample No(s)	29327594	29327572	29327576	29327579	29327575	29327581	29327585	29327584	29327582	29327583
Customer Sample Ref.	SMW8	SMW10	SW004	SW005	SW006	SW009	SW001	SW002	SW003	SW004
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	12-Feb-2024									
Anions by Kone (w)	12-Feb-2024									
Determination of Dissolved Gases	10-Feb-2024									
Dissolved Inorganic Carbon	14-Feb-2024									
Dissolved Metals by ICP-MS	12-Feb-2024									
Dissolved Organic/Inorganic Carbon	14-Feb-2024									
Dissolved Oxygen by Titration	09-Feb-2024									
EPH (DRO) (C10-C40) Aqueous (W)	14-Feb-2024		14-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
EPH and CWG by FID	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron	09-Feb-2024									
GRO by GC-FID (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
Manganese II	10-Feb-2024									
Mercury Dissolved	14-Feb-2024									
Nitrite by Kone (w)	08-Feb-2024									
PAH Spec MS - Aqueous (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value	12-Feb-2024									
Phosphate by Kone (w)	09-Feb-2024									
Redox Potential	09-Feb-2024									
Sulphide	13-Feb-2024									
TPH CWG (W)	12-Feb-2024		12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024	09-Feb-2024

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 Report Number: 720231 Superseded Report: 719930
Client Ref.: 40000324 Location: Cork

Lab Sample No(s)	29327586	29327589	29327590	29327591
Customer Sample Ref.	TB	WS202	WS206	WS206A
AGS Ref.				
Depth				
Type	Process	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen		12-Feb-2024	12-Feb-2024	12-Feb-2024
Anions by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
Determination of Dissolved Gases		10-Feb-2024	10-Feb-2024	13-Feb-2024
Dissolved Inorganic Carbon		15-Feb-2024	14-Feb-2024	15-Feb-2024
Dissolved Metals by ICP-MS		12-Feb-2024	12-Feb-2024	12-Feb-2024
Dissolved Organic/Inorganic Carbon		14-Feb-2024	09-Feb-2024	09-Feb-2024
Dissolved Oxygen by Titration		09-Feb-2024	09-Feb-2024	09-Feb-2024
EPH (DRO) (C10-C40) Aqueous (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
EPH and CWG by FID		12-Feb-2024	12-Feb-2024	12-Feb-2024
Ferrous Iron		09-Feb-2024	09-Feb-2024	09-Feb-2024
GRO by GC-FID (W)		09-Feb-2024	09-Feb-2024	12-Feb-2024
Manganese II		10-Feb-2024	10-Feb-2024	10-Feb-2024
Mercury Dissolved		13-Feb-2024	13-Feb-2024	14-Feb-2024
Nitrite by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
PAH Spec MS - Aqueous (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
pH Value		12-Feb-2024	12-Feb-2024	12-Feb-2024
Phosphate by Kone (w)		09-Feb-2024	09-Feb-2024	09-Feb-2024
Redox Potential		09-Feb-2024	09-Feb-2024	09-Feb-2024
Sulphide		13-Feb-2024	13-Feb-2024	13-Feb-2024
TPH CWG (W)		12-Feb-2024	12-Feb-2024	12-Feb-2024
VOC MS (W)	09-Feb-2024	12-Feb-2024	09-Feb-2024	09-Feb-2024

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CERTIFICATE OF ANALYSIS

SDG: 240207-91 **Report Number:** 720231 **Superseded Report:** 719930
Client Ref: 40000324 **Location:** Cork

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

WSP Ireland Consulting Limited
Town Centre House
Dublin Road
Naas
Co. Kildare
W91 TD0P

Attention: Lukas Pajank

CERTIFICATE OF ANALYSIS

Date of report Generation: 26 October 2023
Customer: WSP Ireland Consulting Limited
Sample Delivery Group (SDG): 230901-53
Your Reference:
Location:
Report No: 708791
Order Number: 28003459

This report has been revised and directly supersedes 706378 in its entirety.

We received 25 samples on Tuesday August 29, 2023 and 24 of these samples were scheduled for analysis which was completed on Monday September 18, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.
The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan
Operations Manager

ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.
Version: 3.6 Version Issued: 26/10/2023

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28565112	BH201			24/08/2023
28565116	BH202			24/08/2023
28565115	BH203			24/08/2023
28565114	BH205			24/08/2023
28565119	GW01			24/08/2023
28565118	GW02			24/08/2023
28565138	NO ID			
28565125	SW201			21/08/2023
28565124	SW202			21/08/2023
28565123	SW203			21/08/2023
28565126	SW204			21/08/2023
28565121	SW205			21/08/2023
28565127	SW206			21/08/2023
28565120	SW209			21/08/2023
28565113	USTN			24/08/2023
28565128	WS201			24/08/2023
28565130	WS204			24/08/2023
28565131	WS205			24/08/2023
28565132	WS206			24/08/2023
28565133	WS207			24/08/2023
28565134	WS208			24/08/2023
28565135	WS209			24/08/2023
28565136	WS210			24/08/2023
28565137	WS206 A			24/08/2023
28565129	WS201 D			24/08/2023

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	28565112	28565116	28565115	28565114
			Customer Sample Reference	BH201	BH202	BH203	BH205
			AGS Reference				
			Depth (m)				
			Container	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24						X					X							X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24			X					X						X						
Anions by Kone (w)	All	NDPs: 0 Tests: 24		X					X						X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24				X					X							X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24			X					X						X						
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	
Fluoride	All	NDPs: 0 Tests: 24		X				X					X									
Free Formaldehyde	All	NDPs: 0 Tests: 24		X				X					X									
Glycols by GC-FID	All	NDPs: 0 Tests: 24	X				X				X				X						X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24				X				X						X						
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24		X				X					X									
Mercury Dissolved	All	NDPs: 0 Tests: 24			X				X						X							
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24				X				X						X						
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24	X				X				X				X						X	

Lab Sample No(s)	28565114					28565119						28565118						28565125			
Customer Sample Reference	BH205					GW01						GW02						SW201			
AGS Reference																					
Depth (m)																					
Container	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW
					X						X						X				
		X						X						X						X	
	X						X						X						X		
				X						X						X					
			X						X						X						X
						X						X						X			
						X						X						X			
	X						X						X						X		
	X						X						X						X		
						X						X						X			
					X						X						X				
	X						X						X						X		
			X						X						X						X
				X						X						X					
						X						X						X			

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565112						28565116						28565115						28565114
Customer Sample Reference			BH201						BH202						BH203						BH205
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X						X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24		X						X						X					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24	X						X						X						X
TPH CWG (W)	All	NDPs: 0 Tests: 24	X						X						X						X
VOC MS (W)	All	NDPs: 0 Tests: 24						X						X						X	

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Lab Sample No(s)					28565114						28565119						28565118				28565125
Customer Sample Reference					BH205						GW01						GW02				SW201
AGS Reference																					
Depth (m)																					
Container	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	SW	SW	SW	SW
						X						X						X			
	X						X						X						X		
						X						X						X			
						X						X						X			
					X						X						X				

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)				28565125						28565124						28565123					28565126
Customer Sample Reference				SW201						SW202						SW203					SW204
AGS Reference																					
Depth (m)																					
Container			NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24		X						X						X					
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24					X						X						X		
Anions by Kone (w)	All	NDPs: 0 Tests: 24				X						X						X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24	X						X						X						X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24						X						X						X	
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24			X						X						X				
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24			X						X						X				
Fluoride	All	NDPs: 0 Tests: 24				X						X						X			
Free Formaldehyde	All	NDPs: 0 Tests: 24				X						X						X			
Glycols by GC-FID	All	NDPs: 0 Tests: 24			X						X						X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24		X						X						X					
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24				X						X						X			
Mercury Dissolved	All	NDPs: 0 Tests: 24						X						X						X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24	X						X						X						X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24			X						X						X				

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28565126						28565121						28565127						28565120		28565113
SW204						SW205						SW206						SW209		USTN
Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW
X						X						X						X		
			X						X						X					
		X						X						X						X
					X						X						X			
				X						X						X				
	X						X						X						X	
	X						X						X						X	
		X						X						X						X
		X						X						X						X
	X						X						X						X	
X						X						X						X		
		X						X						X						X
				X						X						X				
					X						X						X			
	X						X						X						X	

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)				28565125						28565124						28565123					28565126
Customer Sample Reference				SW201						SW202						SW203					SW204
AGS Reference																					
Depth (m)																					
Container			NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24			X						X						X				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24				X						X						X			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24			X						X						X				
TPH CWG (W)	All	NDPs: 0 Tests: 24			X						X						X				
VOC MS (W)	All	NDPs: 0 Tests: 24		X						X						X					

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Lab Sample No(s)	28565126						28565121						28565127						28565120	28565113	
Customer Sample Reference	SW204						SW205						SW206						SW209	USTN	
AGS Reference																					
Depth (m)																					
Container	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	SW	GW	GW
		X						X						X						X	
			X						X						X						X
		X						X						X						X	
		X						X						X						X	
	X						X						X						X		

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 | Report Number: 708791 | Superseded Report: 706378
Client Ref.: | Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

		Lab Sample No(s)				28565113						28565128						28565130			28565131
		Customer Sample Reference				USTN						WS201						WS204			WS205
		AGS Reference																			
		Depth (m)																			
		Container	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)
		Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24				X						X						X			
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24	X						X						X						X
Anions by Kone (w)	All	NDPs: 0 Tests: 24						X						X						X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24			X						X						X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24		X						X						X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24					X						X						X		
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24					X						X						X		
Fluoride	All	NDPs: 0 Tests: 24						X						X						X	
Free Formaldehyde	All	NDPs: 0 Tests: 24						X						X						X	
Glycols by GC-FID	All	NDPs: 0 Tests: 24					X						X						X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24				X						X						X			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24						X						X						X	
Mercury Dissolved	All	NDPs: 0 Tests: 24		X						X						X					
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24			X						X						X				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24					X						X						X		

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Lab Sample No(s)			28565134	28565131	28565132	28565133	28565131	28565130	28565128	28565113
Customer Sample Reference			WS208	WS205	WS206	WS207	WS205	WS204	WS201	USTN
AGS Reference										
Depth (m)										
Container			Vial (ALE297)	NaOH (ALE245)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	500ml Plastic (ALE208)
							500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	NaOH (ALE245)	0.5l glass bottle (ALE227)
							0.5l glass bottle (ALE227)	Vial (ALE297)	Vial (ALE297)	Vial (ALE297)
							Vial (ALE297)	NaOH (ALE245)	500ml Plastic (ALE208)	NaOH (ALE245)
							NaOH (ALE245)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)
							HNO3 Filtered (ALE204)	H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)
							H2SO4 (ALE244)			
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
TPH CWG (W)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X
VOC MS (W)	All	NDPs: 0 Tests: 24	X	X	X	X	X	X	X	X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565131	28565130	28565128	28565113
Customer Sample Reference			WS205	WS204	WS201	USTN
AGS Reference						
Depth (m)						
Container			H2SO4 (ALE244)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)
			HNO3 Filtered (ALE204)	0.5l glass bottle (ALE227)	0.5l glass bottle (ALE227)	0.5l glass bottle (ALE227)
			NaOH (ALE245)	Vial (ALE297)	Vial (ALE297)	Vial (ALE297)
			HNO3 Filtered (ALE204)	NaOH (ALE245)	NaOH (ALE245)	NaOH (ALE245)
			H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)
				H2SO4 (ALE244)	H2SO4 (ALE244)	H2SO4 (ALE244)
Sample Type			GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24		X	X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24		X	X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24		X	X	
TPH CWG (W)	All	NDPs: 0 Tests: 24		X	X	
VOC MS (W)	All	NDPs: 0 Tests: 24		X	X	

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Lab Sample No(s)			28565131						28565132						28565133						28565134
Customer Sample Reference			WS205						WS206						WS207						WS208
AGS Reference																					
Depth (m)																					
Container	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
				X						X						X					
					X						X						X				
				X						X						X					
				X						X						X					
			X						X						X						X

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CERTIFICATE OF ANALYSIS

SDG: 230901-53
Client Ref.:

Report Number: 708791
Location:

Superseded Report: 706378

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)								28565135						28565136					28565137		28565129
Customer Sample Reference								WS209						WS210					WS206 A		WS201 D
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 24						X						X					X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 24			X						X					X					
Anions by Kone (w)	All	NDPs: 0 Tests: 24		X						X					X						X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 24					X						X					X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 24				X						X					X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
Fluoride	All	NDPs: 0 Tests: 24		X						X					X						X
Free Formaldehyde	All	NDPs: 0 Tests: 24		X						X					X						X
Glycols by GC-FID	All	NDPs: 0 Tests: 24	X						X						X					X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 24						X						X					X		
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 24		X						X					X						X
Mercury Dissolved	All	NDPs: 0 Tests: 24				X						X					X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 24					X						X					X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X					X	

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Lab Sample No(s)	28565129			
Customer Sample Reference	WS201 D			
AGS Reference				
Depth (m)				
Container	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)
Sample Type	GW	GW	GW	GW
				X
	X			
			X	
		X		
				X
		X		
			X	

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

Results Legend
X Test
N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28565135						28565136						28565137					28565129	
Customer Sample Reference			WS209						WS210						WS206 A					WS201 D	
AGS Reference																					
Depth (m)																					
Container			0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
PCB Congeners - Aqueous (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 24		X						X					X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 24	X						X						X					X	
TPH CWG (W)	All	NDPs: 0 Tests: 24	X						X						X					X	
VOC MS (W)	All	NDPs: 0 Tests: 24						X						X					X		

							28565129
							WS201 D
							Vial (ALE297)
							NaOH (ALE245)
							HNO3 filtered (ALE204)
							H2SO4 (ALE244)
							GW
							GW
							GW
							GW
							X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4+[i] Sample deviation (see appendix)	Customer Sample Ref Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH201 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565112	BH202 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565116	BH203 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565115	BH205 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565114	GW01 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565119	GW02 Ground Water (GW) 24/08/2023 29/08/2023 230901-53 28565118
Component	**LOD/Units**	**Method**					
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.73 #	1.23 #	3.4 #	4.24 #	3.96 #	3.2 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	1.07 #	<0.5 #	<0.5 #	<0.5 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	13.1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.93 #	2.65 #	2.83 #	0.944 #	4.74 #	5.31 #
Barium (diss.filt)	<0.2 µg/l	TM152	110 #	171 #	31 #	27.3 #	286 #	129 #
Boron (diss.filt)	<10 µg/l	TM152	132 #	136 #	614 #	301 #	240 #	307 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	0.177 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	0.641 #	<0.5 #	1.56 #	<0.5 #	<0.5 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	2.39 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	159 #	554 #	2030 #	3120 #	983 #	9970 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	10.5 #	0.45 #	1.28 #	<0.4 #	1.61 #	1.32 #
Selenium (diss.filt)	<1 µg/l	TM152	1.03 #	<1 #	<1 #	<1 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	529 #	381 #	497 #	692 #	680 #	996 #
Titanium (diss.filt)	<1 µg/l	TM152	9.11 #	10.3 #	12.2 #	12.3 #	13.5 #	10.7 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	9.86 #
Zinc (diss.filt)	<1 µg/l	TM152	928 #	3 #	1.37 #	2.08 #	2.25 #	2.76 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	9.21 #	9.52 #	511 #	336 #	50.2 #	639 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	7.89 #	12.4 #	58.7 #	64.5 #	14.9 #	89.3 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	5.02 #	5.42 #	24.1 #	19.2 #	12.2 #	27.6 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	229 #	159 #	133 #	227 #	241 #	292 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.372 #	4.77 #	3.05 #	6.28 #	13.2 #	5.02 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.054 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	0.919 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	81.6 #	10.1 #	26 #	<2 #	73.2 #	172 #
Chloride	<2 mg/l	TM184	31.2 #	16.7 #	852 #	757 #	105 #	1410 #
Nitrate as NO3	<0.3 mg/l	TM184	0.55 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

09:52:37 26/10/2023

Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.228 #	0.271 #	0.213 #	0.451 #	0.249 #	4.71 #
Fluoride	<0.5 mg/l	TM104	<0.5	<0.5	<0.5	0.68	<0.5	0.756
Aluminium (diss.filt)	<10 µg/l	TM152	12.5 #	<10 #	12.4 #	<60 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	2.54 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.53 #	0.966 #	0.599 #	<3 #	2.21 #	4.19 #
Barium (diss.filt)	<0.2 µg/l	TM152	8.34 #	12.6 #	9.09 #	10.3 #	18.2 #	46.6 #
Boron (diss.filt)	<10 µg/l	TM152	319 #	993 #	411 #	2810 #	83.5 #	1010 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.48 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	<0.5 #	<3 #	0.526 #	<0.5 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.14 #	1.25 #	1.2 #	<1.8 #	0.419 #	1.67 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<1.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	32 #	45.6 #	40.6 #	92.7 #	1330 #	154 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<18 #	<3 #	3.63 #
Nickel (diss.filt)	<0.4 µg/l	TM152	<0.4 #	0.416 #	0.409 #	<2.4 #	<0.4 #	4.34 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<6 #	<1 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	497 #	1840 #	641 #	4280 #	213 #	1950 #
Titanium (diss.filt)	<1 µg/l	TM152	<1 #	2.21 #	<1 #	<6 #	2.5 #	1.74 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<100 #	<1 #	2.87 #
Zinc (diss.filt)	<1 µg/l	TM152	2.9 #	9.21 #	7.55 #	<6 #	3.53 #	44 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	734 #	2410 #	942 #	7600 #	47.6 #	2540 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	95 #	286 #	123 #	855 #	8.42 #	294 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	29.3 #	101 #	38.9 #	251 #	11.3 #	106 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	45.2 #	120 #	55.6 #	281 #	55.9 #	182 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0391 #	0.0326 #	0.0368 #	<0.114 #	0.743 #	0.104 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184	0.067 #	0.095 #	0.063 #	0.096 #	<0.05 #	0.802 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.056 #	0.187 #	0.067 #	0.219 #	0.763 #	1.52 #
Sulphate	<2 mg/l	TM184	196 #	668 #	252 #	1760 #	<2 #	482 #
Chloride	<2 mg/l	TM184	1460 #	5220 #	1900 #	14100 #	88.6 #	3210 #
Nitrate as NO3	<0.3 mg/l	TM184	5.43 #	0.837 #	5.11 #	<0.3 #	<0.3 #	17 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @	<0.05 @	<0.05 @	<0.05 @	<0.05 @	<0.05 @
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4x[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	4.13 #	4.83 #	18.4 #	1.73 #	0.615 #	2.02 #
Fluoride	<0.5 mg/l	TM104	<0.5 #	<0.5 #	0.513 #	<0.5 #	0.876 #	<0.5 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	1.09 #	<1 #	15.2 #	<1 #	2.76 #	<1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	1.66 #	9.32 #	1.68 #	6.37 #	1.01 #	12.9 #
Barium (diss.filt)	<0.2 µg/l	TM152	23.7 #	296 #	112 #	995 #	189 #	108 #
Boron (diss.filt)	<10 µg/l	TM152	392 #	122 #	131 #	327 #	260 #	130 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	0.468 #	<0.08 #	0.301 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	5.21 #	<1 #	<1 #	<1 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5 #	<0.5 #	0.539 #	<0.5 #	<0.5 #	1.45 #
Copper (diss.filt)	<0.3 µg/l	TM152	1.27 #	<0.3 #	2.9 #	<0.3 #	1.18 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	244 #	670 #	133 #	1420 #	134 #	1500 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	5.34 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	1.22 #	<0.4 #	12.5 #	<0.4 #	2.65 #	2.32 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	1.27 #	<1 #
Strontium (diss.filt)	<1 µg/l	TM152	674 #	490 #	516 #	807 #	644 #	410 #
Titanium (diss.filt)	<1 µg/l	TM152	2.74 #	8.59 #	9.54 #	10.6 #	8.11 #	9.32 #
Vanadium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	16.1 #	6.17 #	1120 #	4.04 #	45.4 #	5.02 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	780 #	11 #	9.76 #	171 #	207 #	91.8 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	105 #	5.84 #	8.15 #	35.1 #	30.5 #	17.2 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	37 #	10.7 #	4.9 #	15.6 #	22 #	7.65 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	140 #	156 #	225 #	196 #	199 #	175 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0305 #	3.42 #	0.321 #	6.14 #	1.84 #	26.8 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	0.735 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.516 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184	250 #	<2 #	<2 #	57 #	157 #	84.1 #
Chloride	<2 mg/l	TM184	1600 #	14.4 #	118 #	334 #	388 #	178 #
Nitrate as NO3	<0.3 mg/l	TM184	22.3 #	<0.3 #	<0.3 #	<0.3 #	1.5 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	2.24	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[g] Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	6.06 #	5.07 #	0.633 #	1.99 #	1.26 #	17.2 #
Fluoride	<0.5 mg/l	TM104	0.523 #	0.566 #	<0.5 #	<0.5 #	<0.5 #	0.611 #
Aluminium (diss.filt)	<10 µg/l	TM152	<10 #	16 #	<10 #	<10 #	<10 #	<10 #
Antimony (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	14.1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	5.89 #	8.19 #	2.9 #	1.2 #	<0.5 #	11.2 #
Barium (diss.filt)	<0.2 µg/l	TM152	559 #	181 #	93.5 #	102 #	51.7 #	116 #
Boron (diss.filt)	<10 µg/l	TM152	251 #	118 #	86.1 #	206 #	324 #	149 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #	0.273 #	0.425 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	2.7 #
Cobalt (diss.filt)	<0.5 µg/l	TM152	1.52 #	<0.5 #	1.37 #	<0.5 #	3.16 #	0.582 #
Copper (diss.filt)	<0.3 µg/l	TM152	0.717 #	<0.3 #	0.667 #	<0.3 #	2.43 #	2.5 #
Lead (diss.filt)	<0.2 µg/l	TM152	0.252 #	<0.2 #	0.343 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	1930 #	678 #	744 #	465 #	2170 #	309 #
Molybdenum (diss.filt)	<3 µg/l	TM152	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Nickel (diss.filt)	<0.4 µg/l	TM152	2.98 #	<0.4 #	1.45 #	<0.4 #	3.74 #	11.5 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	1.25 #
Strontium (diss.filt)	<1 µg/l	TM152	764 #	444 #	218 #	373 #	561 #	548 #
Titanium (diss.filt)	<1 µg/l	TM152	14.4 #	10.9 #	5.09 #	6.51 #	4.59 #	10 #
Vanadium (diss.filt)	<1 µg/l	TM152	1.19 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	18.3 #	2.48 #	8.17 #	2.62 #	11.9 #	1040 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152	31.4 #	9.39 #	6.49 #	22.4 #	479 #	10.6 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	20.8 #	8.13 #	4.5 #	15.5 #	65.4 #	8.8 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	15.5 #	11 #	2.3 #	5.44 #	20.7 #	5.99 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152	330 #	171 #	114 #	167 #	157 #	219 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	26.7 #	8.26 #	1.65 #	0.98 #	<0.019 #	4.86 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #	<0.01 #
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	0.056 #	<0.05 #	0.206 #
Sulphate	<2 mg/l	TM184	233 #	21.5 #	4.7 #	47.3 #	96.3 #	73.3 #
Chloride	<2 mg/l	TM184	56.3 #	12.5 #	8 #	38 #	865 #	35.1 #
Nitrate as NO3	<0.3 mg/l	TM184	0.57 #	<0.3 #	<0.3 #	<0.3 #	2.73 #	<0.3 #
PCB congener 28	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 52	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 soil Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
PCB congener 101	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 118	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 138	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 153	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 180	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Sum of detected EC7 PCB's	<0.105 µg/l	TM197	<0.105	<0.105	<0.105	<0.105	<0.105	<0.105
PCB congener 77	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 81	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 105	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 114	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 123	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 126	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 156	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 157	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 167	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 169	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
PCB congener 189	<0.015 µg/l	TM197	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Cyanide, Total	<0.05 mg/l	TM227	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #	<0.05 @ #
Chromium, Hexavalent	<0.03 mg/l	TM241	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #	<0.03 #
Free Formaldehyde	<0.5 mg/l	TM272	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4 soil Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference								
Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)								
Sample Type			Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference								
Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Alcohols/Acetates MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref		WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)							
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference							
Component	LOD/Units	Method					
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	<10	<10	<10
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref		BH201	BH202	BH203	BH205	GW01	GW02
Depth (m)							
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565112	28565116	28565115	28565114	28565119	28565118
AGS Reference							
Component	LOD/Units	Method					
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<3	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Glycols by GC-FID

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Propylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
Ethylene glycol	<5 mg/l	TM194	<5	<5	<5	<5	<5	<5
1,3-Propanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,3-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
1,4-Butanediol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Diethylene glycol	<2 mg/l	TM194	<2	<2	<2	<2	<2	<2
Triethylene glycol	<2 mg/l	TM194	<2	<2	<3	<2	<2	<2

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0591 @#	<0.005 @#	<0.005 @#	0.0086 @#	0.0144 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0105 @#	<0.005 @#	<0.005 @#	0.0292 @#	0.0167 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0051 @#	<0.005 @#	<0.005 @#	0.016 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0067 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0536 @#	0.0239 @#	<0.005 @#	0.057 @#	0.0285 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0074 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	0.128 @#	<0.082 @#	<0.082 @#	0.125 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0964 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0109 @#	<0.005 @#	0.0565 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0094 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	0.0078 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	0.0126 @#	<0.005 @#	0.0537 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	<0.082 @#	<0.082 @#	<0.082 @#	<0.082 @#	0.224 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method					
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	0.0129 @#	0.464 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	0.0095 @#	0.777 @#	0.137 @#	0.193 @#	0.006 @#	<0.005 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.0901 @#	0.008 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.07 @#	1.23 @#	0.162 @#	<0.005 @#	0.005 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0271 @#	0.108 @#	0.0279 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0501 @#	0.503 @#	0.0112 @#	<0.005 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0401 @#	0.15 @#	0.0514 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.529 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.152 @#	1.18 @#	0.139 @#	0.0125 @#	0.0099 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.449 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.899 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.28 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	0.669 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.106 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.589 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	0.537 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082 @#	1.13 @#	7.91 @#	0.593 @#	<0.082 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

PAH Spec MS - Aqueous (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference								
Component	**LOD/Units**	**Method**						
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#	<0.01 @#
Acenaphthene (aq)	<0.005 µg/l	TM178	0.211 @#	0.465 @#	<0.005 @#	0.352 @#	<0.005 @#	<0.005 @#
Acenaphthylene (aq)	<0.005 µg/l	TM178	0.0054 @#	0.006 @#	<0.005 @#	0.0075 @#	<0.005 @#	<0.005 @#
Fluoranthene (aq)	<0.005 µg/l	TM178	0.106 @#	0.108 @#	0.005 @#	0.0792 @#	<0.005 @#	<0.005 @#
Anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0181 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0086 @#	0.0064 @#	<0.005 @#	<0.005 @#	<0.005 @#
Fluorene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0112 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Chrysene (aq)	<0.005 µg/l	TM178	<0.005 @#	0.0052 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Pyrene (aq)	<0.005 µg/l	TM178	0.123 @#	0.0945 @#	0.0083 @#	0.133 @#	<0.005 @#	<0.005 @#
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#	<0.002 @#
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#	<0.005 @#
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	0.446 @#	0.716 @#	<0.082 @#	0.572 @#	<0.082 @#	<0.082 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref			BH201	BH202	BH203	BH205	GW01	GW02
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565112	28565116	28565115	28565114	28565119	28565118
AGS Reference								
Component	**LOD/Units**	**Method**						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Azobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Acenaphthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4 @#	<4 @#	<2 @#	<4 @#	<8 @#	<4 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref		BH201	BH202	BH203	BH205	GW01	GW02
Depth (m)							
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565112	28565116	28565115	28565114	28565119	28565118
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Carbazole (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Chrysene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10 @#	<10 @#	<5 @#	<10 @#	<20 @#	<10 @#
Fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Fluorene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
Phenol (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Naphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Isophorone (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	<2	<1	<2	<4	<2
Phenanthrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
Pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<1 @#	<2 @#	<4 @#	<2 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<20	<20	<10	<20	<40	<20

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref		SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)							
Sample Type		Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled		21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Azobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Acenaphthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 @#	<20 @#	<4 @#	<16 @#	<4 @#	<8 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#

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VOLUME III LRD EIAR APPENDICES

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.fil Dissolved / filtered sample.
tot.unfilTotal / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[j] Sample deviation (see appendix)

Customer Sample Ref		SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)							
Sample Type		Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled		21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Carbazole (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Chrysene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 @#	<50 @#	<10 @#	<40 @#	<10 @#	<20 @#
Fluoranthene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Fluorene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Phenol (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Naphthalene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Isophorone (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<10	<2	<8	<2	<4
Phenanthrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
Pyrene (aq)	<1 µg/l	TM176	<1 @#	<10 @#	<2 @#	<8 @#	<2 @#	<4 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<10	<100	<20	<80	<20	<40

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Customer Sample Ref		SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)							
Sample Type		Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time							
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Azobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Acenaphthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4 @#	<4 @#	<100 @#	<8 @#	<4 @#	<8 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[g] Sample deviation (see appendix)

Customer Sample Ref		SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)		-	-	-	-	-	-
Sample Type		Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time		-	-	-	-	-	-
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference							
Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Carbazole (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Chrysene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10 @#	<10 @#	<250 @#	<20 @#	<10 @#	<20 @#
Fluoranthene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Fluorene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Phenol (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Naphthalene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Isophorone (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	<2	<50	<4	<2	<4
Phenanthrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
Pyrene (aq)	<1 µg/l	TM176	<2 @#	<2 @#	<50 @#	<4 @#	<2 @#	<4 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<20	<20	<500	<40	<20	<40

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Validated

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[g] Sample deviation (see appendix)

Customer Sample Ref		WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)		-	-	-	-	-	-
Sample Type		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled		24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time		-	-	-	-	-	-
Date Received		29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref		230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)		28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference							
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Chlorophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Nitroaniline (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
2-Nitrophenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
3-Nitroaniline (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Chloroaniline (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Methylphenol (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Nitroaniline (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
4-Nitrophenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Azobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Acenaphthylene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Acenaphthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<8 @#	<4 @#	<2 @#	<2 @#	<2 @#	<4 @#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

SVOC MS (W) - Aqueous

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Carbazole (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Chrysene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dibenzofuran (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Diethyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<20 @#	<10 @#	<5 @#	<5 @#	<5 @#	<10 @#
Fluoranthene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Fluorene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Pentachlorophenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Phenol (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachloroethane (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Nitrobenzene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Naphthalene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Isophorone (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<4	<2	<1	<1	<1	<2
Phenanthrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
Pyrene (aq)	<1 µg/l	TM176	<4 @#	<2 @#	<1 @#	<1 @#	<1 @#	<2 @#
SVOC TIC (aq)		TM176	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @	Not Detected @
Total SVOC TIC	<10 µg/l	TM176	<40	<20	<10	<10	<10	<20

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[g] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time	-	-	-	-	-	-
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	96	88	93	108	114	100
GRO >C5-C12	<50 µg/l	TM245	867 #	<50 #	4490 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	796	<10	4220	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	42	<10	182	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	11	<10	26	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	30	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	17	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	20	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	867	<10	4490	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 [j] Sample deviation (see appendix)

Customer Sample Ref			SW201	SW202	SW203	SW204	SW205	SW206
Depth (m)								
Sample Type			Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565125	28565124	28565123	28565126	28565121	28565127
AGS Reference								
Component	**LOD/Units**	**Method**						
GRO Surrogate % recovery**	%	TM245	94 @	97 @	102 @	96 @	105 @	99 @
GRO >C5-C12	<50 µg/l	TM245	<50 @ #	<50 @ #	<50 @ #	<50 @ #	<50 @ #	<50 @ #
Aliphatics >C5-C6	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C6-C8	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C8-C10	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C10-C12	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC7-EC8	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC8-EC10	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC10-EC12	<10 µg/l	TM245	<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery.
(F) Trigger breach confirmed
1-4 [j] Sample deviation (see appendix)

Customer Sample Ref			SW209	USTN	WS201	WS204	WS205	WS206
Depth (m)								
Sample Type			Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time								
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565120	28565113	28565128	28565130	28565131	28565132
AGS Reference								
Component	**LOD/Units**	**Method**						
GRO Surrogate % recovery**	%	TM245	99 @	112	100	93	101	102
GRO >C5-C12	<50 µg/l	TM245	<50 @ #	<50 #	206 #	<50 #	<50 #	<50 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10 @	<10	16	<10	<10	<10
Aliphatics >C8-C10	<10 µg/l	TM245	<10 @	<10	46	<10	<10	<10
Aliphatics >C10-C12	<10 µg/l	TM245	<10 @	<10	62	<10	<10	<10
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	105	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	210	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	1940	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	2250	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10 @	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10 @	<10	35	<10	<10	<10
Aromatics >EC10-EC12	<10 µg/l	TM245	<10 @	<10	41	<10	<10	<10
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<50	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<50	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	490	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	490	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	2950	<10	<10	<10
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	2150	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

TPH CWG (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	109	109	105	109	111	84
GRO >C5-C12	<50 µg/l	TM245	<50 #	<50 #	<50 #	<50 #	834 #	235 #
Aliphatics >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10	487	<10
Aliphatics >C6-C8	<10 µg/l	TM245	<10	<10	<10	<10	325	21
Aliphatics >C8-C10	<10 µg/l	TM245	<10	<10	<10	<10	<10	55
Aliphatics >C10-C12	<10 µg/l	TM245	<10	<10	<10	<10	<10	68
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/l	TM245	<10	<10	<10	<10	<10	36
Aromatics >EC10-EC12	<10 µg/l	TM245	<10	<10	<10	<10	<10	45
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174	<10	<10	<10	<10	834	235
Aliphatics >C16-C35 Aqueous	<10 µg/l	TM174	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[j] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	103	117	116	100	111	109
Toluene-d8**	%	TM208	99.3	99	97.6	100	99.2	99.2
4-Bromofluorobenzene**	%	TM208	95.9	98.6	98.4	96.7	96.2	97.3
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	2.08 #	<1 #	5490 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	1.41 #	<1 #	6.03 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	4.01 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	5.28 #	<1 #	41.8 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	2010 #	6.44 #	21900 #	<1 #	<1 #	3.49 #
2,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	81.1 #	<1 #	575 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	1.4 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<2 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	BH201	BH202	BH203	BH205	GW01	GW02
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565112	28565116	28565115	28565114	28565119	28565118
	AGS Reference						

Component	LOD/Units	Method					
VOC TIC		TM208	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	<10	<10	<10	<10	<10

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	111	115	103	108	102	110
Toluene-d8**	%	TM208	98.1	97.2	99.2	98.8	100	98.7
4-Bromofluorobenzene**	%	TM208	97.8	99	98.1	97.8	99.2	98.4
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.22 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.84 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.93 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[@ Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.26 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW201	SW202	SW203	SW204	SW205	SW206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
	Date Sampled	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023	21/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565125	28565124	28565123	28565126	28565121	28565127
	AGS Reference						

Component	LOD/Units	Method						
VOC TIC		TM208	Not Detected	Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	24	<10	<10	<10	<10
Mixed Hydrocarbons	µg/l	TM208		24				

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fil Dissolved / filtered sample. tot.unfilTotal / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4w[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	101	102	113	112	100	97.7
Toluene-d8**	%	TM208	100	99.1	98.3	98.2	99.5	99.8
4-Bromofluorobenzene**	%	TM208	98.1	96.2	98.2	98.2	96.9	95.2
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	291 #	27.3 #	<1 #	6.12 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	1.41 #	<1 #	8.35 #	32.6 #	2.42 #	58 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	1.3 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	1.26 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.51 #	2.22 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	1.16 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	1.05 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	2.51 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	1.61 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	1.35 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	2.63 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	7.7 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	2.42 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	SW209	USTN	WS201	WS204	WS205	WS206
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a]l Sample deviation (see appendix)	Depth (m)	-	-	-	-	-	-
	Sample Type	Surface Water (SW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	21/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565120	28565113	28565128	28565130	28565131	28565132
	AGS Reference						

Component	LOD/Units	Method						
VOC TIC		TM208	Not Detected	Not Detected	Detected	Not Detected	Not Detected	Not Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	3.56	<2	<2	<2
Sum of BTEX	<5 µg/l	TM208	<5	<5	5.98	<5	<5	<5
Total VOC TIC	<10 µg/l	TM208	<10	<10	12	<10	<10	<10
Isomer of Benzene, Trimethyl-	µg/l	TM208			12			

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref			WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time			-	-	-	-	-	-
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference								
Component	**LOD/Units**	**Method**						
Dibromofluoromethane**	%	TM208	94.1	99.4	103	97.8	106	107
Toluene-d8**	%	TM208	100	99.3	99.3	99.3	98.9	99.7
4-Bromofluorobenzene**	%	TM208	96.4	95.1	96.6	96.6	97.1	98.8
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1190 #
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.42 #	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	5.66 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	5.44 #	<1 #	1220 #	40.3 #
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.42 #
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	3.44 #	<1 #	798 3 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.99 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[@ Sample deviation (see appendix)

Customer Sample Ref			WS207	WS208	WS209	WS210	WS206 A	WS201 D
Depth (m)								
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
Sample Time			-	-	-	-	-	-
Date Received			29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
SDG Ref			230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
Lab Sample No.(s)			28565133	28565134	28565135	28565136	28565137	28565129
AGS Reference								
Component	**LOD/Units**	**Method**						
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.74 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.05 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.56 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.57 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.8 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	13.3 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.31 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	1.3 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

VOC MS (W)

Results Legend	Customer Sample Ref	WS207	WS208	WS209	WS210	WS206 A	WS201 D
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4+[a] Sample deviation (see appendix)	Depth (m)						
	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
	Date Sampled	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023	24/08/2023
	Sample Time						
	Date Received	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023	29/08/2023
	SDG Ref	230901-53	230901-53	230901-53	230901-53	230901-53	230901-53
	Lab Sample No.(s)	28565133	28565134	28565135	28565136	28565137	28565129
	AGS Reference						
Component	LOD/Units	Method					
VOC TIC		TM208	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Detected
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2	<2	<2	5.79
Sum of BTEX	<5 µg/l	TM208	<5	<5	<5	<5	<5	9.2
Total VOC TIC	<10 µg/l	TM208	<10	<10	<10	<10	<10	27
Isomers of Benzene, trimethyl-	µg/l	TM208						27

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Data Amendment

Sample No. :	28565113	Date of Amendment :	05/10/2023	
Sample Ref.	Reason		Previous	Amended
USTN	Sample ID Change		GW01	USTN
Sample No. :	**28565114**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
BH205	Sample ID Change		GW02	BH205
Sample No. :	**28565115**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
BH203	Sample ID Change		GW03	BH203
Sample No. :	**28565118**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
GW02	Sample ID Change		BH203	GW02
Sample No. :	**28565119**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
GW01	Sample ID Change		BH205	GW01
Sample No. :	**28565120**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW209	Sample ID Change		SW01	SW209
Sample No. :	**28565121**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW205	Sample ID Change		SW02	SW205
Sample No. :	**28565123**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW203	Sample ID Change		SW03	SW203
Sample No. :	**28565124**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW202	Sample ID Change		SW04	SW202
Sample No. :	**28565125**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW201	Sample ID Change		SW05	SW201
Sample No. :	**28565126**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW204	Sample ID Change		SW06	SW204
Sample No. :	**28565127**	**Date of Amendment :**	**05/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW206	Sample ID Change		SW07	WS206
Sample No. :	**28565127**	**Date of Amendment :**	**26/10/2023**	
Sample Ref.	Reason		Previous	Amended
SW206	Sample ID Change		WS206	SW206

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Client Ref.: Location:

Table of Results - Appendix

Method No	Description
TM104	Determination of Fluoride using the Kone Analyser
TM174	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM194	Determination of Glycols in Liquid Matrices by Direct Injection Gas Chromatography
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM232	Determination of Volatile Alcohols, Acetates and Ketones in Waters by Headspace GC-MS
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM099	Determination of Ammonium in Water Samples using the Kone Analyser
TM176	Determination of SVOCs in Water by GCMS
TM197	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Waters
TM272	Determination of Free Formaldehyde in waters using Dr Lange test kit

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

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CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378

Client Ref.: Location:

Test Completion Dates

Lab Sample No(s)	28565112	28565116	28565115	28565114	28565119	28565118	28565125	28565124	28565123	28565126
Customer Sample Ref.	BH001	BH002	BH003	BH005	GW01	GW02	SW201	SW202	SW203	SW204
AGS Ref.										
Depth										
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water	Surface Water	Surface Water	Surface Water
Alcohols/Acetates MS (W)	11-Sep-2023	11-Sep-2023	11-Sep-2023	11-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp,Free/Total/Thiocyanate	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023
PCB Congeners - Aqueous (W)	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023	07-Sep-2023	18-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	18-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	07-Sep-2023	05-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023

Lab Sample No(s)	28565121	28565127	28565120	28565113	28565128	28565130	28565131	28565132	28565133	28565134
Customer Sample Ref.	SW205	SW206	SW208	LISTN	WS201	WS204	WS205	WS206	WS207	WS208
AGS Ref.										
Depth										
Type	Surface Water	Surface Water	Surface Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alcohols/Acetates MS (W)	11-Sep-2023	12-Sep-2023	11-Sep-2023	11-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp/Free/Total/Thiocyanate	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	06-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023
PCB Congeners - Aqueous (W)	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	18-Sep-2023	07-Sep-2023	18-Sep-2023	18-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023	04-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	07-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	07-Sep-2023	05-Sep-2023	07-Sep-2023	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023

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Client Ref.: Location:

Lab Sample No(s)	28565135	28565136	28565137	28565129
Customer Sample Ref.	WS09	WS10	WS06 A	WS01 D
AGS Ref.				
Depth				
Type	Ground Water	Ground Water	Ground Water	Ground Water
Alcohols/Acetates MS (W)	12-Sep-2023	12-Sep-2023	12-Sep-2023	12-Sep-2023
Ammoniacal Nitrogen	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Anions by Kone (w)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Cyanide Comp.Free/Total/Thiocyanate	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Dissolved Metals by ICP-MS	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023
EPH CWG (Aliphatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
EPH CWG (Aromatic) Aqueous GC (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
Fluoride	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Free Formaldehyde	06-Sep-2023	06-Sep-2023	06-Sep-2023	06-Sep-2023
Glycols by GC-FID	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
GRO by GC-FID (W)	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Hexavalent Chromium (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
Mercury Dissolved	05-Sep-2023	05-Sep-2023	05-Sep-2023	05-Sep-2023
Nitrite by Kone (w)	04-Sep-2023	04-Sep-2023	04-Sep-2023	04-Sep-2023
PAH Spec MS - Aqueous (W)	07-Sep-2023	08-Sep-2023	07-Sep-2023	07-Sep-2023
PCB Congeners - Aqueous (W)	07-Sep-2023	18-Sep-2023	07-Sep-2023	07-Sep-2023
Phosphate by Kone (w)	01-Sep-2023	01-Sep-2023	01-Sep-2023	01-Sep-2023
SVOC MS (W) - Aqueous	08-Sep-2023	08-Sep-2023	08-Sep-2023	08-Sep-2023
TPH CWG (W)	07-Sep-2023	07-Sep-2023	07-Sep-2023	07-Sep-2023
VOC MS (W)	05-Sep-2023	05-Sep-2023	06-Sep-2023	06-Sep-2023

CERTIFICATE OF ANALYSIS

SDG: 230901-53 Report Number: 708791 Superseded Report: 706378
Client Ref: Location:

Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 15 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. **Sample Deviations**

If a sample is classed as deviated then the associated results may be compromised.

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Matrix interference**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
§	**Sampled on date not provided**

20. **Asbestos**

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2021).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

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APPENDIX 10.1

Legislation and Policy

Appendix 10.1 – Legislation and Policy

International Legislation

EU Birds Directive

The Birds Directive constitutes a level of general protection for all wild birds throughout the European Union. Annex I of the Birds Directive includes a total of 194 bird species that are considered rare, vulnerable to habitat changes or in danger of extinction within the European Union. Article 4 establishes that there should be a sustainable management of hunting of listed species, and that any large scale non-selective killing of birds must be outlawed. The Directive requires the designation of Special Protection Areas (SPAs) for: listed and rare species, regularly occurring migratory species and for wetlands which attract large numbers of birds. There are 25 Annex I species that regularly occur in Ireland.

EU Habitats Directive

The Habitats Directive aims to protect some 220 habitats and approx. 1000 species throughout Europe. The habitats and species are listed in the Directives annexes where Annex I covers habitats and Annex II, IV and V cover species. There are 59 Annex I habitats in Ireland and 33 Annex IV species which require strict protection wherever they occur. The Directive requires the designation of Special Areas of Conservation (SACs) for areas of habitat deemed to be of European interest. The SACs together with the SPAs from the Birds Directive from a network of protected sites called Natura 2000.

Bern and Bonn Convention

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1982) was enacted to conserve all species and their habitats. The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention 1979, enacted 1983) was introduced in order to give protection to migratory species across borders in Europe.

Ramsar Convention

The Ramsar Convention on Wetlands is an intergovernmental treaty signed in Ramsar, Iran, in 1971. The treaty is a commitment for national action and international cooperation for the conservation of wetlands and their resources. In Ireland there are currently 45 Ramsar sites which cover a total area of 66,994ha.

Water Framework Directive

The EU Water Framework Directive (WFD) 2000/60/EC is an important piece of environmental legislation which aims to protect and improve water quality. It applies to rivers, lakes, groundwater, estuaries, and coastal waters. The Water Framework Directive was agreed by all individual EU member states in 2000, and its first cycle ran from 2009 – 2015. The Directive runs in 6-year cycles; the second cycle ran from 2016 – 2021, and the current (third) cycle runs from 2022-2027. The aim of the WFD is to prevent any deterioration in the existing status of water quality, including the protection of good and high-water quality status where it exists. The WFD requires member states to manage their water resources on an integrated basis to achieve at least 'good' ecological status, through River Basin Management Plans (RBMP), by 2027.

National Legislation

Wildlife Act 1976 and amendments

The Wildlife Act 1976 was enacted to provide protection to birds, animals, and plants in Ireland and to control activities which may have an adverse impact on the conservation of wildlife. With regard to the listed species, it is an offence to disturb, injure or damage their breeding or resting place wherever these occur without an appropriate licence from the National Parks and Wildlife Service (NPWS). This list includes all wild birds along with their nests and eggs. Intentional destruction of an active nest from the building stage up until the chicks have fledged is an offence. This includes the cutting of hedgerows from the 1st of March to the 31st of August. The act also provides a mechanism to give statutory protection to Natural Heritage Areas (NHAs). The Wildlife Amendment Act 2000 widened the scope of the Act to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act.

The current list of plant species protected by Section 21 of the Wildlife Act, 1976 (and amendments) is set out in the Flora (Protection) Order, 2022 (S.I. No. 235/2022). The Flora (Protection) Order affords protection to several species of plant in Ireland, including 89 vascular plants, 40 mosses, 25 liverworts, 2 stonewort and 1 lichen. This Act makes it illegal for anyone to uproot, cut or damage any of the listed plant species and it also forbids anyone from altering, interfering, or damaging their habitats. This protection is not confined to within designated conservation sites and applies wherever the plants are found.

EU Habitats Directive 1992 and EC (Birds and Natural Habitats) Regulations 2011

The EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive 1992) provides protection to particular species and habitats throughout Europe. The Habitats Directive has been transposed into Irish law through the EC (Birds and Natural Habitats) Regulations 2011.

Annex IV of the EU Habitats Directive provides protection to a number of listed species, wherever they occur. Under Regulation 23 of the Habitats Directive, any person who, in regard to the listed species, "Deliberately captures or kills any specimen of these species in the wild, deliberately disturbs these species particularly during the period of breeding, rearing, hibernation and migration, deliberately takes or destroys eggs from the wild or damages or destroys a breeding site or resting place of such an animal shall be guilty of an offence."

Invasive Species Legislation

Certain plant species and their hybrids are listed as Invasive Alien Plant Species in Part 1 of the Third Schedule of the *European Communities (Birds and Natural Habitats) Regulations* 2011 (SI 477 of 2011, as amended). In addition, soils and other material containing such invasive plant material, are classified in Part 3 of the Third Schedule as vector materials and are subject to the same strict legal controls.

Failure to comply with the legal requirements set down in this legislation can result in either civil or criminal prosecution, or both, with very severe penalties accruing. Convicted parties under the Act can be fined up to €500,000.00, jailed for up to 3 years, or both.

Extracts from the relevant Section s of the regulations are reproduced below.

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"49(2) Save in accordance with a licence granted [by the Department of Arts, Heritage and the Gaeltacht]*, any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in anyplace* [a restricted non-native plant]*, shall be guilty of an offence.*

49(3) … it shall be a defence to a charge of committing an offence under paragraph (1) or (2) to prove that the accused took all reasonable steps and exercised all due diligence to avoid committing the offence.

50(1) Save in accordance with a licence, a person shall be guilty of an offence if he or she […] offers or exposes for sale, transportation, distribution, introduction, or release—
(a) an animal or plant listed in Part 1 or Part 2 of the Third Schedule,
(b) anything from which an animal or plant referred to in subparagraph (a) can be reproduced or propagated, or
(c) a vector material listed in the Third Schedule, in any place in the State specified in the third column of the Third Schedule in relation to such an animal, plant or vector material."

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APPENDIX 10.2

Value of Ecological Resources

Appendix 10.2 – Value of Ecological Resources

The criteria outlined below, taken from the *Guidelines for Assessment of Ecological Impacts of National Road Schemes* published by the NRA, were used for assigning value to designated sites, habitats and species within the Site of the Proposed Development and surrounding area.

Table 10.1. Description of value for ecological resources (NRA, 2009B).

Importance	Criteria
International Importance	- 'European Site' including Special Area of Conservation (SAC), Site of Community Importance (SCI), Special Protection Area (SPA) or proposed Special Area of Conservation. - Proposed Special Protection Area (pSPA). - Site that fulfils the criteria for designation as a 'European Site' (see Annex III of the Habitats Directive, as amended). - Features essential to maintaining the coherence of the Natura 2000 Network - Site containing 'best examples' of the habitat types listed in Annex I of the Habitats Directive. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; and/or o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive - Ramsar Site (Convention on Wetlands of International Importance Especially Waterfowl Habitat 1971). - World Heritage Site (Convention for the Protection of World Cultural & Natural Heritage, 1972). - Biosphere Reserve (UNESCO Man & The Biosphere Programme) - Site hosting significant species populations under the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals, 1979). - Site hosting significant populations under the Berne Convention (Convention on the Conservation of European Wildlife and Natural Habitats, 1979). - Biogenetic Reserve under the Council of Europe. - European Diploma Site under the Council of Europe. - Salmonid water designated pursuant to the European Communities (Quality of Salmonid Waters) Regulations, 1988, (S.I. No. 293 of 1988).
National Importance	- Site designated or proposed as a Natural Heritage Area (NHA). - Statutory Nature Reserve. - Refuge for Fauna and Flora protected under the Wildlife Acts. - National Park. - Undesignated site fulfilling the criteria for designation as a Natural Heritage Area (NHA); Statutory Nature Reserve; Refuge for Fauna and Flora protected under the Wildlife Act; and/or a National Park. - Resident or regularly occurring populations (assessed to be important at the national level) of the following: o Species protected under the Wildlife Acts; and/or o Species listed on the relevant Red Data list. o Site containing 'viable areas' of the habitat types listed in Annex I of the Habitats Directive
County Importance	- Area of Special Amenity. - Area subject to a Tree Preservation Order. - Area of High Amenity, or equivalent, designated under the County Development Plan. - Resident or regularly occurring populations (assessed to be important at the County level) of the following: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive;
	o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; o Species protected under the Wildlife Acts; and/or o Species listed on the relevant Red Data list. o Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfil the criteria for valuation as of International or National importance. - County important populations of species; or viable areas of semi-natural habitats; or natural heritage features identified in the National or Local BAP; if this has been prepared. - Sites containing semi-natural habitat types with high biodiversity in a county context and a high degree of naturalness, or populations of species that are uncommon within the county. - Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
Local Importance (higher value)	- Locally important populations of priority species or habitats or natural heritage features identified in the Local BAP, if this has been prepared; - Resident or regularly occurring populations (assessed to be important at the Local level) of the following: o Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; o Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; o Species protected under the Wildlife Acts; and/or o o Species listed on the relevant Red Data list. o Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or populations of species that are uncommon in the locality; - Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.
Local Importance (lower value)	- Sites containing small areas of semi-natural habitat that are of some local importance for wildlife; - Sites or features containing non-native species that is of some importance in maintaining habitat links.

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APPENDIX 10.3

EPA Impact Assessment Criteria

Appendix 10.3– EPA Impact Assessment Criteria

In line with the draft EPA Guidelines (EPA 2022), the following terms are defined when evaluating and quantifying the quality, significance, extent/context, probability and duration/frequency of effects.

Table 10.3 Definition of quality, significance, extent/context, probability and duration/ frequency of effects

Term	Definition
Quality of Effects	
Positive	A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
Negative/Adverse	A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
Significance of Effects	
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment.
Profound	An effect which obliterates sensitive characteristics. No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error
Extent and Context of Effects	
Extent	Describe the size of the area, the number of sites and the proportion of a population affected by an effect.
Context	Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
Probability of Effects	
Likely	The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
Unlikely	The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
Duration and Frequency of Effects	
Momentary	Effects lasting from seconds to minutes.
Brief	Effects lasting less than a day
Temporary	Effects lasting less than a year.
Short-term	Effects lasting one to seven years.
Medium-term Effects	Effects lasting seven to fifteen years.
Long-term	Effects lasting fifteen to sixty years.
Permanent	Effects lasting over sixty years.
Reversible	Effects that can be undone, for example through remediation or restoration.
Frequency	Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually).

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APPENDIX 10.4

Bird Survey Results (All Species Recorded)

Appendix 10.4 - Bird Survey Results (All Species Records)

Table 10.4. Green-listed birds recorded during Breeding Bird Surveys

Buzzard	*Buteo buteo*	Possible Breeding – Off Site	*BoCCI Green List*
Grey Heron	*Ardea cinerea*	Confirmed Breeding – Off Site	*BoCCI Green List*
Blackbird	*Turdus merula*	Probable Breeding – Off Site	*BoCCI Green List*
Blue Tit	*Cyanistes caeruleus*	Probable Breeding – Off Site	*BoCCI Green List*
Dunnock	*Prunella modularis*	Probable Breeding – Off Site	*BoCCI Green List*
Goldfinch	*Carduelis carduelis*	Probable Breeding – Off Site	*BoCCI Green List*
Great Tit	*Parus major*	Probable Breeding – Off Site	*BoCCI Green List*
Hooded Crow	*Corvus cornix*	Present - Foraging	*BoCCI Green List*
Jackdaw	*Corvus monedula*	Present in flight	*BoCCI Green List*
Pied wagtail	*Motacilla alba*	Probable Breeding – Off Site	*BoCCI Green List*
Raven	*Corvus corax*	Present in flight	*BoCCI Green List*
Robin	*Erithacus rubecula*	Probable Breeding – Off Site	*BoCCI Green List*
Woodpigeon	*Columba palumbus*	Possible Breeding – Off Site	*BoCCI Green List*
Wren	*Troglodytes troglodytes*	Possible Breeding – Off Site	*BoCCI Green List*

Table 10.5. May 2024 Breeding Bird Survey Results

May 2024 Breeding Bird Survey Transect Survey Results		**30/05/2024**			
	Distance Range >	0-25m	25-100m	>100m	**Notes**
Species	**Scientific**	**No.**	**No.**	**No.**	
Grey Heron	*Ardea cinerea*	1			Juv. Landed into marsh area
Herring Gull	*Larus argentatus*		4		In flight to north commuting east
Mallard	*Anas platyrhynchos*	3			On swamp all males
Moorhen	*Gallinula chloropus*	4			Confirmed Breeding. 2 juv. 2 adults calling on marsh
Blackbird	*Turdus merula*	2			
Blue Tit	*Cyanistes caeruleus*	2			

May 2024 Breeding Bird Survey Transect Survey Results	30/05/2024				
	Distance Range >	0-25m	25-100m	>100m	**Notes**
Species	**Scientific**	**No.**	**No.**	**No.**	
Goldcrest	*Regulus regulus*	2			song
Goldfinch	*Carduelis carduelis*	4			
Great Tit	*Parus major*	1			
Hooded Crow	*Corvus cornix*		3		
House Martin	*Delichon urbicum*	4			Foraging south of Site edge
Jackdaw	*Corvus monedula*	2			
Pied wagtail	*Motacilla alba*	1			
Robin	*Erithacus rubecula*		2		

May 2024 Breeding Bird Survey Transect Survey Results	30/05/2024				
	Distance Range >	0-25m	25-100m	>100m	**Notes**
Species	**Scientific**	**No.**	**No.**	**No.**	
Willow Warbler	*Phylloscopus trochilus*		1		
Woodpigeon	*Columba palumbus*	5			
Wren	*Troglodytes troglodytes*	2			

Table 10.6. June 2024 Breeding Bird Survey Results

June 2024 Breeding Bird Survey Transect Survey Results	26/06/2024				
	Distance Range >	0-25m	25-100m	>100m	**Notes**
Species	**Scientific**	**No.**	**No.**	**No.**	
Buzzard	*Buteo buteo*		1		Displaying over areas to the west of the Site and as far east as Atlantic pond and parkland beside stadium. Not associating with the Site or marsh area.

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June 2024 Breeding Bird Survey Transect Survey Results	26/06/2024				
	Distance Range >	0-25m	25-100m	>100m	Notes
Species	Scientific	No.	No.	No.	
Cormorant	*Phalacrocorax carbo*	1			Flew over Site towards Atlantic pond
Herring Gull	*Larus argentatus*	1			Flew westwards over Site
Lesser Black-backed Gull	*Larus fuscus*	1			commuting through area going west
Little Egret	*Egretta garzetta*			2	Feeding on river at Monaghan Road and flying towards Atlantic pond
Mallard	*Anas platyrhynchos*	1			Probable breeding at marsh. Female preening on marsh.
Moorhen	*Gallinula chloropus*	6			Fledged chicks. 4 juv. 2 adults feeding on marsh. Walking along man-made embankment.
Dunnock	*Prunella modularis*	1			
Goldfinch	*Carduelis carduelis*	1			
Hooded Crow	*Corvus cornix*	1			
Pied wagtail	*Motacilla alba*	3			juvs with adult beside marsh
Raven	*Corvus corax*		1		in flight beside stadium going south

June 2024 Breeding Bird Survey Transect Survey Results	26/06/2024				
	Distance Range >	0-25m	25-100m	>100m	Notes
Species	Scientific	No.	No.	No.	
Swallow	*Hirundo rustica*		8		Juvs present associating with stadium
Willow Warbler	*Phylloscopus trochilus*		1		
Woodpigeon	*Columba palumbus*	4	2		

Table 10.7 July 2024 Breeding Bird Survey Results

July 2024 Breeding Bird Survey Transect Survey Results	**31/07/2024**				
	Distance Range >	0-25m	25-100m	>100m	**Notes**
Species	**Scientific**	**No.**	**No.**	**No.**	
Black-headed Gull	*Larus ridibundus*			10	Atlantic pond area.
Grey Heron	*Ardea cinerea*			3	Confirmed breding at Atlantic Pond >500m from Site boundary.
Little Egret	*Egretta garzetta*			2	Confirmed breding at Atlantic Pond >500m from Site boundary.
Mallard	*Anas platyrhynchos*	3			
Moorhen	*Gallinula chloropus*	1			

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APPENDIX 12.1

Construction Phase

CONSTRUCTION PHASE

Table 4

Description		Link										
AM & PM Peak Hours		A	B	C	D	E	F	G	H	I	J	K
2024 Base	AM & PM	332	403	813	1100	895	342	1476	508	705	227	110
	AADT	**1887**	**2290**	**4626**	**6258**	**5092**	**1945**	**8395**	**2887**	**4006**	**1293**	**623**
	% HGV	**1.8%**	**1.5%**	**2.0%**	**6.0%**	**5.6%**	**7.7%**	**2.3%**	**3.0%**	**2.1%**	**0.0%**	**5.5%**
2026 DM (Construction)	AM & PM	343	985	1163	1619	943	360	1930	843	992	235	113
	AADT	**1951**	**5603**	**6616**	**9206**	**5363**	**2045**	**10976**	**4793**	**5644**	**1337**	**645**
	% HGV	**1.8%**	**10.7%**	**7.4%**	**11.2%**	**4.7%**	**8.4%**	**6.4%**	**10.5%**	**13.1%**	**0.0%**	**5.5%**
2026 DS (Construction)	AM & PM	343	1043	1192	1629	958	360	1934	872	1006	247	113
	AADT	**1951**	**5932**	**6781**	**9264**	**5446**	**2045**	**10999**	**4958**	**5720**	**1406**	**645**
	% HGV	**1.8%**	**15.7%**	**9.7%**	**11.7%**	**5.9%**	**9.0%**	**6.6%**	**13.5%**	**13.0%**	**0.0%**	**5.5%**
Approx. Link Length (m)		**50**	**200**	**1000**	**226**	**290**	**244**	**1300**	**152**	**242**	**480**	**208**
Speed (km/h)	Posted	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**50**	**30**	**30**
	85th %ile	-	-	-	-	-	-	-	-	-	-	-

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APPENDIX 12.2

AADTs Operational Phase

OPERATIONAL PHASE

Table 4

Description		Link										
AM & PM Peak Hours		A	B	C	D	E	F	G	H	I	J	K
2024 Base	AM & PM	332	403	813	1100	895	342	1476	508	705	227	110
	AADT	1887	2290	4626	6258	5092	1945	8395	2887	4006	1293	623
	% HGV	1.8%	1.5%	2.0%	6.0%	5.6%	7.7%	2.3%	3.0%	2.1%	0.0%	5.5%
2026 DM	AM & PM	343	985	1163	1619	943	360	1930	843	992	235	113
	AADT	1951	5603	6616	9206	5363	2045	10976	4793	5644	1337	645
	% HGV	1.8%	10.7%	7.4%	11.2%	4.7%	8.4%	6.4%	10.5%	13.1%	0.0%	5.4%
2026 DS	AM & PM	343	1019	1180	1624	943	360	1932	860	999	268	113
	AADT	1951	5794	6712	9233	5363	2045	10987	4888	5678	1523	645
	% HGV	1.8%	10.3%	7.3%	11.1%	3.8%	8.4%	6.3%	10.3%	13.0%	0.0%	5.5%
2031 DM	AM & PM	367	1240	1309	1606	999	383	1940	966	1003	252	121
	AADT	2089	7052	7442	9132	5682	2176	11034	5491	5704	1431	690
	% HGV	1.81%	0.54%	1.40%	4.54%	5.59%	7.67%	1.92%	1.73%	1.66%	0.00%	5.47%
2031 DS	AM & PM	367	1274	1325	1611	999	383	1942	982	1009	252	121
	AADT	2089	7244	7537	9159	5682	2176	11045	5587	5738	1431	690
	% HGV	1.81%	0.52%	1.39%	4.53%	5.59%	7.67%	1.92%	1.70%	1.65%	0.00%	5.47%
2041 DM	AM & PM	588	1283	1392	1718	1091	418	2091	1017	1075	276	133
	AADT	3346	7295	7914	9771	6202	2374	11891	5786	6113	1569	754
	% HGV	1.23%	0.57%	1.44%	4.64%	5.60%	7.67%	1.94%	1.79%	1.69%	0.00%	5.47%
2041 DS	AM & PM	401	1317	1409	1723	1091	418	2093	1034	1081	275	133
	AADT	2281	7487	8010	9798	6202	2374	11902	5882	6147	1563	754
	% HGV	1.81%	0.55%	1.43%	4.62%	5.60%	7.67%	1.94%	1.77%	1.68%	0.00%	5.47%
Approx. Link Length (m)		50	200	1000	226	290	244	1300	152	242	480	208
Speed (km/h)	Posted	50	50	50	50	50	50	50	50	50	30	30
	85th %ile	-	-	-	-	-	-	-	-	-	-	-

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APPENDIX 14.1

Photographic Record

Appendix 14.1: Photographic Record



Plate 14.1 General view of proposed development site from south (visible as raised area of south)



Plate 14.2 View of raised areas of introduced material within central area of proposed development



Plate 14.3 View of raised areas of introduced material within north end of proposed development



Plate 14.4 View of raised areas of introduced material within south end of proposed development

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Plate 14.5 View of hoarding along north side of the proposed development adjacent to Centre Park Road

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