Appendix C2 – March 2023 PFAS ground investigation: Laboratory testing certificates

There are some discrepancies/time delays on some of the ALS laboratory reports presented in this Appendix, which warrant explanation.

A change in the way that PFAS data was processed by the laboratory resulted in some PFOS data being reported at double the true value. Arup was only alerted to this error some weeks after the results had been issued, as it followed a UKAS audit of the laboratory. The laboratory advised that the following analytical reports were affected by this error:

- 230401-54
- 230406-140
- 230524-55
- 230602-42

The affected calculation was later fixed and amended reports re-issued. As the receipt of samples and extraction/analysis had been done within the time permitted by UKAS, ALS were able to correct the errors without affecting the UKAS accreditation of the data. However, there is a significant gap between the date the samples being taken and the date of reporting.

Due to a separate laboratory error, a small number of groundwater samples were not analysed within the required timescale for UKAS accreditation. Replacement groundwater samples were taken and analysed to ensure that accredited data was available. Both sets of analysis are presented in this Appendix, but only the accredited analysis results were used in the risk assessment.

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WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230406-69
Your Reference:	326R
Location:	Victoria North
Report No:	699722
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 690052 in its entirety.

We received 12 samples on Thursday April 06, 2023 and 7 of these samples were scheduled for analysis which was completed on Wednesday May 24, 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

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27806688	TP-EW02		0.50	04/04/2023
27806689	TP-EW02		0.75 - 1.25	04/04/2023
27806690	TP-EW02		1.50	04/04/2023
27806691	TP-EW02		3.00	04/04/2023
27806692	TP-EW04		0.50	04/04/2023
27806693	TP-EW04		1.50	04/04/2023
27806694	TP-EW04		2.00	04/04/2023
27806695	TP-EW05		0.50	04/04/2023
27806696	TP-EW05		0.75	04/04/2023
27806697	TP-EW11		0.50	04/04/2023
27806699	TP-EW11		0.80	04/04/2023
27806698	TP-EW11		0.90	04/04/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

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
			27806694	TP-EW04		2.00	1kg TUB	S
			27806695	TP-EW05		0.50	1kg TUB	S
			27806697	TP-EW11		0.50	1kg TUB	S
			27806698	TP-EW11		0.90	1kg TUB	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 1						X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3	X	X	X			
Metals in solid samples by OES	All	NDPs: 0 Tests: 3	X	X	X			
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 1						X
PFAS Solids	All	NDPs: 0 Tests: 1						X
pH	All	NDPs: 0 Tests: 3	X	X	X			
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3	X	X	X			
Sample description	All	NDPs: 0 Tests: 4	X	X	X			X
Total Organic Carbon	All	NDPs: 0 Tests: 3	X	X	X			

CERTIFICATE OF ANALYSIS

SDG: 230406-69 Report Number: 699722 Superseded Report: 690052
Client Ref.: 326R Location: Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27806694	TP-EW04	2.00	Light Brown	Sandy Clay	Stones	None
27806695	TP-EW05	0.50	Dark Brown	Loamy Sand	Stones	Vegetation
27806697	TP-EW11	0.50	Dark Brown	Loamy Sand	Stones	None
27806698	TP-EW11	0.90	Red	N/A	Brick	Crushed Brick

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW04	TP-EW05	TP-EW11	TP-EW11		
			Depth (m)	2.00	0.50	0.50	0.90		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	04/04/2023	04/04/2023	04/04/2023	04/04/2023		
			Sample Time	.	.	.	.		
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023		
			SDG Ref	230406-69	230406-69	230406-69	230406-69		
			Lab Sample No.(s)	27806694	27806695	27806697	27806698		
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		12	19	21	14		
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M	<0.01 @ M			
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M	<0.01 @ M	<0.01 @ M			
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M	<0.015 @ M	<0.015 @ M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M	<0.035 @ M	<0.035 @ M			
Organic Carbon, Total	<0.2 %	TM132		0.308 @ M	33.5 @ M	30.6 @ M			
pH	1 pH Units	TM133		8.83 @ M	8.29 @ M	8.39 @ M			
Cyanide, Total	<1 mg/kg	TM153		<1 @ M	<1 @ M	<1 @ M			
Antimony	<0.6 mg/kg	TM181		<0.6 #	4.51 #	5.62 #			
Arsenic	<0.6 mg/kg	TM181		8.49 M	26.9 M	30.5 M			
Beryllium	<0.01 mg/kg	TM181		0.982 M	1.48 M	1.86 M			
Cadmium	<0.02 mg/kg	TM181		0.193 M	0.893 M	0.459 M			
Chromium	<0.9 mg/kg	TM181		17 M	1.28 M	2.69 M			
Copper	<1.4 mg/kg	TM181		19.1 M	209 M	180 M			
Lead	<0.7 mg/kg	TM181		13.3 M	116 M	196 M			
Mercury	<0.1 mg/kg	TM181		<0.1 @ M	<0.1 @ M	0.123 @ M			
Nickel	<0.2 mg/kg	TM181		28.8 M	40 M	47.6 M			
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #			
Vanadium	<0.2 mg/kg	TM181		26.1 #	60.7 #	63 #			
Zinc	<1.9 mg/kg	TM181		55.1 M	733 M	211 M			
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338					<3		
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338					<3		
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338					<2		
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338					<1		
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338					<1		
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338					<1		
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338					<1		
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338					<1		
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338					<1		
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338					<1		
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338					<1		
Branched PFOS	<1 µg/kg	TM338					<1		
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338					<1		

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW04	TP-EW05	TP-EW11	TP-EW11		
			Depth (m)	2.00	0.50	0.50	0.90		
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)		
			Date Sampled	04/04/2023	04/04/2023	04/04/2023	04/04/2023		
			Sample Time	.	.	.	.		
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023		
			SDG Ref	230406-69	230406-69	230406-69	230406-69		
			Lab Sample No.(s)	27806694	27806695	27806697	27806698		
			AGS Reference						
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338				<1			
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338				<1			
6:2-FTS (27619-97-2)	<1 µg/kg	TM338				<1			
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338				<1			
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338				<1			
Total PFOS	<1 µg/kg	TM338				<1			
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428				<3			
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428				<3			
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428				<2			
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428				<1			
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428				<1			
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428				<1			
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428				<1			
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428				<1			
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428				<1			
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428				<1			
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428				<1			
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428				<1			
Branched PFOS (Post Ox.)	<1 µg/kg	TM428				<1			
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428				<1			
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428				<1			
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428				<1			
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428				<1			
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428				<1			
Total PFOS (Post Ox.)	<2 µg/kg	TM428				<2			

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref.	TP-EW11	28/04/2023	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Depth (m)	0.90										
Sample Type	SOLID										
Date Sampled	04/04/2023 00:00:00										
Date Receieved	06/04/2023 05:00:00										
SDG	230406-69										
Original Sample	27806698										
Method Number	TM048										

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	UNS solids	Soil
All	Matrix Change	unspecified liquid	ground water

Table of Results - Appendix

Method No	Description
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM048	Identification of Asbestos in Bulk Material
TM062 (S)	Determination of Phenols in Soils by HPLC
TM153	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230406-69 **Report Number:** 699722 **Superseded Report:** 690052
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27806694	27806695	27806697	27806698
Customer Sample Ref.	TP-EW04	TP-EW05	TP-EW11	TP-EW11
AGS Ref.				
Depth	2.00	0.50	0.50	0.90
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Asbestos ID in Solid Samples				28-Apr-2023
Cyanide Comp/Free/Total/Thiocyanate	24-May-2023	24-May-2023	24-May-2023	
Metals in solid samples by OES	23-May-2023	23-May-2023	24-May-2023	
PFAS (Post Ox.) Solids				23-May-2023
PFAS Solids				22-May-2023
pH	22-May-2023	22-May-2023	22-May-2023	
Phenols by HPLC (S)	23-May-2023	23-May-2023	23-May-2023	
Sample description	19-May-2023	19-May-2023	19-May-2023	15-Apr-2023
Total Organic Carbon	23-May-2023	23-May-2023	24-May-2023	

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 one month 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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email: hawardencustomerservices@alsglobal.com
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BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230406-140
Your Reference:	326R
Location:	Victoria North
Report No:	699672
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 697560 in its entirety.

We received 9 samples on Thursday April 06, 2023 and 8 of these samples were scheduled for analysis which was completed on Tuesday July 11, 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

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27810597	TP CS6		0.50	06/04/2023
27810598	TP CS6		1.00	06/04/2023
27810599	TP CS9		0.50	06/04/2023
27810600	TP CS9		1.50	06/04/2023
27810602	TP CS9		3.10	06/04/2023
27810601	TP CS9		3.50	06/04/2023
27810603	TP CS9(A)		0.35	06/04/2023
27810604	TP CS9(A)		0.45 - 0.75	06/04/2023
27810607	TP CS9(A)		2.50	06/04/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

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)			27810597	27810598		27810599	27810600	27810602	27810601	27810604		27810607	
Customer Sample Reference			TP CS6	TP CS6		TP CS9	TP CS9	TP CS9	TP CS9	TP CS9(A)		TP CS9(A)	
AGS Reference													
Depth (m)			0.50	1.00		0.50	1.50	3.10	3.50	0.45 - 0.75		2.50	
Container			1kg TUB	1kg TUB	250g Amber Jar (ALE210)	1kg TUB	1kg TUB	500ml Plastic (ALE208)	1kg TUB	1kg TUB	250g Amber Jar (ALE210)	1kg TUB	250g Amber Jar (ALE210)
Sample Type			S	S	S	S	S	GW	S	S	S	S	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2	X			X							
EPH CWG GC (S)	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 1						X					
PFAS solids	All	NDPs: 0 Tests: 6	X	X		X			X	X		X	
Sample description	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X
VOC MS (S)	All	NDPs: 0 Tests: 7	X		X	X	X		X		X		X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27810597	TP CS6	0.50	Dark Brown	Loamy Sand	Concrete/Aggregate	Vegetation
27810598	TP CS6	1.00	Dark Brown	Sand	Stones	Oil/Petroleum
27810599	TP CS9	0.50	Dark Brown	Sandy Loam	Stones	Concrete/Aggregate
27810600	TP CS9	1.50	Light Brown	Silty Clay	Stones	Vegetation
27810601	TP CS9	3.50	Dark Brown	Silty Clay	None	None
27810604	TP CS9(A)	0.45 - 0.75	Dark Brown	Sandy Silt Loam	Stones	Vegetation
27810607	TP CS9(A)	2.50	Light Brown	Clay	Vegetation	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9
			Depth (m)	0.50	1.00	0.50	1.50	3.10	3.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810602	27810601
			AGS Reference						
PFBA (375-22-4)	<0.000002 mg/l	TM434						0.000031 #	
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434						<0.00001 #	
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434						<0.00002 #	
PFPA (2706-90-3)	<0.000001 mg/l	TM434						0.000025 #	
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434						<0.00001 #	
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434						<0.00001 #	
NFDHA (151772-58-6)	<0.000003 mg/l	TM434						<0.00003 #	
PFBS (375-73-5)	<0.000001 mg/l	TM434						<0.00001 #	
PFHxA (307-24-4)	<0.000001 mg/l	TM434						0.000019 #	
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434						<0.00002 #	
PFEESA (113507-82-7)	<0.000001 mg/l	TM434						<0.00001 #	
PFHpA (375-85-9)	<0.000001 mg/l	TM434						0.000016 #	
PFPeS (2706-91-4)	<0.000001 mg/l	TM434						<0.00001 #	
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434						<0.00005 #	
ADONA (919005-14-4)	<0.000001 mg/l	TM434						<0.00001 #	
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434						<0.00001 #	
FBSA (30334-69-1)	<0.000001 mg/l	TM434						<0.00001 #	
PFOA (335-67-1)	<0.000001 mg/l	TM434						0.000029 #	
PFHxS (355-46-4)	<0.000001 mg/l	TM434						<0.00001 #	
PFNA (375-95-1)	<0.000001 mg/l	TM434						<0.00001 #	
PFecHS (133201-07-7)	<0.000001 mg/l	TM434						<0.00001 #	
PFHpS (375-92-8)	<0.000001 mg/l	TM434						<0.00001 #	
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434						<0.00002 #	
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434						<0.00005 #	
PFDA (335-76-2)	<0.000002 mg/l	TM434						<0.00002 #	
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434						<0.00002 #	
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434						<0.00005 #	
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434						0.000015 #	
Branched PFOS	<0.000001 mg/l	TM434						0.000007 #	
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434						<0.00002 #	
PFUnA (2058-94-8)	<0.000002 mg/l	TM434						<0.00002 #	
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434						<0.00001 #	
PFNS (68259-12-1)	<0.000001 mg/l	TM434						<0.00001 #	

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

Results Legend	Customer Sample Ref.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9
# 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	Depth (m)	0.50	1.00	0.50	1.50	3.10	3.50
(F) Trigger breach confirmed	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)
1-4♦§@ Sample deviation (see appendix)	Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
	Sample Time	.	.	.	.	.	.
	Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
	SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
	Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810602	27810601
	AGS Reference						

Component	LOD/Units	Method						
FHxSA (41997-13-1)	<0.000001 mg/l	TM434					<0.00001 #	
PFDoA (307-55-1)	<0.000002 mg/l	TM434					<0.00002 #	
PFDS (335-77-3)	<0.000002 mg/l	TM434					<0.00002 #	
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434					<0.00003 #	
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434					<0.00002 #	
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434					<0.00002 #	
PFTeA (376-06-7)	<0.000001 mg/l	TM434					<0.00001 #	
PFOSA (754-91-6)	<0.000002 mg/l	TM434					<0.00002 #	
PFDoS (79780-39-5)	<0.000002 mg/l	TM434					<0.00002 #	
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434					<0.00001 #	
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434					<0.00001 #	
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434					<0.0001 #	
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434					<0.00001 #	
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434					<0.0001 #	
PFODA (16517-11-6)	<0.000001 mg/l	TM434					<0.00001 #	
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434					<0.00001 #	
Total PFOS	<0.000001 mg/l	TM434					0.000022 #	
Moisture Content Ratio (% of as received sample)	%	PM024	22	40	7.4	8.9		9.1
Arsenic	<0.6 mg/kg	TM181	31.9 M	20.1 M	5.84 M	6.6 M		14.5 M
Cadmium	<0.02 mg/kg	TM181	1.39 M	2.86 M	2.22 M	0.0627 M		<0.02 M
Chromium	<0.9 mg/kg	TM181	<9 M	<0.9 M	6.15 M	8.1 M		4.77 M
Copper	<1.4 mg/kg	TM181	380 M	447 M	28.8 M	13.5 M		9.13 M
Lead	<0.7 mg/kg	TM181	339 M	373 M	53.4 M	11.7 M		15 M
Mercury	<0.1 mg/kg	TM181	<1 M	0.68 M	0.9 M	<0.1 M		<0.1 M
Nickel	<0.2 mg/kg	TM181	38 M	165 M	12 M	17 M		25.4 M
Selenium	<1 mg/kg	TM181	<10 #	5.82 #	1.17 #	<1 #		<1 #
Zinc	<1.9 mg/kg	TM181	264 M	1780 M	170 M	85.6 M		36.4 M
4:2 FTS (757124-72-4)	<2 µg/kg	TM338	<2	<2	<2			<2
8:2 FTS (39108-34-4)	<2 µg/kg	TM338	<2	<2	<2			<2
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338	<20	<20	<20			<20
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338	<3	<3	<3			<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338	<3	<3	<3			<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338	<2	<2	<2			<2

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9
			Depth (m)	0.50	1.00	0.50	1.50	3.10	3.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810602	27810601
			AGS Reference						
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1	<1			<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1	<1			<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1	<1			<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		1.87	<1	<1			<1
Branched PFOS	<1 µg/kg	TM338		<1	<1	<1			<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1	<1			<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1	<1			<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1	<1			<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1	<1			<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1	<1			<1
Total PFOS	<1 µg/kg	TM338		1.87	<1	<1			<1

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

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.	TP CS9(A)	TP CS9(A)				
			Depth (m)	0.45 - 0.75	2.50				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	06/04/2023	06/04/2023				
			Sample Time	.	.				
			Date Received	06/04/2023	06/04/2023				
			SDG Ref	230406-140	230406-140				
			Lab Sample No.(s)	27810604	27810607				
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		15	19				
Arsenic	<0.6 mg/kg	TM181		10 M	6.18 M				
Cadmium	<0.02 mg/kg	TM181		<0.02 M	<0.02 M				
Chromium	<0.9 mg/kg	TM181		<0.9 M	11.9 M				
Copper	<1.4 mg/kg	TM181		101 M	6.8 M				
Lead	<0.7 mg/kg	TM181		97.7 M	8.41 M				
Mercury	<0.1 mg/kg	TM181		<0.1 M	<0.1 M				
Nickel	<0.2 mg/kg	TM181		26.2 M	42 M				
Selenium	<1 mg/kg	TM181		<1 #	1.31 #				
Zinc	<1.9 mg/kg	TM181		84 M	47 M				
4:2 FTS (757124-72-4)	<2 µg/kg	TM338		<2	<2				
8:2 FTS (39108-34-4)	<2 µg/kg	TM338		<2	<2				
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338		<20	<20				
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3				
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3				
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2				
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1				
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1				
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1				
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1				
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1				
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1				
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1				
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1				
Branched PFOS	<1 µg/kg	TM338		<1	<1				
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1				
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1				
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1				
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1				
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1				
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1				
Total PFOS	<1 µg/kg	TM338		<1	<1				

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560

Client Ref.: 326R **Location:** Victoria North

TPH CWG (S)

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9(A)
			Depth (m)	0.50	1.00	0.50	1.50	3.50	0.45 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810601	27810604
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		43.3 4	63.5 4	80.4 2	74.9 2	98 2	70.2 2
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089		26.9 4	19.9 4	<10 2	<10 2	<10 2	22.2 2
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089		60.2 4	51.5 4	37.8 2	<10 2	<10 2	161 2
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089		109 4	191 4	56.2 2	<10 2	<10 2	2060 2
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1000 µg/kg	TM414		21200 #	40300 #	2260 #	<1000 #	<1000 #	64000 #
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1000 µg/kg	TM414		228000 #	263000 #	7760 #	<1000 #	<1000 #	187000 #
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414		300000 #	79700 #	11900 #	<1000 #	<1000 #	123000 #
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414		<1000 #	<1000 #	8370 #	<1000 #	<1000 #	90800 #
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414		<1000	<1000	<1000	<1000	<1000	14700
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414		549000	384000	30400	<5000	<5000	480000
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414		2920000	3600000	1670000	<10000	<10000	946000
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089		<10 4	<10 4	<10 2	<10 2	<10 2	<10 2
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089		<10 4	<10 4	<10 2	<10 2	<10 2	<10 2
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089		73 4	128 4	37.8 2	<10 2	<10 2	1370 2
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414		6440 #	<1000 #	12300 #	<1000 #	<1000 #	6000 #
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414		50100 #	116000 #	140000 #	<1000 #	<1000 #	53400 #
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414		353000 #	661000 #	518000 #	<1000 #	<1000 #	97700 #
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414		1590000 #	2300000 #	843000 #	<1000 #	<1000 #	249000 #
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414		379000	138000	126000	<1000	<1000	60300
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414		105000	41200	29100	<1000	<1000	13500
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414		2380000	3210000	1640000	<5000	<5000	466000
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414		2920000	3600000	1670000	<10000	<10000	950000
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089		196 4	262 4	94 2	<50 2	<50 2	2240 2
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089		73 4	128 4	<50 2	<50 2	<50 2	1370 2
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089		269 4	390 4	94 2	<20 2	<20 2	3620 2

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

TPH CWG (S)

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. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			TP CS9(A)				
			2.50				
			Soil/Solid (S)				
			06/04/2023				
			.				
			06/04/2023				
			230406-140				
			27810607				
GRO Surrogate % recovery**	%	TM089	93.7 2				
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10 2				
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10 2				
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10 2				
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #				
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #				
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #				
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #				
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000				
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000				
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	<10000				
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10 2				
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10 2				
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10 2				
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #				
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #				
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #				
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #				
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000				
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000				
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	<5000				
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	<10000				
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50 2				
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50 2				
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20 2				

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

VOC MS (S)

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9(A)
			Depth (m)	0.50	1.00	0.50	1.50	3.50	0.45 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810601	27810604
			AGS Reference						
Dibromofluoromethane**	%	TM116		105 2	113	105 2	112	109 2	110 2
Toluene-d8**	%	TM116		95.7 2	98.9	102 2	101	96.4 2	101 2
4-Bromofluorobenzene**	%	TM116		79.3 2	79.6	91.8 2	91.2	76.4 2	93.7 2
Dichlorodifluoromethane	<0.5 µg/kg	TM116		<120 2 #					
Chloromethane	<2 µg/kg	TM116		<140 2 #					
Vinyl Chloride	<0.5 µg/kg	TM116		<120 2 M					
Bromomethane	<1 µg/kg	TM116		<200 2 M					
Chloroethane	<1 µg/kg	TM116		<200 2 M					
Trichlorofluorormethane	<0.5 µg/kg	TM116		<120 2 M					
1,1-Dichloroethene	<0.5 µg/kg	TM116		<200 2 #					
Carbon Disulphide	<1 µg/kg	TM116		<140 2 M					
Dichloromethane	<5 µg/kg	TM116		<200 2 #					
Methyl Tertiary Butyl Ether	<0.5 µg/kg	TM116		<200 2 M	<200 M	<100 2 M	<200 M	<10 2 M	<200 2 M
trans-1,2-Dichloroethene	<1 µg/kg	TM116		<200 2 M					
1,1-Dichloroethane	<0.5 µg/kg	TM116		<160 2 M					
cis-1,2-Dichloroethene	<0.5 µg/kg	TM116		<120 2 M					
2,2-Dichloropropane	<1 µg/kg	TM116		<200 2					
Bromochloromethane	<2 µg/kg	TM116		<200 2 M					
Chloroform	<3 µg/kg	TM116		<160 2 M					
1,1,1-Trichloroethane	<0.5 µg/kg	TM116		<140 2 M					
1,1-Dichloropropene	<0.5 µg/kg	TM116		<200 2 M					
Carbontetrachloride	<0.5 µg/kg	TM116		<200 2 M					
1,2-Dichloroethane	<1 µg/kg	TM116		<100 2 M					
Benzene	<1 µg/kg	TM116		<180 2 M	<180 M	<90 2 M	<180 M	<9 2 M	<180 2 M
Trichloroethene	<1 µg/kg	TM116		<180 2 #					
1,2-Dichloropropane	<0.5 µg/kg	TM116		<200 2 M					
Dibromomethane	<1 µg/kg	TM116		<180 2 M					
Bromodichloromethane	<2 µg/kg	TM116		<140 2 M					
cis-1,3-Dichloropropene	<0.5 µg/kg	TM116		<200 2 M					
Toluene	<1 µg/kg	TM116		<140 2 M	<140 M	<70 2 M	<140 M	<7 2 M	<140 2 M
trans-1,3-Dichloropropene	<1 µg/kg	TM116		<200 2					
1,1,2-Trichloroethane	<1 µg/kg	TM116		<200 2 M					
1,3-Dichloropropane	<1 µg/kg	TM116		<140 2 M					

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

VOC MS (S)

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9(A)
			Depth (m)	0.50	1.00	0.50	1.50	3.50	0.45 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810601	27810604
			AGS Reference						
Tetrachloroethene	<2 µg/kg	TM116		<100 2 M					
Dibromochloromethane	<2 µg/kg	TM116		<200 2 M					
1,2-Dibromoethane	<1 µg/kg	TM116		<200 2 M					
Chlorobenzene	<2 µg/kg	TM116		<100 2 M					
1,1,1,2-Tetrachloroethane	<1 µg/kg	TM116		<200 2 M					
Ethylbenzene	<1 µg/kg	TM116		<80 2 M	<80 M	<40 2 M	<80 M	<4 2 M	<80 2 M
p/m-Xylene	<2 µg/kg	TM116		<200 2 #	<200 #	<100 2 #	<200 #	<10 2 #	<200 2 #
o-Xylene	<2 µg/kg	TM116		<200 2 M	<200 M	<100 2 M	<200 M	<10 2 M	<200 2 M
Styrene	<2 µg/kg	TM116		<200 2 #					
Bromoform	<2 µg/kg	TM116		<200 2 M					
Isopropylbenzene	<2 µg/kg	TM116		<100 2 #					
1,1,2,2-Tetrachloroethane	<2 µg/kg	TM116		<200 2 #					
1,2,3-Trichloropropane	<2 µg/kg	TM116		<320 2 M					
Bromobenzene	<2 µg/kg	TM116		<200 2 M					
Propylbenzene	<2 µg/kg	TM116		<200 2 M					
2-Chlorotoluene	<3 µg/kg	TM116		<180 2 M					
1,3,5-Trimethylbenzene	<2 µg/kg	TM116		<160 2 M					
4-Chlorotoluene	<3 µg/kg	TM116		<200 2 M					
tert-Butylbenzene	<2 µg/kg	TM116		<280 2 #					
1,2,4-Trimethylbenzene	<3 µg/kg	TM116		<180 2 #					
sec-Butylbenzene	<1 µg/kg	TM116		<200 2					
4-Isopropyltoluene	<2 µg/kg	TM116		<200 2					
1,3-Dichlorobenzene	<5 µg/kg	TM116		<160 2 M					
1,4-Dichlorobenzene	<5 µg/kg	TM116		<100 2 M					
n-Butylbenzene	<3 µg/kg	TM116		<220 2					
1,2-Dichlorobenzene	<5 µg/kg	TM116		<200 2 M					
1,2-Dibromo-3-chloropropane	<2 µg/kg	TM116		<280 2 M					
Tert-amyl methyl ether	<1 µg/kg	TM116		<200 2 #					
1,2,4-Trichlorobenzene	<7 µg/kg	TM116		<400 2					
Hexachlorobutadiene	<4 µg/kg	TM116		<400 2					
Naphthalene	<8 µg/kg	TM116		<260 2 M					
1,2,3-Trichlorobenzene	<10 µg/kg	TM116		<400 2 #					
1,3,5-Trichlorobenzene	<7 µg/kg	TM116		<400 2					

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

VOC MS (S)

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.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9(A)
			Depth (m)	0.50	1.00	0.50	1.50	3.50	0.45 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			Sample Time	.	.	.	.	.	.
			Date Received	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023	06/04/2023
			SDG Ref	230406-140	230406-140	230406-140	230406-140	230406-140	230406-140
			Lab Sample No.(s)	27810597	27810598	27810599	27810600	27810601	27810604
			AGS Reference						
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.4 2	<0.4	<0.2 2	<0.4	<0.02 2	<0.4 2
Sum of BTEX	<7 µg/kg	TM116		<800 2	<800	<400 2	<800	<40 2	<800 2

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

VOC MS (S)

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.				
			TP CS9(A)				
Depth (m)			2.50				
Sample Type			Soil/Solid (S)				
Date Sampled			06/04/2023				
Sample Time			.				
Date Received			06/04/2023				
SDG Ref			230406-140				
Lab Sample No.(s)			27810607				
AGS Reference							
Dibromofluoromethane**	%	TM116	112 2				
Toluene-d8**	%	TM116	101 2				
4-Bromofluorobenzene**	%	TM116	94.7 2				
Methyl Tertiary Butyl Ether	<0.5 µg/kg	TM116	<10 2 M				
Benzene	<1 µg/kg	TM116	18 2 M				
Toluene	<1 µg/kg	TM116	<7 2 M				
Ethylbenzene	<1 µg/kg	TM116	<4 2 M				
p/m-Xylene	<2 µg/kg	TM116	<10 2 #				
o-Xylene	<2 µg/kg	TM116	<10 2 M				
Sum of Detected Xylenes	<0.02 mg/kg	TM116	<0.02 2				
Sum of BTEX	<7 µg/kg	TM116	<40 2				

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP CS6 0.50 SOLID 06/04/2023 00:00:00 06/04/2023 14:10:00 230406-140 27810597 TM048	18/04/2023	Odhran McLernon	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	TP CS9 0.50 SOLID 06/04/2023 00:00:00 06/04/2023 14:10:00 230406-140 27810599 TM048	18/04/2023	Odhran McLernon	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 27810597 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810598 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810599 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810600 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810601 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810602 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 27810603 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810604 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810607 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Solid	Solid

Sample No. : 27810602 **Date of Amendment :** 06/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
TP CS9	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	23.2	6.69
TP CS9	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	23.2	15.1
TP CS9	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	46.4	21.7

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM089	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM116	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM414	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM434	Analysis of PFAS
TM048	Identification of Asbestos in Bulk Material

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

CERTIFICATE OF ANALYSIS

SDG: 230406-140 **Report Number:** 699672 **Superseded Report:** 697560
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27810597	27810598	27810599	27810600	27810601	27810602	27810604	27810607
Customer Sample Ref.	TP CS6	TP CS6	TP CS9	TP CS9	TP CS9	TP CS9	TP CS9(A)	TP CS9(A)
AGS Ref.								
Depth	0.50	1.00	0.50	1.50	3.50	3.10	0.45 - 0.75	2.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water	Soil/Solid (S)	Soil/Solid (S)
Asbestos ID in Solid Samples	18-Apr-2023		18-Apr-2023					
EPH CWG GC (S)	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023		14-Apr-2023	14-Apr-2023
GRO by GC-FID (S)	18-Apr-2023	13-Apr-2023	13-Apr-2023	18-Apr-2023	13-Apr-2023		13-Apr-2023	18-Apr-2023
Metals in solid samples by OES	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023		14-Apr-2023	14-Apr-2023
PFAS Liquids (Full Suite)						11-Jul-2023		
PFAS Solids	25-Apr-2023	25-Apr-2023	25-Apr-2023		14-Apr-2023		25-Apr-2023	25-Apr-2023
Sample description	12-Apr-2023	12-Apr-2023	12-Apr-2023	12-Apr-2023	12-Apr-2023		12-Apr-2023	12-Apr-2023
TPH CWG GC (S)	18-Apr-2023	14-Apr-2023	14-Apr-2023	18-Apr-2023	14-Apr-2023		14-Apr-2023	18-Apr-2023
VOC MS (S)	18-Apr-2023	14-Apr-2023	18-Apr-2023	14-Apr-2023	14-Apr-2023		18-Apr-2023	13-Apr-2023

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 one month 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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Website: www.alsenvironmental.co.uk

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Andy Bird

CERTIFICATE OF ANALYSIS

Date of report Generation:	05 May 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230414-35
Your Reference:	326R
Location:	Victoria North
Report No:	687999
Order Number:	

We received 8 samples on Friday April 14, 2023 and 1 of these samples were scheduled for analysis which was completed on Friday May 05, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27836402	TP - CS8		0.50	12/04/2023
27836403	TP - CS8		1.50	12/04/2023
27836406	TP - CS8		1.50	12/04/2023
27836405	TP - CS8		2.00	12/04/2023
27836395	TP - CS4A		0.50	12/04/2023
27836397	TP - CS4A		1.50	12/04/2023
27836401	TP - CS4A		1.50	12/04/2023
27836398	TP - CS4A		2.00	12/04/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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)			27836398	
Customer Sample Reference			TP - CS4A	
AGS Reference				
Depth (m)			2.00	
Container			1kg TUB	250g Amber Jar (ALE210)
Sample Type			S	S
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 1	X	
PFAS Solids	All	NDPs: 0 Tests: 1	X	
Sample description	All	NDPs: 0 Tests: 1		X

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27836398	TP - CS4A	2.00	Dark Brown	Sandy Clay Loam	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.			TP - CS4A
Depth (m)			2.00
Sample Type			Soil/Solid (S)
Date Sampled			12/04/2023
Sample Time			-
Date Received			14/04/2023
SDG Ref			230414-35
Lab Sample No.(s)			27836398
AGS Reference			
Component	**LOD/Units**	**Method**	
Moisture Content Ratio (% of as received sample)	%	PM024	11
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338	<1
Branched PFOS	<1 µg/kg	TM338	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338	<1
Total PFOS	<1 µg/kg	TM338	<1
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428	<3
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428	<3
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428	<2
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428	<1
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428	<1
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428	<1
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428	<1
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428	<1
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428	<1
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428	<1
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428	<1
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428	<1
Branched PFOS (Post Ox.)	<1 µg/kg	TM428	<1

Validated

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.	TP - CS4A
Depth (m)	2.00
Sample Type	Soil/Solid (S)
Date Sampled	12/04/2023
Sample Time	.
Date Received	14/04/2023
SDG Ref	230414-35
Lab Sample No.(s)	27836398
AGS Reference	

Component	LOD/Units	Method	
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428	<1
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428	<1
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428	<1
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428	<1
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428	<1
Total PFOS (Post Ox.)	<2 µg/kg	TM428	<2

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230414-35 **Report Number:** 687999 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27836398
Customer Sample Ref.	TP - CS4A
AGS Ref.	
Depth	2.00
Type	Soil/Solid (S)
PFAS (Post Ox.) Solids	05-May-2023
PFAS Solids	04-May-2023
Sample description	27-Apr-2023

SDG:	230414-35	**Report Number:**	687999	**Superseded Report:**	
Client Ref:	326R	**Location:**	Victoria North		

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 one month 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.

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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.

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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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Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Andy Bird

CERTIFICATE OF ANALYSIS

Date of report Generation:	25 April 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230415-37
Your Reference:	326R
Location:	Victoria North
Report No:	686793
Order Number:	

We received 3 samples on Saturday April 15, 2023 and 3 of these samples were scheduled for analysis which was completed on Tuesday April 25, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230415-37 **Report Number:** 686793 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27841705	SWS01		0.00	13/04/2023
27841706	SWS02		0.00	13/04/2023
27841707	SWS03		0.00	13/04/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230415-37 **Report Number:** 686793 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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)	2784170 5	2784170 6	2784170 7
			Customer Sample Reference	SWS01	SWS02	SWS03
			AGS Reference			
			Depth (m)	0.00	0.00	0.00
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 3		X	X	X
PFAS Liquids	All	NDPs: 0 Tests: 3		X	X	X

CERTIFICATE OF ANALYSIS

SDG: 230415-37 **Report Number:** 686793 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.	SWS01	SWS02	SWS03			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	13/04/2023	13/04/2023	13/04/2023			
			Sample Time	-	-	-			
			Date Received	15/04/2023	15/04/2023	15/04/2023			
			SDG Ref	230415-37	230415-37	230415-37			
			Lab Sample No.(s)	27841705	27841706	27841707			
			AGS Reference						
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.000014 #	<0.000008 #	<0.000009 #			
PFPA (2706-90-3)	<0.000001 mg/l	TM337		0.000005 #	0.000005 #	0.000003 #			
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.000007 #	0.000007 #	0.000007 #			
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000006 #	0.000006 #	0.000006 #			
PFHpA (375-85-9)	<0.000001 mg/l	TM337		0.000004 #	0.000004 #	0.000003 #			
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		0.000014 #	0.000016 #	0.000012 #			
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000007 #	0.000007 #	0.000007 #			
PFHxS (355-46-4)	<0.000001 mg/l	TM337		0.000002 #	0.000002 #	0.000002 #			
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000006 #	0.000007 #	0.000005 #			
Branched PFOS	<0.000001 mg/l	TM337		0.000005 #	0.000005 #	0.000004 #			
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000002 #	<0.000002 #	<0.000002 #			
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000001	<0.000001	<0.000001			
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000001 #	<0.000001 #	<0.000001 #			
Total PFOS	<0.000001 mg/l	TM337		0.000011 #	0.000012 #	0.000009 #			
PFBA (Post Ox.) (375-22-4)	<0.000004 mg/l	TM405		0.000015	0.000015	0.000011			
PFPA (Post Ox.) (2706-90-3)	<0.000002 mg/l	TM405		0.000009	0.000009	0.000005			
PFHxA (Post Ox.) (307-24-4)	<0.000002 mg/l	TM405		0.000011	0.000012	0.00001			
PFBS (Post Ox.) (375-73-5)	<0.000002 mg/l	TM405		0.000006	0.000006	0.000006			
PFHpA (Post Ox.) (375-85-9)	<0.000002 mg/l	TM405		0.000005	0.000004	0.000005			
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002 mg/l	TM405		<0.00001	<0.000002	<0.000002			
PFOA (Post Ox.) (335-67-1)	<0.000002 mg/l	TM405		0.000005	0.000004	0.000004			
PFHxS (Post Ox.) (355-46-4)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002			
PFNA (Post Ox.) (375-95-1)	<0.000002 mg/l	TM405		0.000002	0.000002	0.000003			
PFHpS (Post Ox.) (375-92-8)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002			
PFDA (Post Ox.) (335-76-2)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002			
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002 mg/l	TM405		0.000005	0.000006	0.000005			
Branched PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000004	0.000004	0.000004			
PFUnA (Post Ox.) (2058-94-8)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002			

Validated

CERTIFICATE OF ANALYSIS

SDG: 230415-37 **Report Number:** 686793 **Superseded Report:**

Client Ref.: 326R **Location:** Victoria North

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.	SWS01	SWS02	SWS03
			Depth (m)	0.00	0.00	0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	13/04/2023	13/04/2023	13/04/2023
			Sample Time	.	.	.
			Date Received	15/04/2023	15/04/2023	15/04/2023
			SDG Ref	230415-37	230415-37	230415-37
			Lab Sample No.(s)	27841705	27841706	27841707
			AGS Reference			
PFDoA (Post Ox.) (307-55-1)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002
PFOSA (Post Ox.) (754-91-6)	<0.000004 mg/l	TM405		<0.000004	<0.000004	<0.000004
PFDS (Post Ox.) (335-77-3)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002
PFPeS (Post Ox.) (2706-91-4)	<0.000002 mg/l	TM405		<0.000002	<0.000002	<0.000002
Total PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000009	0.000009	0.000008

Table of Results - Appendix

Method No	Description
TM337	Analysis of PFAS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230415-37 **Report Number:** 686793 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27841705	27841706	27841707
Customer Sample Ref.	SWS01	SWS02	SWS03
AGS Ref.			
Depth	0.00	0.00	0.00
Type	Ground Water	Ground Water	Ground Water
PFAS (Post Ox.) Liquids	25-Apr-2023	25-Apr-2023	25-Apr-2023
PFAS Liquids	24-Apr-2023	24-Apr-2023	24-Apr-2023

SDG:	230415-37	**Report Number:**	686793	**Superseded Report:**	
Client Ref:	326R	**Location:**	Victoria North		

Appendix

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 one month 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.

General

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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230429-40
Your Reference:	326R
Location:	Victoria North
Report No:	699676
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 699674 in its entirety.

We received 12 samples on Saturday April 29, 2023 and 12 of these samples were scheduled for analysis which was completed on Friday May 26, 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

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27921592	SWS01 LH			
27921594	SWS02 LH			
27921596	SWS03 LH			
27921591	SWS01 RH			
27921593	SWS02 RH			
27921595	SWS03 RH			
27940914	SWS02 RH A			
27940915	SWS02 RH B			
27940916	SWS02 RH C			
27921600	TFGM1			
27921599	VIADUCT PIPE			
27921597	VIADUCT SURROUNDING WATER			

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674

Client Ref.: 326R **Location:** Victoria North

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)	27921592	27921594	27921596	27921591	27921593	27921595	27940914	27940915	27940916	27921600								27921599
			Customer Sample Reference	SWS01 LH	SWS02 LH	SWS03 LH	SWS01 RH	SWS02 RH	SWS03 RH	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1								VIADUCT PIPE
			AGS Reference																		
			Depth (m)																		
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 3														X					
Anions by Kone (w)	All	NDPs: 0 Tests: 3													X						X
BOD True Total	All	NDPs: 0 Tests: 3												X							X
COD Unfiltered	All	NDPs: 0 Tests: 3												X							X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3															X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 3																X		X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3													X						X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3											X							X	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3											X							X	
Fats Oils and Greases.	All	NDPs: 0 Tests: 3											X							X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3																X			
Mercury Dissolved	All	NDPs: 0 Tests: 3													X						X
Mercury Unfiltered	All	NDPs: 0 Tests: 3													X						X
Methylene blue active substances	All	NDPs: 0 Tests: 3													X						X
Neutralised Suspended Solids	All	NDPs: 0 Tests: 3													X						X

27921597	VIADUCT SURROUNDING WATER			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW						X					X				
				NaOH (ALE245)	GW					X										
				H2SO4 (ALE244)	GW	X														
				500ml Plastic (ALE208)	GW		X					X					X	X	X	X
				250ml BOD (ALE212)	GW			X	X											
				250ml Amber Gl. PTFE/PE (ALE219)	GW								X	X	X					
27921599	VIADUCT PIPE			ZnAc (ALE246)	GW															
				Vial (ALE297)	GW											X				
				NaOH (ALE245)	GW					X										
				H2SO4 (ALE244)	GW	X														

Validated

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674

Client Ref.: 326R **Location:** Victoria North

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)	27921592	27921594	27921596	27921591	27921593	27921595	27940914	27940915	27940916	27921600								27921599
			Customer Sample Reference	SWS01 LH	SWS02 LH	SWS03 LH	SWS01 RH	SWS02 RH	SWS03 RH	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1								VIADUCT PIPE
			AGS Reference																		
			Depth (m)																		
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Organotins in Aqueous Samples	All	NDPs: 1 Tests: 2													N						
																					X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 3																			
													X							X	
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 3																			
													X							X	
PFAS Liquids	All	NDPs: 1 Tests: 11																			
				X	X	X	X	X	X	X	X	X			X						X
pH Value	All	NDPs: 0 Tests: 3																			
															X						X
Pharmaceuticals and Personal Care	All	NDPs: 0 Tests: 3																			
													X							X	
Phenols and ethoxylates in Liquids	All	NDPs: 0 Tests: 3																			
													X							X	
Settleable Solids	All	NDPs: 0 Tests: 3																			
															X						X
Settleable Solids 5 Mins	All	NDPs: 0 Tests: 3																			
															X						X
Sulphide	All	NDPs: 0 Tests: 3																			
																			X		
Suspended Solids	All	NDPs: 0 Tests: 3																			
															X						X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 3																			
													X							X	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 3																			
															X						X
Total Nitrogen	All	NDPs: 0 Tests: 3																			
															X						X
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 3																			
																X					

27921597	VIADUCT SURROUNDING WATER			ZnAc (ALE246)	GW										X					
				Vial (ALE297)	GW															
				NaOH (ALE245)	GW															
				H2SO4 (ALE244)	GW															X
				500ml Plastic (ALE208)	GW	X			N	X			X	X		X		X	X	
				250ml BOD (ALE212)	GW															
				250ml Amber Gl. PTFE/PE (ALE219)	GW		X	X			X	X					X			
27921599	VIADUCT PIPE			ZnAc (ALE246)	GW										X					
				Vial (ALE297)	GW															
				NaOH (ALE245)	GW															
				H2SO4 (ALE244)	GW															X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674

Client Ref.: 326R **Location:** Victoria North

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)	27921592	27921594	27921596	27921591	27921593	27921595	27940914	27940915	27940916	27921600	27921599
			Customer Sample Reference	SWS01 LH	SWS02 LH	SWS03 LH	SWS01 RH	SWS02 RH	SWS03 RH	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE
			AGS Reference											
			Depth (m)											
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
TPH CWG (W)	All	NDPs: 0 Tests: 3											X	
Urea Herbicides (Suite 1)*	All	NDPs: 2 Tests: 1												
VOC MS (W)	All	NDPs: 0 Tests: 3												

			Lab Sample No(s)	27921600	27921599
			Customer Sample Reference	TFGM1	VIADUCT PIPE
			AGS Reference		
			Depth (m)		
			Container	250ml BOD (ALE212)	500ml Plastic (ALE208)
			Sample Type	GW	GW
TPH CWG (W)	All	NDPs: 0 Tests: 3			
Urea Herbicides (Suite 1)*	All	NDPs: 2 Tests: 1			N
VOC MS (W)	All	NDPs: 0 Tests: 3			

27921597	VIADUCT SURROUNDING WATER			ZnAc (ALE246)	GW						
				Vial (ALE297)	GW						X
				NaOH (ALE245)	GW						
				H2SO4 (ALE244)	GW						
				500ml Plastic (ALE208)	GW				X		
				250ml BOD (ALE212)	GW						
				250ml Amber Gl. PTFE/PE (ALE219)	GW		X				
27921599	VIADUCT PIPE			ZnAc (ALE246)	GW						
				Vial (ALE297)	GW						X
				NaOH (ALE245)	GW						
				H2SO4 (ALE244)	GW						

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674

Client Ref.: 326R **Location:** Victoria North

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.	SWS01 LH	SWS02 LH	SWS03 LH	SWS01 RH	SWS02 RH	SWS03 RH
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	00:00:00	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27921592	27921594	27921596	27921591	27921593	27921595
			AGS Reference						
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.000008 § #	<0.000005 § #	<0.00001 § #	<0.000008 § #	0.000003 § #	<0.00001 § #
PFPA (2706-90-3)	<0.000001 mg/l	TM337		0.000004 § #	0.000003 § #	0.000004 § #	0.000005 § #	0.000003 § #	0.000005 § #
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.000006 § #	0.000006 § #	0.000006 § #	0.000007 § #	0.000006 § #	0.000006 § #
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000003 § #	0.000003 § #	0.000003 § #	0.000003 § #	0.000005 § #	0.000003 § #
PFHpA (375-85-9)	<0.000001 mg/l	TM337		0.000011 § #	0.000009 § #	0.000011 § #	0.000011 § #	0.000004 § #	0.000011 § #
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		0.000006 § #	0.000005 § #	0.000005 § #	0.000012 § #	0.000004 § #	0.000005 § #
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000008 § #	0.000007 § #	0.000008 § #	0.000008 § #	0.000006 § #	0.000007 § #
PFHxS (355-46-4)	<0.000001 mg/l	TM337		0.000001 § #	0.000001 § #	0.000001 § #	0.000004 § #	0.000001 § #	0.000001 § #
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000004 § #	0.000003 § #	0.000004 § #	0.000005 § #	0.000003 § #	0.000003 § #
Branched PFOS	<0.000001 mg/l	TM337		0.000003 § #	0.000003 § #	0.000003 § #	0.000003 § #	0.000002 § #	0.000002 § #
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000002 § #	<0.000002 § #	<0.000002 § #	<0.000002 § #	<0.000002 § #	<0.000002 § #
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000001 §	<0.000001 §	<0.000001 §	<0.000001 §	<0.000001 §	<0.000001 §
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #
Total PFOS	<0.000001 mg/l	TM337		0.000006 § #	0.000006 § #	0.000007 § #	0.000008 § #	0.000006 § #	0.000005 § #

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
			AGS Reference						
Chloroxuron*	mg/l	SUB							<0.00005 §
Chlortoluron*	mg/l	SUB							<0.00005 §
Diflubenzuron*	mg/l	SUB							<0.00005 §
Dimefuron*	mg/l	SUB							<0.00005 §
Diuron*	mg/l	SUB							<0.00005 §
Isoproturon*	mg/l	SUB							<0.00005 §
Linuron*	mg/l	SUB							<0.00005 §
Methabenzthiauron*	mg/l	SUB							<0.00005 §
Metoxuron*	mg/l	SUB							<0.00005 §
Monolinuron*	mg/l	SUB							<0.00005 §
Monuron*	mg/l	SUB							<0.00005 §
Pencycuron*	mg/l	SUB							<0.00005 §
Suspended solids, Neut. 5 mins. non-settleable	<2 mg/l	TM022					10 §	41 §	1340 §
Suspended solids, Neutralised 1 hr non-settleable	<2 mg/l	TM022					<9 §	25 §	540 §
Suspended Solids, Total neutralised	<2 mg/l	TM022					30 §	41 §	6250 §
Suspended solids, Neutralised 1 hr settleable	<2 mg/l	TM022					21 §	16 §	5710 §
Suspended solids, Neutralised 5 mins. settleable	<2 mg/l	TM022					20 §	<6 §	4910 §
Suspended solids, Total	<2 mg/l	TM022					16.4 § #	41.7 § #	6440 § #
BOD, unfiltered	<1 mg/l	TM045					<1 § #	2.78 § #	6.69 § #
Organic Carbon, Total	<3 mg/l	TM090					8.59 § #	8.52 § #	7.53 § #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099					7.32 § #	1.5 § #	1.48 § #
Sulphide	<0.01 mg/l	TM101					<0.01 § #	<0.01 § #	<0.01 § #
COD, unfiltered	<7 mg/l	TM107					25.9 § #	42.1 § #	147 § #
Arsenic (diss.filt)	<0.0005 mg/l	TM152					0.000584 2 § #	0.00135 2 § #	0.00232 2 § #
Arsenic (tot.unfilt)	<0.002 mg/l	TM152					<0.002 2 § #	0.00308 2 § #	0.0227 2 § #
Cadmium (diss.filt)	<0.00008 mg/l	TM152					<0.00008 2 § #	0.000261 2 § #	0.000243 2 § #
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152					<0.0005 2 § #	<0.0005 2 § #	0.0039 2 § #
Chromium (tot.unfilt)	<0.003 mg/l	TM152					<0.003 2 § #	<0.003 2 § #	0.024 2 § #
Chromium (diss.filt)	<0.001 mg/l	TM152					<0.001 2 § #	<0.001 2 § #	<0.001 2 § #
Copper (tot.unfilt)	<0.001 mg/l	TM152					0.00842 2 § #	0.0134 2 § #	0.184 2 § #
Lead (tot.unfilt)	<0.001 mg/l	TM152					0.00365 2 § #	0.0122 2 § #	0.273 2 § #
Copper (diss.filt)	<0.0003 mg/l	TM152					0.00264 2 § #	0.00434 2 § #	0.00402 2 § #
Lead (diss.filt)	<0.0002 mg/l	TM152					<0.0002 2 § #	<0.0002 2 § #	0.000345 2 § #

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
			AGS Reference						
Nickel (tot.unfilt)	<0.001 mg/l	TM152					0.00581 2 § #	0.0057 2 § #	0.0572 2 § #
Selenium (tot.unfilt)	<0.001 mg/l	TM152					<0.001 2 § #	<0.001 2 § #	0.00211 2 § #
Nickel (diss.filt)	<0.0004 mg/l	TM152					0.00278 2 § #	0.00415 2 § #	0.00635 2 § #
Selenium (diss.filt)	<0.001 mg/l	TM152					<0.001 2 § #	<0.001 2 § #	<0.001 2 § #
Zinc (tot.unfilt)	<0.005 mg/l	TM152					0.114 2 § #	0.146 2 § #	1.82 2 § #
Zinc (diss.filt)	<0.001 mg/l	TM152					0.0544 2 § #	0.0359 2 § #	0.0956 2 § #
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152					905 2 §	734 2 §	998 2 §
Mercury (diss.filt)	<0.00001 mg/l	TM183					<0.00001 2 § #	<0.00001 2 § #	<0.00001 2 § #
Mercury (tot.unfilt)	<0.00002 mg/l	TM183					<0.00002 2 § #	0.00002 2 § #	0.000905 2 § #
Sulphate (soluble) as S	<1 mg/l	TM184					35.7 § #	36.7 § #	37.3 § #
Nitrogen, Total	<1 mg/l	TM212					12.6 § #	6.14 § #	3.3 § #
Methane, dissolved	<0.001 mg/l	TM223					0.00155 2 §	0.00178 2 §	0.0193 3 §
Cyanide, Total	<0.05 mg/l	TM227					<0.05 § #	0.13 § #	0.1 § #
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249					0.16 §	0.12 §	0.05 §
pH	<1 pH Units	TM256					7.65 § #	7.66 § #	7.36 § #
Tributyl tin	<0.000001 mg/l	TM328						<0.000003 §	<0.000003 §
Surrogate**	%	TM328						87.8 §	62 §
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.000004 § #	0.000003 § #	0.000004 § #	0.000011 § #	0.000014 § #	
PFPA (2706-90-3)	<0.000001 mg/l	TM337		0.000003 § #	0.000004 § #	0.000003 § #	0.000006 § #	0.000004 § #	
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.000006 § #	0.000005 § #	0.000006 § #	0.000006 § #	0.000004 § #	
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000007 § #	0.000005 § #	0.000005 § #	0.000002 § #	0.000002 § #	
PFHpA (375-85-9)	<0.000001 mg/l	TM337		0.000004 § #	0.000004 § #	0.000003 § #	0.000003 § #	0.00001 § #	
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		0.000005 § #	0.000005 § #	0.000004 § #	<0.000001 § #	<0.000001 § #	
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000007 § #	0.000007 § #	0.000007 § #	0.000013 § #	0.000016 § #	
PFHxS (355-46-4)	<0.000001 mg/l	TM337		0.000002 § #	0.000001 § #	0.000002 § #	0.000002 § #	0.000003 § #	
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000004 § #	0.000003 § #	0.000003 § #	0.00001 § #	0.000009 § #	
Branched PFOS	<0.000001 mg/l	TM337		0.000003 § #	0.000003 § #	0.000002 § #	0.000008 § #	0.000006 § #	
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000002 § #	<0.000002 § #	<0.000002 § #	<0.000002 § #	<0.000003 § #	

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

Results Legend	Customer Sample Ref.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
# ISO17025 accredited.		.	.	.	.	.	.
M mCERTS accredited.	Depth (m)	.	.	.	.	.	.
aq Aqueous / settled sample.	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
diss.filt Dissolved / filtered sample.	Date Sampled	-	-	-	-	-	-
tot.unfilt Total / unfiltered sample.	Sample Time	.	.	.	.	.	.
* Subcontracted - refer to subcontractor report for accreditation status.	Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
(F) Trigger breach confirmed	Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
1-4+§@ Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
PFDS (335-77-3)	<0.000001	mg/l	TM337	<0.000001 §	<0.000001 §	<0.000001 §	<0.000001 §	<0.000001 §	
PFPeS (2706-91-4)	<0.000001	mg/l	TM337	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	<0.000001 § #	
Total PFOS	<0.000001	mg/l	TM337	0.000006 § #	0.000006 § #	0.000005 § #	0.000018 § #	0.000015 § #	
Trifluralin	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
alpha-HCH	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
gamma-HCH (Lindane)	<0.00001	mg/l	TM343				<0.00002 §	<0.00001 §	<0.00001 §
Heptachlor	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Aldrin	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
beta-HCH	<0.00001	mg/l	TM343				<0.00001 §	<0.00002 §	<0.00002 §
Isodrin	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
delta-HCH	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Heptachlor epoxide	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
o,p'-DDE	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Endosulphan I	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
trans-Chlordane	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
cis-Chlordane	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
p,p'-DDE	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Dieldrin	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
o,p'-DDD (TDE)	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Endrin	<0.00001	mg/l	TM343				<0.00001 §	<0.00002 §	<0.00002 §
o,p'-DDT	<0.00001	mg/l	TM343				<0.00004 §	<0.00002 §	<0.00002 §
p,p'-DDD (TDE)	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Endosulphan II	<0.00002	mg/l	TM343				<0.00004 §	<0.00002 §	<0.00002 §
p,p'-DDT	<0.00001	mg/l	TM343				<0.00006 §	<0.00002 §	<0.00002 §
o,p'-Methoxychlor	<0.00001	mg/l	TM343				<0.00002 §	<0.00002 §	<0.00002 §
p,p'-Methoxychlor	<0.00001	mg/l	TM343				<0.00004 §	<0.00002 §	<0.00002 §
Endosulphan Sulphate	<0.00002	mg/l	TM343				<0.00002 §	<0.00002 §	<0.00002 §
Permethrin I	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Permethrin II	<0.00001	mg/l	TM343				<0.00001 §	<0.00001 §	<0.00001 §
Fats, Oils, Greases	<1	mg/l	TM383				<1 §	1.33 §	<1 §
4-tert-Octylphenol	<0.000014	mg/l	TM426				<0.000056 §	<0.000056 §	<0.000056 §
4-tert-Nonylphenol	<0.00004	mg/l	TM426				<0.00016 §	<0.00016 §	<0.00016 §
4-n-Octylphenol	<0.000014	mg/l	TM426				<0.000056 §	<0.000056 §	<0.000056 §

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
			AGS Reference						
4-n-Nonylphenol	<0.00004 mg/l	TM426					<0.00016 §	<0.00016 §	<0.00016 §
4-Nonylphenol monoethoxylate	<0.00004 mg/l	TM426					<0.00016 §	<0.00016 §	<0.00016 §
4-Nonylphenol diethoxylate	<0.00004 mg/l	TM426					<0.00016 §	<0.00016 §	<0.00016 §
4-Octylphenol (sum of isomers)	<0.000028 mg/l	TM426					<0.000112 §	<0.000112 §	<0.000112 §
4-Nonylphenol (sum of isomers)	<0.00008 mg/l	TM426					<0.00032 §	<0.00032 §	<0.00032 §
1,7-Dimethylxanthine	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
2,4-D	<0.00002 mg/l	TM432					<0.002 §	<0.002 §	<0.002 §
Acesulfame-K	<0.0002 mg/l	TM432					<0.0004 §	<0.0006 §	<0.0006 §
Acetaminophen	<0.00002 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Albuterol	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Amoxicillin	<0.0001 mg/l	TM432					0.000486 §	<0.0002 §	<0.0002 §
Andorostenedione	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Atenolol	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Atrazine	<0.000002 mg/l	TM432					0.000019 §	0.000025 §	0.000025 §
Bendroflumethiazide	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Bezafibrate	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
BPA	<0.00001 mg/l	TM432					0.000088 §	0.00011 §	0.00002 §
Bromacil	<0.00001 mg/l	TM432					0.000014 §	<0.00001 §	0.00002 §
Butalbital	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Butylparaben	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Caffeine	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Carbadox	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Carbamazepine	<0.000002 mg/l	TM432					<0.000002 §	<0.000002 §	<0.000002 §
Carisoprodol	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Chloramphenicol	<0.000005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Chloridazon	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Chlorotoluron	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Cimetidine	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Clofibric Acid	<0.00001 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Cotinine	<0.00001 mg/l	TM432					<0.00002 §	<0.00002 §	<0.00002 §
DACT	<0.00005 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
DEA	<0.000005 mg/l	TM432					0.000059 §	0.000104 §	0.000102 §
DEET	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §

Results Legend
- # ISO17025 accredited.
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- 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.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
			AGS Reference						
Dehydronifedipine	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
DIA	<0.00005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Diclofenac	<0.00003 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Dilantin	<0.00002 mg/l	TM432					<0.00002 §	<0.00002 §	<0.00002 §
Diltiazem	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Diuron	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Erythromycin	<0.000025 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Estradiol	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Estriol	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Estrone	<0.00001 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Ethinyl Estradiol - 17 alpha	<0.0001 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Ethylparaben	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Flumeqine	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Fluoxetine	<0.00001 mg/l	TM432					<0.00025 §	<0.00025 §	<0.00025 §
Gemfibrozil	<0.000005 mg/l	TM432					<0.00002 §	<0.00002 §	<0.00002 §
Ibuprofen	<0.000025 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Iohexol	<0.00005 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Iopromide	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Isobutylparaben	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Isoproturon	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Ketoprofen	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Ketorolac	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Lidocaine	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Lincomycin	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Linuron	<0.000005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Lopressor	<0.0002 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Meclofenamic Acid	<0.00005 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Metazachlor	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Metformin	<0.0001 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Methylparaben	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Metolachlor	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Naproxen	<0.00002 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Nifedipine	<0.00001 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-	-	-	-
			Sample Time	.	.	.	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27940914	27940915	27940916	27921600	27921599	27921597
			AGS Reference						
Norethisterone	<0.00002 mg/l	TM432					<0.00002 §	<0.00002 §	<0.00002 §
OUST (Sulfometuron.methyl)	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Oxolinic acid	<0.00002 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Pentoxifylline	<0.00001 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Phenazone	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Primidone	<0.00001 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Progesterone	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Propazine	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Propylparaben	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Quinoline	<0.00002 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Salicylic Acid	<0.0005 mg/l	TM432					<0.0005 §	<0.0005 §	<0.0005 §
Simazine	<0.000005 mg/l	TM432					<0.000005 §	<0.000005 §	<0.000005 §
Sucralose	<0.0001 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Sulfachloropyridazine	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Sulfadiazine	<0.000025 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
Sulfadimethoxine	<0.00001 mg/l	TM432					0.000014 §	0.000013 §	0.000014 §
Sulfamerazine	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Sulfamethazine	<0.00002 mg/l	TM432					0.000125 §	0.000026 §	0.000038 §
Sulfamethizole	<0.00001 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Sulfamethoxazole	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Sulfathiazole	<0.0001 mg/l	TM432					<0.00005 §	<0.00005 §	<0.00005 §
TCEP	<0.001 mg/l	TM432					<0.002 §	<0.002 §	<0.002 §
TCPP	<0.001 mg/l	TM432					<0.001 §	<0.001 §	<0.001 §
TDCPP	<0.0002 mg/l	TM432					<0.0002 §	<0.0002 §	<0.0002 §
Testosterone	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Theobromine	<0.00005 mg/l	TM432					<0.00025 §	<0.00025 §	<0.00025 §
Theophylline	<0.0001 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Thiabendazole	<0.000005 mg/l	TM432					<0.00001 §	<0.00001 §	0.00003 §
Triclocarban	<0.00005 mg/l	TM432					<0.00002 §	<0.00002 §	<0.00002 §
Triclosan	<0.00005 mg/l	TM432					<0.0001 §	<0.0001 §	<0.0001 §
Trimethoprim	<0.00002 mg/l	TM432					<0.00001 §	<0.00001 §	<0.00001 §
Warfarin	<0.000005 mg/l	TM432					0.000013 §	<0.00001 §	<0.00001 §

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	-	-	-			
			Sample Time	.	.	.			
			Date Received	29/04/2023	29/04/2023	29/04/2023			
			SDG Ref	230429-40	230429-40	230429-40			
			Lab Sample No.(s)	27921600	27921599	27921597			
			AGS Reference						
Naphthalene (aq)	<0.00001 mg/l	TM178		<0.00002 § #	<0.00001 § #	0.000014 § #			
Acenaphthene (aq)	<0.000005 mg/l	TM178		0.000017 § #	0.000017 § #	0.000021 § #			
Acenaphthylene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	<0.000005 § #			
Fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	0.000089 § #			
Anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	0.00001 § #			
Phenanthrene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	0.00001 § #	0.000041 § #			
Fluorene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	<0.000005 § #			
Chrysene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	0.000047 § #	0.000055 § #			
Pyrene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	0.000066 § #	0.000098 § #			
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	0.000041 § #	0.000039 § #			
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	0.000087 § #	0.000062 § #			
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	0.00002 § #			
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178		<0.000004 § #	<0.000002 § #	<0.000002 § #			
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	<0.000005 § #			
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	<0.000005 § #			
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178		<0.00001 § #	<0.000005 § #	<0.000005 § #			
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178		<0.000164 § #	0.000268 § #	0.000448 § #			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	-	-	-			
			Sample Time	.	.	.			
			Date Received	29/04/2023	29/04/2023	29/04/2023			
			SDG Ref	230429-40	230429-40	230429-40			
			Lab Sample No.(s)	27921600	27921599	27921597			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Chlorophenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Methylphenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Nitroaniline (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
2-Nitrophenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
3-Nitroaniline (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
4-Chloroaniline (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
4-Methylphenol (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
4-Nitroaniline (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
4-Nitrophenol (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
Azobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Acenaphthylene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Acenaphthene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Anthracene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176		<0.002 § #	<0.002 § #	<0.002 § #			
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	-	-	-			
			Sample Time	.	.	.			
			Date Received	29/04/2023	29/04/2023	29/04/2023			
			SDG Ref	230429-40	230429-40	230429-40			
			Lab Sample No.(s)	27921600	27921599	27921597			
			AGS Reference						
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Carbazole (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Chrysene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Dibenzofuran (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Diethyl phthalate (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Dimethyl phthalate (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176		<0.005 § #	<0.005 § #	<0.005 § #			
Fluoranthene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Fluorene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Hexachlorobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Pentachlorophenol (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
Phenol (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Hexachloroethane (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Nitrobenzene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Naphthalene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Isophorone (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176		<0.001 §	<0.001 §	<0.001 §			
Phenanthrene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			
Pyrene (aq)	<0.001 mg/l	TM176		<0.001 § #	<0.001 § #	<0.001 § #			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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.			TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
Depth (m)			.	.	.			
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
Date Sampled			-	-	-			
Sample Time			.	.	.			
Date Received			29/04/2023	29/04/2023	29/04/2023			
SDG Ref			230429-40	230429-40	230429-40			
Lab Sample No.(s)			27921600	27921599	27921597			
AGS Reference								
Component	**LOD/Units**	**Method**						
GRO Surrogate % recovery**	%	TM245	85 1 §	80 §	75 1 §			
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 1 § #	<0.05 § #	<0.05 1 § #			
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01 1 §	<0.01 §	<0.01 1 §			
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.02 §	<0.01 §	<0.01 §			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	-	-	-			
			Sample Time	.	.	.			
			Date Received	29/04/2023	29/04/2023	29/04/2023			
			SDG Ref	230429-40	230429-40	230429-40			
			Lab Sample No.(s)	27921600	27921599	27921597			
			AGS Reference						
Dibromofluoromethane**	%	TM208		109 1 §	111 §	107 1 §			
Toluene-d8**	%	TM208		99.3 1 §	98.8 §	98.8 1 §			
4-Bromofluorobenzene**	%	TM208		98.6 1 §	101 §	99.2 1 §			
Dichlorodifluoromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Chloromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Vinyl chloride	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Bromomethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Chloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Trichlorofluoromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1-Dichloroethene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Carbon disulphide	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Dichloromethane	<0.003 mg/l	TM208		<0.004 1 § #	<0.0045 § #	<0.004 1 § #			
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
trans-1,2-Dichloroethene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1-Dichloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
cis-1,2-Dichloroethene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
2,2-Dichloropropane	<0.001 mg/l	TM208		<0.001 1 §	<0.001 §	<0.001 1 §			
Bromochloromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Chloroform	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1,1-Trichloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1-Dichloropropene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Carbontetrachloride	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2-Dichloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Benzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Trichloroethene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2-Dichloropropane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Dibromomethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Bromodichloromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
cis-1,3-Dichloropropene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Toluene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
trans-1,3-Dichloropropene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1,2-Trichloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,3-Dichloropropane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	-	-	-			
			Sample Time	.	.	.			
			Date Received	29/04/2023	29/04/2023	29/04/2023			
			SDG Ref	230429-40	230429-40	230429-40			
			Lab Sample No.(s)	27921600	27921599	27921597			
			AGS Reference						
Tetrachloroethene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Dibromochloromethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2-Dibromoethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Chlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Ethylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
m,p-Xylene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
o-Xylene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Styrene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Bromoform	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Isopropylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2,3-Trichloropropane	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Bromobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Propylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
2-Chlorotoluene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
4-Chlorotoluene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
tert-Butylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
sec-Butylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
4-iso-Propyltoluene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,3-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,4-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
n-Butylbenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208		<0.001 1 §	<0.001 §	<0.001 1 §			
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Hexachlorobutadiene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
Naphthalene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208		<0.001 1 § #	<0.001 § #	<0.001 1 § #			
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208		<0.001 1 §	<0.001 §	<0.001 1 §			

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	TFGM1	VIADUCT PIPE	VIADUCT SURROUNDING WATER
			Depth (m)	.	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	-	-	-
			Sample Time	.	.	.
			Date Received	29/04/2023	29/04/2023	29/04/2023
			SDG Ref	230429-40	230429-40	230429-40
			Lab Sample No.(s)	27921600	27921599	27921597
			AGS Reference			
Sum of detected Xylenes	<0.002 mg/l	TM208		<0.002 1 §	<0.002 §	<0.002 1 §
Sum of BTEX	<0.005 mg/l	TM208		<0.005 1 §	<0.005 §	<0.005 1 §

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

Notification of NDPs (No determination possible)

Date Received : 29/04/2023 09:22:57

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
27921597	VIADUCT SURROUNDING WATER		PFAS Liquids	Sample contains oil / product
27921599	VIADUCT PIPE		Urea Herbicides (Suite 1)*	Insufficient sample supplied
27921600	TFGM1		Organotins in Aqueous Samples	Insufficient sample supplied
27921600	TFGM1		Urea Herbicides (Suite 1)*	Insufficient sample supplied

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM426	Determination of Specific Phenols and their Ethoxylates in Liquids by GC/MS/MS
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM328	
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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
TM176	Determination of SVOCs in Water by GCMS
TM337	Analysis of PFAS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM432	Pharmacuiticals and Personal Care Products
SUB	Subcontracted Test
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230429-40 **Report Number:** 699676 **Superseded Report:** 699674
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27921592	27921594	27921596	27921591	27921593	27921595	27940914	27940915	27940916	27921600
Customer Sample Ref.	SWS01 LH	SWS02 LH	SWS03 LH	SWS01 RH	SWS02 RH	SWS03 RH	SWS02 RH A	SWS02 RH B	SWS02 RH C	TFGM1
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										09-May-2023
Anions by Kone (w)										05-May-2023
BOD True Total										06-May-2023
COD Unfiltered										10-May-2023
Cyanide Comp/Free/Total/Thiocyanate										05-May-2023
Determination of Dissolved Gases										05-May-2023
Dissolved Metals by ICP-MS										09-May-2023
EPH CWG (Aliphatic) Aqueous GC (W)										09-May-2023
EPH CWG (Aromatic) Aqueous GC (W)										09-May-2023
Fats Oils and Greases.										04-May-2023
GRO by GC-FID (W)										03-May-2023
Mercury Dissolved										04-May-2023
Mercury Unfiltered										04-May-2023
Methylene blue active substances										03-May-2023
Neutralised Suspended Solids										10-May-2023
PAH Spec MS - Aqueous (W)										05-May-2023
Pesticides (Suite I) by GCMS										05-May-2023
PFAS Liquids	11-May-2023	11-May-2023	11-May-2023	11-May-2023	17-May-2023	11-May-2023	09-May-2023	09-May-2023	09-May-2023	12-May-2023
pH Value										10-May-2023
Pharmaceuticals and Personal Care										16-May-2023
Phenols and ethoxylates in Liquids										12-May-2023
Settleable Solids										10-May-2023
Settleable Solids 5 Mins										10-May-2023
Sulphide										04-May-2023
Suspended Solids										10-May-2023
SVOC MS (W) - Aqueous										04-May-2023
Total Metals by ICP-MS										05-May-2023
Total Nitrogen										26-May-2023
Total Organic and Inorganic Carbon										04-May-2023
TPH CWG (W)										09-May-2023
VOC MS (W)										02-May-2023

Lab Sample No(s)	27921599	27921597
Customer Sample Ref.	VIADUCT PIPE	VIADUCT SURROUN DING WATER
AGS Ref.		
Depth		
Type	Ground Water	Ground Water
Ammoniacal Nitrogen	06-May-2023	06-May-2023
Anions by Kone (w)	05-May-2023	05-May-2023
BOD True Total	06-May-2023	07-May-2023
COD Unfiltered	10-May-2023	10-May-2023
Cyanide Comp/Free/Total/Thiocyanate	05-May-2023	05-May-2023
Determination of Dissolved Gases	05-May-2023	05-May-2023
Dissolved Metals by ICP-MS	05-May-2023	05-May-2023
EPH CWG (Aliphatic) Aqueous GC (W)	09-May-2023	05-May-2023
EPH CWG (Aromatic) Aqueous GC (W)	09-May-2023	05-May-2023
Fats Oils and Greases.	04-May-2023	04-May-2023
GRO by GC-FID (W)	03-May-2023	03-May-2023
Mercury Dissolved	04-May-2023	04-May-2023
Mercury Unfiltered	04-May-2023	04-May-2023
Methylene blue active substances	03-May-2023	03-May-2023
Neutralised Suspended Solids	10-May-2023	10-May-2023
Organotins in Aqueous Samples	10-May-2023	10-May-2023
PAH Spec MS - Aqueous (W)	09-May-2023	04-May-2023
Pesticides (Suite I) by GCMS	09-May-2023	09-May-2023
PFAS Liquids	11-May-2023	
pH Value	10-May-2023	10-May-2023
Pharmaceuticals and Personal Care	16-May-2023	16-May-2023
Phenols and ethoxylates in Liquids	12-May-2023	12-May-2023
Settleable Solids	10-May-2023	10-May-2023
Settleable Solids 5 Mins	10-May-2023	10-May-2023
Sulphide	04-May-2023	04-May-2023
Suspended Solids	10-May-2023	10-May-2023
SVOC MS (W) - Aqueous	04-May-2023	03-May-2023
Total Metals by ICP-MS	04-May-2023	04-May-2023
Total Nitrogen	26-May-2023	26-May-2023
Total Organic and Inorganic Carbon	03-May-2023	03-May-2023
TPH CWG (W)	09-May-2023	05-May-2023
Urea Herbicides (Suite 1)*		23-May-2023
VOC MS (W)	02-May-2023	02-May-2023

Certificate of Analysis

Report No.:	**23-03090-1**
Issue No.:	**1**
Date of Issue	**23/05/2023**
Customer Details:	ALS Laboratories (UK) Ltd, Unit7-8, Hawarden Business Park, Manor Road, Hawarden, Deeside, Flintshire, CH5 3US, United Kingdom
Customer Contact:	Results mailbox
Customer Order No.:	230429-40
Customer Reference:	Not Supplied
Quotation Reference:	Q23-00645 (Issue: 6)
Description:	1 water sample
Date Received:	05/05/2023
Date Started:	09/05/2023
Date Completed:	18/05/2023
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None



Approved By: **Marco Lattughi, Operational Director**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 23-03090-1

Customer Reference: Not Supplied

Customer Order No: 230429-40

Customer Sample No	**27924501**
Customer Sample ID	Viaduct Su
RPS Sample No	20491
Sample Type	**WATER**
Sample Matrix	W

Determinand	CAS No	Codes	SOP	RL	Units	
chloroxuron	1982-47-4	N	L005	0.05	µg/L	< 0.05 (D)
chlorotoluron	15545-48-9	N	L005	0.05	µg/L	< 0.05 (D)
diflubenzuron	35367-38-5	N	L005	0.05	µg/L	< 0.05 (D)
dimefuron	34205-21-5	N	L005	0.05	µg/L	< 0.05 (D)
diuron	330-54-1	N	L005	0.05	µg/L	< 0.05 (D)
isoproturon	34123-59-6	N	L005	0.05	µg/L	< 0.05 (D)
linuron	330-55-2	N	L005	0.05	µg/L	< 0.05 (D)
methabenzthiazuron	18691-97-9	N	L005	0.05	µg/L	< 0.05 (D)
metoxuron	19937-59-8	N	L005	0.05	µg/L	< 0.05 (D)
monolinuron	1746-81-2	N	L005	0.05	µg/L	< 0.05 (D)
monuron	150-68-5	N	L005	0.05	µg/L	< 0.05 (D)
pencycuron	66063-05-6	N	L005	0.05	µg/L	< 0.05 (D)

Deviating Samples

Report No.: 23-03090-1

Customer Reference: Not Supplied

Customer Order No: 230429-40

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
20491	27924501	Viaduct Su	Not Provided	GAB1 1 L amber glass bottle	**Yes**	No sampling date provided.

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	PACKAGING	Packaging material
Solid	PLANT	Plant (vegetation)
Solid	SWAB	Swab
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Water

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
L (in results)	Result is outside normal limits
DW (in units)	Results are expressed on a dry weight basis

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230518-22
Your Reference:	326R
Location:	Victoria North
Report No:	699677
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 694261 in its entirety.

We received 9 samples on Thursday May 18, 2023 and 9 of these samples were scheduled for analysis which was completed on Thursday June 29, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28010787	BH102		2.95	16/05/2023
28010793	BH203		12.42	17/05/2023
28010788	BH204		2.62	16/05/2023
28010789	BH207		12.70	16/05/2023
28010791	BH309		2.95	16/05/2023
28010790	BH310		4.42	16/05/2023
28010792	BH311(A)		7.87	16/05/2023
28010794	SHOWMANS GUILD			16/05/2023
28045559	SHOWMANS GUILD			22/05/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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)	28010787	28010793	28010788	28010789	28010791	28010790	28010792	28010794	28045559
			Customer Sample Reference	BH102	BH203	BH204	BH207	BH309	BH310	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD
			AGS Reference									
			Depth (m)	2.95	12.42	2.62	12.70	2.95	4.42	7.87		
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	STL30 plastic, sodium	Vial (ALE297)	ZnAc (ALE246)	1000ml glass bottle (ALE220)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1												X						
Anions by Kone (w)	All	NDPs: 0 Tests: 1											X							
BOD True Total	All	NDPs: 0 Tests: 1										X								
COD Unfiltered	All	NDPs: 0 Tests: 1										X								
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1														X				
Determination of Dissolved Gases	All	NDPs: 1 Tests: 0																N		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1											X							
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1									X									
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1									X									
Faecal Coliforms (W)*	All	NDPs: 0 Tests: 1															X			
Fats Oils and Greases.	All	NDPs: 0 Tests: 1									X									
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1																X		
Mercury Dissolved	All	NDPs: 0 Tests: 1											X							
Mercury Unfiltered	All	NDPs: 0 Tests: 1													X					
Methylene blue active substances	All	NDPs: 0 Tests: 1										X								

Validated

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261

Client Ref.: 326R **Location:** Victoria North

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)	28010787	28010793	28010788	28010789	28010791	28010790	28010792								28010794	28045559
			Customer Sample Reference	BH102	BH203	BH204	BH207	BH309	BH310	BH311(A)								SHOWMANS GUILD	SHOWMANS GUILD
			AGS Reference																
			Depth (m)	2.95	12.42	2.62	12.70	2.95	4.42	7.87									
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	STL30 plastic, sodium	Vial (ALE297)	ZnAc (ALE246)	1000ml glass bottle (ALE220)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Neutralised Suspended Solids	All	NDPs: 1 Tests: 1											N						
																			X
Organotins in Aqueous Samples	All	NDPs: 0 Tests: 1									X								
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1									X								
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1									X								
PFAS Liquids	All	NDPs: 0 Tests: 7	X	X	X	X	X	X	X										
pH Value	All	NDPs: 0 Tests: 1											X						
pH Value of Filtered Water	All	NDPs: 0 Tests: 1											X						
Pharmaceuticals and Personal Care	All	NDPs: 0 Tests: 1									X								
Phenols and ethoxylates in Liquids	All	NDPs: 0 Tests: 1									X								
Settleable Solids	All	NDPs: 1 Tests: 1											N						
																			X
Settleable Solids 5 Mins	All	NDPs: 1 Tests: 1											N						
																			X
Sulphide	All	NDPs: 0 Tests: 1																X	
Suspended Solids	All	NDPs: 0 Tests: 1											X						
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1									X								
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1													X				

Validated

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261

Client Ref.: 326R **Location:** Victoria North

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)	28010787	28010793	28010788	28010789	28010791	28010790	28010792									28010794	28045559
			Customer Sample Reference	BH102	BH203	BH204	BH207	BH309	BH310	BH311(A)									SHOWMANS GUILD	SHOWMANS GUILD
			AGS Reference																	
			Depth (m)	2.95	12.42	2.62	12.70	2.95	4.42	7.87										
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	STL30 plastic, sodium	Vial (ALE297)	ZnAc (ALE246)	1000ml glass bottle (ALE220)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Total Nitrogen	All	NDPs: 0 Tests: 1											X							
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1												X						
TPH CWG (W)	All	NDPs: 0 Tests: 1									X									
Urea Herbicides (Suite 1)*	All	NDPs: 1 Tests: 1									N									X
VOC MS (W)	All	NDPs: 0 Tests: 1																X		

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261

Client Ref.: 326R **Location:** Victoria North

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.	BH102	BH203	BH204	BH207	BH309	BH310
			Depth (m)	2.95	12.42	2.62	12.70	2.95	4.42
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	16/05/2023	17/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
			Sample Time	09:55:00	12:30:00	09:23:00	11:46:00	13:52:00	12:18:00
			Date Received	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			SDG Ref	230518-22	230518-22	230518-22	230518-22	230518-22	230518-22
			Lab Sample No.(s)	28010787	28010793	28010788	28010789	28010791	28010790
			AGS Reference						
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.000025 @ #	<0.000009 @ #	<0.000029 @ #	<0.000013 @ #	<0.000015 @ #	<0.000004 @ #
PFPA (2706-90-3)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	0.000045 @ #	<0.000007 @ #	<0.000002 @ #	<0.000001 @ #
PFHxA (307-24-4)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	0.000038 @ #	0.000006 @ #	<0.000002 @ #	<0.000001 @ #
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000044 @ #	<0.000002 @ #	0.000004 @ #	0.000007 @ #	<0.000002 @ #	<0.000001 @ #
PFHpA (375-85-9)	<0.000001 mg/l	TM337		<0.000003 @ #	<0.000001 @ #	0.000051 @ #	0.000005 @ #	<0.000002 @ #	<0.000001 @ #
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	0.000013 @ #	<0.000001 @ #
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000009 @ #	0.000001 @ #	0.000064 @ #	0.000009 @ #	<0.000001 @ #	<0.000001 @ #
PFHxS (355-46-4)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	0.000006 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000002 @ #	0.000002 @ #	<0.000001 @ #	0.000002 @ #	<0.000001 @ #	<0.000001 @ #
Branched PFOS	<0.000001 mg/l	TM337		0.000002 @ #	<0.000001 @ #	<0.000001 @ #	0.000003 @ #	<0.000001 @ #	<0.000001 @ #
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000004 @ #	<0.000002 @ #	<0.000004 @ #	<0.000004 @ #	<0.000004 @ #	<0.000002 @ #
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000002	<0.000001	<0.000002	<0.000002	<0.000002	<0.000001
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000002 @ #	<0.000001 @ #	<0.000002 @ #	<0.000002 @ #	<0.000002 @ #	<0.000001 @ #
Total PFOS	<0.000001 mg/l	TM337		0.000004 @ #	0.000002 @ #	<0.000001 @ #	0.000006 @ #	<0.000001 @ #	<0.000001 @ #

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
			Depth (m)	7.87	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	16/05/2023	16/05/2023	22/05/2023			
			Sample Time	13:20:00	14:15:00	.			
			Date Received	18/05/2023	18/05/2023	18/05/2023			
			SDG Ref	230518-22	230518-22	230518-22			
			Lab Sample No.(s)	28010792	28010794	28045559			
			AGS Reference						
Chloroxuron*	mg/l	SUB				<0.0005			
Faecal coliforms confirmed (M7M)*	CFU/100ml	SUB			0				
Chlortoluron*	mg/l	SUB				<0.0005			
Diflubenzuron*	mg/l	SUB				<0.0005			
Dimefuron*	mg/l	SUB				<0.0005			
Diuron*	mg/l	SUB				<0.0005			
Isoproturon*	mg/l	SUB				<0.0005			
Linuron*	mg/l	SUB				<0.0005			
Methabenzthiauron*	mg/l	SUB				0			
Metoxuron*	mg/l	SUB				<0.0005			
Monolinuron*	mg/l	SUB				<0.0005			
Monuron*	mg/l	SUB				<0.0005			
Pencycuron*	mg/l	SUB				<0.0005			
Suspended solids, Neut. 5 mins. non-settleable	<2 mg/l	TM022				54			
Suspended solids, Neutralised 1 hr non-settleable	<2 mg/l	TM022				40			
Suspended Solids, Total neutralised	<2 mg/l	TM022				62			
Suspended solids, Neutralised 1 hr settleable	<2 mg/l	TM022				22			
Suspended solids, Neutralised 5 mins. settleable	<2 mg/l	TM022				<9			
Suspended solids, Total	<2 mg/l	TM022			59.9 ♦ #				
BOD, unfiltered	<1 mg/l	TM045			<2 #				
Organic Carbon, Total	<3 mg/l	TM090			6.43 #				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099			32 #				
Sulphide	<0.01 mg/l	TM101			0.167 #				
COD, unfiltered	<7 mg/l	TM107			22.6 ♦ #				
Arsenic (diss.filt)	<0.0005 mg/l	TM152			0.00138 2 #				
Arsenic (tot.unfilt)	<0.002 mg/l	TM152			0.00306 #				
Cadmium (diss.filt)	<0.00008 mg/l	TM152			<0.00008 2 #				
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152			<0.0005 #				
Chromium (tot.unfilt)	<0.003 mg/l	TM152			<0.003 #				
Chromium (diss.filt)	<0.001 mg/l	TM152			<0.001 2 #				
Copper (tot.unfilt)	<0.001 mg/l	TM152			<0.001 #				
Lead (tot.unfilt)	<0.001 mg/l	TM152			0.00139 #				
Copper (diss.filt)	<0.0003 mg/l	TM152			<0.0003 2 #				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD
			Depth (m)	7.87	.	.
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	16/05/2023	16/05/2023	22/05/2023
			Sample Time	13:20:00	14:15:00	.
			Date Received	18/05/2023	18/05/2023	18/05/2023
			SDG Ref	230518-22	230518-22	230518-22
			Lab Sample No.(s)	28010792	28010794	28045559
			AGS Reference			
Lead (diss.filt)	<0.0002 mg/l	TM152			<0.0002 2 #	
Nickel (tot.unfilt)	<0.001 mg/l	TM152			0.00128 #	
Selenium (tot.unfilt)	<0.001 mg/l	TM152			<0.001 #	
Nickel (diss.filt)	<0.0004 mg/l	TM152			0.00102 2 #	
Selenium (diss.filt)	<0.001 mg/l	TM152			<0.001 2 #	
Zinc (tot.unfilt)	<0.005 mg/l	TM152			0.0561 #	
Zinc (diss.filt)	<0.001 mg/l	TM152			0.00251 2 #	
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152			639	
Mercury (diss.filt)	<0.00001 mg/l	TM183			<0.00001 2 #	
Mercury (tot.unfilt)	<0.00002 mg/l	TM183			0.000021 #	
Sulphate (soluble) as S	<1 mg/l	TM184			3.73 #	
Nitrogen, Total	<1 mg/l	TM212			29.4 #	
Cyanide, Total	<0.05 mg/l	TM227			<0.05 #	
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249			0.08	
pH	<1 pH Units	TM256			7.35 ♦ #	
pH (diss.filt)	<1 pH Units	TM256			7.53 ♦	
Conductivity @ 20 deg.C (diss.filt)	<20 us/cm	TM256			1300	
Tributyl tin	<0.000001 mg/l	TM328			<0.00003	
Surrogate**	%	TM328			88.8	
PFBA (375-22-4)	<0.000002 mg/l	TM337	<0.000026 @ #			
PFPA (2706-90-3)	<0.000001 mg/l	TM337	0.000003 @ #			
PFHxA (307-24-4)	<0.000001 mg/l	TM337	0.000002 @ #			
PFBS (375-73-5)	<0.000001 mg/l	TM337	0.000006 @ #			
PFHpA (375-85-9)	<0.000001 mg/l	TM337	<0.000002 @ #			
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	<0.000002 @ #			
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.000004 @ #			
PFHxS (355-46-4)	<0.000001 mg/l	TM337	<0.000002 @ #			
PFNA (375-95-1)	<0.000001 mg/l	TM337	<0.000002 @ #			
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000002 @ #			
PFDA (335-76-2)	<0.000001 mg/l	TM337	<0.000002 @ #			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	0.000002 @ #			
Branched PFOS	<0.000001 mg/l	TM337	0.000004 @ #			
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000002 @ #			

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
			Depth (m)	7.87	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	16/05/2023	16/05/2023	22/05/2023			
			Sample Time	13:20:00	14:15:00	.			
			Date Received	18/05/2023	18/05/2023	18/05/2023			
			SDG Ref	230518-22	230518-22	230518-22			
			Lab Sample No.(s)	28010792	28010794	28045559			
			AGS Reference						
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000002 @ #					
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000004 @ #					
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000002					
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000002 @ #					
Total PFOS	<0.000001 mg/l	TM337		0.000006 @ #					
Trifluralin	<0.00001 mg/l	TM343			<0.00002				
alpha-HCH	<0.00001 mg/l	TM343			<0.00002				
gamma-HCH (Lindane)	<0.00001 mg/l	TM343			<0.00002				
Heptachlor	<0.00001 mg/l	TM343			<0.00002				
Aldrin	<0.00001 mg/l	TM343			<0.00002				
beta-HCH	<0.00001 mg/l	TM343			<0.00002				
Isodrin	<0.00001 mg/l	TM343			<0.00002				
delta-HCH	<0.00001 mg/l	TM343			<0.00002				
Heptachlor epoxide	<0.00001 mg/l	TM343			<0.00002				
o,p'-DDE	<0.00001 mg/l	TM343			<0.00002				
Endosulphan I	<0.00001 mg/l	TM343			<0.00002				
trans-Chlordane	<0.00001 mg/l	TM343			<0.00002				
cis-Chlordane	<0.00001 mg/l	TM343			<0.00002				
p,p'-DDE	<0.00001 mg/l	TM343			<0.00002				
Dieldrin	<0.00001 mg/l	TM343			<0.00002				
o,p'-DDD (TDE)	<0.00001 mg/l	TM343			<0.00002				
Endrin	<0.00001 mg/l	TM343			<0.00002				
o,p'-DDT	<0.00001 mg/l	TM343			<0.00004				
p,p'-DDD (TDE)	<0.00001 mg/l	TM343			<0.00002				
Endosulphan II	<0.00002 mg/l	TM343			<0.00004				
p,p'-DDT	<0.00001 mg/l	TM343			<0.00004				
o,p'-Methoxychlor	<0.00001 mg/l	TM343			<0.00004				
p,p'-Methoxychlor	<0.00001 mg/l	TM343			<0.00004				
Endosulphan Sulphate	<0.00002 mg/l	TM343			<0.00008				
Permethrin I	<0.00001 mg/l	TM343			<0.00002				
Permethrin II	<0.00001 mg/l	TM343			<0.00002				
Fats, Oils, Greases	<1 mg/l	TM383			<1				
4-tert-Octylphenol	<0.000014 mg/l	TM426			0.000199				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
			Depth (m)	7.87	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	16/05/2023	16/05/2023	22/05/2023			
			Sample Time	13:20:00	14:15:00	.			
			Date Received	18/05/2023	18/05/2023	18/05/2023			
			SDG Ref	230518-22	230518-22	230518-22			
			Lab Sample No.(s)	28010792	28010794	28045559			
			AGS Reference						
4-tert-Nonylphenol	<0.00004 mg/l	TM426			<0.0004				
4-n-Octylphenol	<0.000014 mg/l	TM426			<0.00014				
4-n-Nonylphenol	<0.00004 mg/l	TM426			<0.0004				
4-Nonylphenol monoethoxylate	<0.00004 mg/l	TM426			<0.0004				
4-Nonylphenol diethoxylate	<0.00004 mg/l	TM426			<0.0004				
4-Octylphenol (sum of isomers)	<0.000028 mg/l	TM426			<0.00028				
4-Nonylphenol (sum of isomers)	<0.00008 mg/l	TM426			<0.0008				
1,7-Dimethylxanthine	<0.00005 mg/l	TM432			<0.00005				
2,4-D	<0.00002 mg/l	TM432			<0.00005				
Acesulfame-K	<0.0002 mg/l	TM432			0.00106				
Acetaminophen	<0.00002 mg/l	TM432			<0.00005				
Albuterol	<0.000005 mg/l	TM432			<0.00001				
Amoxicillin	<0.0001 mg/l	TM432			<0.002				
Andorostenedione	<0.00001 mg/l	TM432			<0.00001				
Atenolol	<0.000005 mg/l	TM432			<0.00001				
Atrazine	<0.000002 mg/l	TM432			<0.000005				
Bendroflumethiazide	<0.00001 mg/l	TM432			<0.00001				
Bezafibrate	<0.000005 mg/l	TM432			<0.000025				
BPA	<0.00001 mg/l	TM432			0.000384				
Bromacil	<0.00001 mg/l	TM432			<0.00001				
Butalbital	<0.00001 mg/l	TM432			<0.00001				
Butylparaben	<0.00001 mg/l	TM432			<0.00001				
Caffeine	<0.00001 mg/l	TM432			<0.00001				
Carbadox	<0.00002 mg/l	TM432			<0.00001				
Carbamazepine	<0.000002 mg/l	TM432			<0.000002				
Carisoprodol	<0.00002 mg/l	TM432			<0.00001				
Chloramphenicol	<0.000005 mg/l	TM432			<0.00005				
Chloridazon	<0.00001 mg/l	TM432			<0.00001				
Chlorotoluron	<0.00001 mg/l	TM432			<0.00001				
Cimetidine	<0.00002 mg/l	TM432			<0.00002				
Clofibric Acid	<0.00001 mg/l	TM432			<0.00005				
Cotinine	<0.00001 mg/l	TM432			<0.00002				
DACT	<0.00005 mg/l	TM432			<0.0001				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
			Depth (m)	7.87	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	16/05/2023	16/05/2023	22/05/2023			
			Sample Time	13:20:00	14:15:00	.			
			Date Received	18/05/2023	18/05/2023	18/05/2023			
			SDG Ref	230518-22	230518-22	230518-22			
			Lab Sample No.(s)	28010792	28010794	28045559			
			AGS Reference						
DEA	<0.000005 mg/l	TM432			<0.00001				
DEET	<0.00001 mg/l	TM432			<0.00001				
Dehydronifedipine	<0.000005 mg/l	TM432			<0.000005				
DIA	<0.00005 mg/l	TM432			<0.00001				
Diclofenac	<0.00003 mg/l	TM432			<0.00005				
Dilantin	<0.00002 mg/l	TM432			<0.00002				
Diltiazem	<0.000005 mg/l	TM432			<0.00001				
Diuron	<0.000005 mg/l	TM432			<0.000005				
Erythromycin	<0.000025 mg/l	TM432			<0.00005				
Estradiol	<0.00005 mg/l	TM432			<0.00005				
Estriol	<0.00005 mg/l	TM432			<0.00005				
Estrone	<0.00001 mg/l	TM432			<0.00005				
Ethinyl Estradiol - 17 alpha	<0.0001 mg/l	TM432			<0.0001				
Ethylparaben	<0.000005 mg/l	TM432			<0.000005				
Flumeqine	<0.00005 mg/l	TM432			<0.00005				
Fluoxetine	<0.00001 mg/l	TM432			<0.0005				
Gemfibrozil	<0.000005 mg/l	TM432			<0.00002				
Ibuprofen	<0.000025 mg/l	TM432			<0.00005				
Iohexol	<0.00005 mg/l	TM432			<0.0001				
Iopromide	<0.00001 mg/l	TM432			<0.00005				
Isobutylparaben	<0.00001 mg/l	TM432			<0.00001				
Isoproturon	<0.00002 mg/l	TM432			<0.00001				
Ketoprofen	<0.000005 mg/l	TM432			<0.00001				
Ketorolac	<0.000005 mg/l	TM432			<0.000005				
Lidocaine	<0.000005 mg/l	TM432			<0.000005				
Lincomycin	<0.00005 mg/l	TM432			<0.00005				
Linuron	<0.000005 mg/l	TM432			<0.00005				
Lopressor	<0.0002 mg/l	TM432			<0.0001				
Meclofenamic Acid	<0.00005 mg/l	TM432			<0.00025				
Metazachlor	<0.000005 mg/l	TM432			<0.000005				
Metformin	<0.0001 mg/l	TM432			<0.00003				
Methylparaben	<0.000005 mg/l	TM432			0.00002				
Metolachlor	<0.000005 mg/l	TM432			<0.000005				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
			Depth (m)	7.87	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	16/05/2023	16/05/2023	22/05/2023			
			Sample Time	13:20:00	14:15:00	.			
			Date Received	18/05/2023	18/05/2023	18/05/2023			
			SDG Ref	230518-22	230518-22	230518-22			
			Lab Sample No.(s)	28010792	28010794	28045559			
			AGS Reference						
Naproxen	<0.00002 mg/l	TM432			<0.00005				
Nifedipine	<0.00001 mg/l	TM432			0.000005				
Norethisterone	<0.00002 mg/l	TM432			<0.00002				
OUST (Sulfometuron.methyl)	<0.000005 mg/l	TM432			<0.000005				
Oxolinic acid	<0.00002 mg/l	TM432			<0.00005				
Pentoxifylline	<0.00001 mg/l	TM432			<0.000005				
Phenazone	<0.00002 mg/l	TM432			0.000045				
Primidone	<0.00001 mg/l	TM432			<0.00005				
Progesterone	<0.00002 mg/l	TM432			<0.00001				
Propazine	<0.000005 mg/l	TM432			<0.000005				
Propylparaben	<0.000005 mg/l	TM432			<0.000005				
Quinoline	<0.00002 mg/l	TM432			<0.0001				
Salicylic Acid	<0.0005 mg/l	TM432			<0.0005				
Simazine	<0.000005 mg/l	TM432			<0.000005				
Sucralose	<0.0001 mg/l	TM432			<0.0001				
Sulfachloropyridazine	<0.000005 mg/l	TM432			<0.00001				
Sulfadiazine	<0.000025 mg/l	TM432			<0.00005				
Sulfadimethoxine	<0.00001 mg/l	TM432			0.000012				
Sulfamerazine	<0.000005 mg/l	TM432			0.000045				
Sulfamethazine	<0.00002 mg/l	TM432			0.000493				
Sulfamethizole	<0.00001 mg/l	TM432			0.000025				
Sulfamethoxazole	<0.000005 mg/l	TM432			<0.00001				
Sulfathiazole	<0.0001 mg/l	TM432			0.000082				
TCEP	<0.001 mg/l	TM432			<0.00125				
TCPP	<0.001 mg/l	TM432			<0.0015				
TDCPP	<0.0002 mg/l	TM432			<0.0005				
Testosterone	<0.00002 mg/l	TM432			<0.00001				
Theobromine	<0.00005 mg/l	TM432			<0.00025				
Theophylline	<0.0001 mg/l	TM432			<0.0001				
Thiabendazole	<0.000005 mg/l	TM432			<0.00001				
Triclocarban	<0.00005 mg/l	TM432			<0.0001				
Triclosan	<0.00005 mg/l	TM432			0.000779				
Trimethoprim	<0.00002 mg/l	TM432			<0.00001				

Validated

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261

Client Ref.: 326R **Location:** Victoria North

Results Legend	Customer Sample Ref.	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD			
# ISO17025 accredited.							
M mCERTS accredited.							
aq Aqueous / settled sample.							
diss.filt Dissolved / filtered sample.	Depth (m)	7.87	.	.			
tot.unfilt Total / unfiltered sample.	Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
* Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	16/05/2023	16/05/2023	22/05/2023			
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	13:20:00	14:15:00	.			
	Date Received	18/05/2023	18/05/2023	18/05/2023			
(F) Trigger breach confirmed	SDG Ref	230518-22	230518-22	230518-22			
1-4+§@ Sample deviation (see appendix)	Lab Sample No.(s)	28010792	28010794	28045559			
	AGS Reference						

Component	LOD/Units	Method						
Warfarin	<0.000005 mg/l	TM432		<0.00001				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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.				
			SHOWMANS GUILD				
Depth (m)			.				
Sample Type			Ground Water (GW)				
Date Sampled			16/05/2023				
Sample Time			14:15:00				
Date Received			18/05/2023				
SDG Ref			230518-22				
Lab Sample No.(s)			28010794				
AGS Reference							
Naphthalene (aq)	<0.00001 mg/l	TM178	0.000043 ♦ #				
Acenaphthene (aq)	<0.000005 mg/l	TM178	0.000183 ♦ #				
Acenaphthylene (aq)	<0.000005 mg/l	TM178	0.000006 ♦ #				
Fluoranthene (aq)	<0.000005 mg/l	TM178	0.00037 ♦ #				
Anthracene (aq)	<0.000005 mg/l	TM178	0.000059 ♦ #				
Phenanthrene (aq)	<0.000005 mg/l	TM178	0.000228 ♦ #				
Fluorene (aq)	<0.000005 mg/l	TM178	0.000079 ♦ #				
Chrysene (aq)	<0.000005 mg/l	TM178	0.000148 ♦ #				
Pyrene (aq)	<0.000005 mg/l	TM178	0.000357 ♦ #				
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178	0.000134 ♦ #				
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178	0.000163 ♦ #				
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178	0.000081 ♦ #				
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178	0.000193 ♦ #				
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178	0.000026 ♦ #				
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178	0.00008 ♦ #				
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178	0.000123 ♦ #				
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178	0.00227 ♦ #				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.				
			SHOWMANS GUILD				
			Depth (m)	.			
			Sample Type	Ground Water (GW)			
			Date Sampled	16/05/2023			
			Sample Time	14:15:00			
			Date Received	18/05/2023			
			SDG Ref	230518-22			
			Lab Sample No.(s)	28010794			
			AGS Reference				
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 #				
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 #				
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002 #				
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002				
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 #				
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #				
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.002				
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 #				
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #				
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 #				
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002				
Azobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.002 #				
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.002 #				
Anthracene (aq)	<0.001 mg/l	TM176	<0.002 #				
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.002 #				
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.002 #				
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.004 #				
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #				
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.002 #				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 Report Number: 699677 Superseded Report: 694261
Client Ref.: 326R Location: Victoria North

SVOC MS (W) - Aqueous

Results Legend	Customer Sample Ref.	SHOWMANS GUILD
# ISO17025 accredited.		
M mCERTS accredited.		
aq Aqueous / settled sample.		
diss.filt Dissolved / filtered sample.	Depth (m)	.
tot.unfilt Total / unfiltered sample.	Sample Type	Ground Water (GW)
* Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	16/05/2023
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	14:15:00
	Date Received	18/05/2023
	SDG Ref	230518-22
(F) Trigger breach confirmed	Lab Sample No.(s)	28010794
1-4+§@ Sample deviation (see appendix)	AGS Reference	

Component	LOD/Units	Method	
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.002 #
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.002 #
Carbazole (aq)	<0.001 mg/l	TM176	<0.002 #
Chrysene (aq)	<0.001 mg/l	TM176	<0.002 #
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.002 #
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.002 #
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.01 #
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #
Fluorene (aq)	<0.001 mg/l	TM176	<0.002 #
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.002 #
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.002
Phenol (aq)	<0.001 mg/l	TM176	<0.002
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.002 #
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.002 #
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.002 #
Naphthalene (aq)	<0.001 mg/l	TM176	<0.002 #
Isophorone (aq)	<0.001 mg/l	TM176	<0.002 #
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.002
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.002 #
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.002 #
Pyrene (aq)	<0.001 mg/l	TM176	<0.002 #

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.				
			SHOWMANS GUILD				
			Depth (m)				
			Sample Type	Ground Water (GW)			
			Date Sampled	16/05/2023			
			Sample Time	14:15:00			
			Date Received	18/05/2023			
			SDG Ref	230518-22			
			Lab Sample No.(s)	28010794			
			AGS Reference				
GRO Surrogate % recovery**	%	TM245	86				
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 #				
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01				
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01				
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01				
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01				
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01				
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01				
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01				
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01				
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.01				

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			SHOWMANS GUILD . Ground Water (GW) 16/05/2023 14:15:00 18/05/2023 230518-22 28010794				
Dibromofluoromethane**	%	TM208	119				
Toluene-d8**	%	TM208	98.4				
4-Bromofluorobenzene**	%	TM208	96.5				
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001 #				
Chloromethane	<0.001 mg/l	TM208	<0.001 #				
Vinyl chloride	<0.001 mg/l	TM208	<0.001 #				
Bromomethane	<0.001 mg/l	TM208	<0.001 #				
Chloroethane	<0.001 mg/l	TM208	<0.001 #				
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
Carbon disulphide	<0.001 mg/l	TM208	<0.001 #				
Dichloromethane	<0.003 mg/l	TM208	<0.003 #				
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001 #				
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001				
Bromochloromethane	<0.001 mg/l	TM208	<0.001 #				
Chloroform	<0.001 mg/l	TM208	<0.001 #				
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Carbontetrachloride	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
Benzene	<0.001 mg/l	TM208	<0.001 #				
Trichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				
Dibromomethane	<0.001 mg/l	TM208	<0.001 #				
Bromodichloromethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Toluene	<0.001 mg/l	TM208	<0.001 #				
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,3-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				

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.			SHOWMANS GUILD					
Depth (m)			.					
Sample Type			Ground Water (GW)					
Date Sampled			16/05/2023					
Sample Time			14:15:00					
Date Received			18/05/2023					
SDG Ref			230518-22					
Lab Sample No.(s)			28010794					
AGS Reference								
Component	**LOD/Units**	**Method**						
Tetrachloroethene	<0.001 mg/l	TM208	<0.001 #					
Dibromochloromethane	<0.001 mg/l	TM208	<0.001 #					
1,2-Dibromoethane	<0.001 mg/l	TM208	<0.001 #					
Chlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #					
Ethylbenzene	<0.001 mg/l	TM208	<0.001 #					
m,p-Xylene	<0.001 mg/l	TM208	<0.001 #					
o-Xylene	<0.001 mg/l	TM208	<0.001 #					
Styrene	<0.001 mg/l	TM208	<0.001 #					
Bromoform	<0.001 mg/l	TM208	<0.001 #					
Isopropylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #					
1,2,3-Trichloropropane	<0.001 mg/l	TM208	<0.001 #					
Bromobenzene	<0.001 mg/l	TM208	<0.001 #					
Propylbenzene	<0.001 mg/l	TM208	<0.001 #					
2-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #					
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #					
4-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #					
tert-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #					
sec-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
4-iso-Propyltoluene	<0.001 mg/l	TM208	<0.001 #					
1,3-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,4-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
n-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,2-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208	<0.001					
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
Hexachlorobutadiene	<0.001 mg/l	TM208	<0.001 #					
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208	<0.001 #					
Naphthalene	<0.001 mg/l	TM208	<0.001 #					
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208	<0.001					

Validated

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261

Client Ref.: 326R **Location:** Victoria North

VOC MS (W)

Results Legend		Customer Sample Ref.	SHOWMANS GUILD
#	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)
		Date Sampled	16/05/2023
		Sample Time	14:15:00
		Date Received	18/05/2023
		SDG Ref	230518-22
		Lab Sample No.(s)	28010794
		AGS Reference	

Component	LOD/Units	Method	
Sum of detected Xylenes	<0.002 mg/l	TM208	<0.002
Sum of BTEX	<0.005 mg/l	TM208	<0.005

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

Notification of NDPs (No determination possible)

Date Received : 18/05/2023 06:06:59

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
28010794	SHOWMANS GUILD		Neutralised Suspended Solids	Insufficient sample supplied
28010794	SHOWMANS GUILD		Settleable Solids	Insufficient sample supplied
28010794	SHOWMANS GUILD		Settleable Solids 5 Mins	Insufficient sample supplied
28010794	SHOWMANS GUILD		Urea Herbicides (Suite 1)*	Insufficient sample supplied
28010794	SHOWMANS GUILD		Determination of Dissolved Gases	Insufficient sample supplied

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
SUB	Subcontracted Test
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
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM328	
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM426	Determination of Specific Phenols and their Ethoxylates in Liquids by GC/MS/MS
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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
TM176	Determination of SVOCs in Water by GCMS
TM337	Analysis of PFAS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM432	Pharmacuiticals and Personal Care Products

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

CERTIFICATE OF ANALYSIS

SDG: 230518-22 **Report Number:** 699677 **Superseded Report:** 694261
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28010787	28010793	28010788	28010789	28010791	28010790	28010792	28010794	28045559
Customer Sample Ref.	BH102	BH203	BH204	BH207	BH309	BH310	BH311(A)	SHOWMANS GUILD	SHOWMANS GUILD
AGS Ref.									
Depth	2.95	12.42	2.62	12.70	2.95	4.42	7.87		
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen								19-May-2023	
Anions by Kone (w)								01-Jun-2023	
BOD True Total								24-May-2023	
COD Unfiltered								31-May-2023	
Cyanide Comp/Free/Total/Thiocyanate								24-May-2023	
Dissolved Metals by ICP-MS								25-May-2023	
EPH CWG (Aliphatic) Aqueous GC (W)								01-Jun-2023	
EPH CWG (Aromatic) Aqueous GC (W)								01-Jun-2023	
Faecal Coliforms (W)*								12-Jun-2023	
Fats Oils and Greases.								24-May-2023	
GRO by GC-FID (W)								19-May-2023	
Mercury Dissolved								05-Jun-2023	
Mercury Unfiltered								02-Jun-2023	
Methylene blue active substances								20-May-2023	
Neutralised Suspended Solids									30-May-2023
Organotins in Aqueous Samples								26-May-2023	
PAH Spec MS - Aqueous (W)								01-Jun-2023	
Pesticides (Suite I) by GCMS								25-May-2023	
PFAS Liquids	29-Jun-2023	29-Jun-2023	29-Jun-2023	29-Jun-2023	29-Jun-2023	29-Jun-2023	29-Jun-2023		
pH Value								31-May-2023	
pH Value of Filtered Water								31-May-2023	
Pharmaceuticals and Personal Care								06-Jun-2023	
Phenols and ethoxylates in Liquids								06-Jun-2023	
Settleable Solids									30-May-2023
Settleable Solids 5 Mins									30-May-2023
Sulphide								02-Jun-2023	
Suspended Solids								02-Jun-2023	
SVOC MS (W) - Aqueous								22-May-2023	
Total Metals by ICP-MS								02-Jun-2023	
Total Nitrogen								07-Jun-2023	
Total Organic and Inorganic Carbon								19-May-2023	
TPH CWG (W)								01-Jun-2023	
Urea Herbicides (Suite 1)*									20-Jun-2023
VOC MS (W)								19-May-2023	

ALS Laboratories (UK) Limited
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F.A.O Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside CH5 3US

12 June 2023

Test Report: COV/2487559/2023

Dear F.A.O Quotes

Analysis of your sample(s) submitted on 01 June 2023 is now complete and we have pleasure in enclosing the appropriate test report(s).

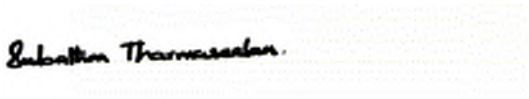
An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Laboratories (UK) Limited and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

Name: S. Tharmaseelan

Title: Legionella Team Leader

UKAS TESTING 1314
bsi ISO 14001 Environmental Management CERTIFIED EMS675527 ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 542058
MCERTS

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No.02391955.
Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.

Report Summary

ANALYSED BY

F.A.O Hawarden Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside
CH5 3US

Date of Issue: **02 June 2023**

Report Number: **COV/2487559/2023** Issue **1**

This issue replaces all previous issues

Job Description: Master Quote 2022 - 2023

Job Location: Victoris North

Number of Samples included in this report **1**

Job Received: **01 June 2023**

Number of Test Results included in this report **2**

Analysis Commenced: **01 June 2023**

Signed: Subathra Tharmaseelan

Name: **S. Tharmaseelan** Date: **02 June 2023**

Title: **Legionella Team Leader**

ALS Laboratories (UK) Limited was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.
This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No. 02391955. Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.
(c) ALS Laboratories (UK) Limited 2023. All rights reserved. We, ALS Laboratories (UK) Limited, are the owner of all copyright in this report. You must not copy, reproduce, amend or adapt this report, its contents or any format in which it is delivered without our prior written agreement. If you copy, reproduce, amend, or adapt this report in any way without our agreement you will be liable for any damage or loss to us. In the event of a dispute the copy of the report held by us shall be the reference copy.

Certificate of Analysis

ANALYSED BY

Report Number:	**COV/2487559/2023**	Issue	**1**
Laboratory Number:	**22848532**	Sample	**1** of **1**

Sample Source:	**ALS Laboratories (UK) Ltd**
Sample Point Description:	**Water Analysis**
Sample Description:	**Showmans Guild**
Sample Matrix:	**Not In Project**
Sample Date/Time:	**31 May 2023**
Sample Received:	**01 June 2023**
Analysis Complete:	**02 June 2023**

Test Description	Result	Units	Analysis Date	Accreditation		Method
Faecal coliforms presumptive	0	cfu/100ml	02/06/2023	N	Cov	W57
Faecal coliforms confirmed	0	cfu/100ml	02/06/2023	N	Cov	W57

Analyst Comments for 22848532: This sample has been analysed for Faecal coliforms presumptive, Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: S. Tharmaseelan

Name: **S. Tharmaseelan** Date: **02 June 2023**

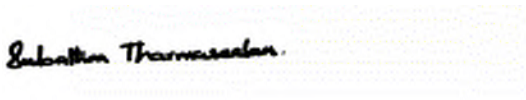
Title: **Legionella Team Leader**

ANALYST COMMENTS FOR REPORT COV/2487559/2023 Issue 1

This issue replaces all previous issues

Date of Issue: **02 June 2023**

Sample No	Analysis Comments
22848532	This sample has been analysed for Faecal coliforms presumptive, Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: 

Name: **S. Tharmaseelan** Date: **02 June 2023**

Title: **Legionella Team Leader**

DETERMINAND COMMENTS FOR REPORT COV/2487559/2023

ISSUE 1

This issue replaces all previous issues

Date of Issue: 02 June 2023

Sample No	Description	Determinand	Comments

Signed: 

Name: **S. Tharmaseelan** Date: **02 June 2023**

Title: **Legionella Team Leader**

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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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230520-22
Your Reference:	326R
Location:	Victoria North
Report No:	699680
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 693517 in its entirety.

We received 11 samples on Friday May 19, 2023 and 11 of these samples were scheduled for analysis which was completed on Thursday June 22, 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

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28025433	TP418	ES	0.50	19/05/2023
28025434	TP419	ES	1.00	19/05/2023
28025436	TP-EW02	ES	1.50	19/05/2023
28025437	TP-EW04	ES	2.00	19/05/2023
28025438	TP-EW05	ES	0.50	19/05/2023
28025439	TP-EW05	EW	0.75	19/05/2023
28025435	TP-EW08	EW	1.00	19/05/2023
28025440	TP-EW11	ES	0.50	19/05/2023
28025441	TP-EW11	EW	1.00	19/05/2023
28025442	TP-EWCS2	ES	0.40	19/05/2023
28025443	TP-EWCS2	ES	1.00	19/05/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517

Client Ref.: 326R **Location:** Victoria North

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)	28025433	28025434	28025436	28025437	28025438	28025439	28025435	28025440	28025441	28025442	28025443
			Customer Sample Reference	TP418	TP419	TP-EW02	TP-EW04	TP-EW05	TP-EW05	TP-EW08	TP-EW11	TP-EW11	TP-EWCS2	TP-EWCS2
			AGS Reference	ES	ES	ES	ES	ES	EW	EW	ES	EW	ES	ES
			Depth (m)	0.50	1.00	1.50	2.00	0.50	0.75	1.00	0.50	1.00	0.40	1.00
			Container	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	250ml BOD (ALE212)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
			Sample Type	S	S	S	S	S	S	GW	GW	S	S	GW	S	S	S	S
CEN Readings	All	NDPs: 0 Tests: 2			X		X											
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6		X				X		X			X			X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 6		X				X		X			X			X		X
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 2			X		X											
PFAS Liquids	All	NDPs: 0 Tests: 2			X		X											
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 3							X	X			X					
PFAS Solids	All	NDPs: 0 Tests: 6	X				X	X			X			X		X		
pH	All	NDPs: 0 Tests: 6		X			X	X					X			X		X
pH Value of Filtered Water	All	NDPs: 0 Tests: 2			X		X											
Phenols by HPLC (S)	All	NDPs: 0 Tests: 6		X			X	X					X			X		X
Sample description	All	NDPs: 0 Tests: 7		X		X		X	X				X			X		X
Total Organic Carbon	All	NDPs: 0 Tests: 6		X			X	X					X			X		X

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
28025433	TP418	0.50	Light Brown	Sand	Stones	Vegetation
28025434	TP419	1.00	Light Brown	Sandy Loam	Stones	Vegetation
28025436	TP-EW02	1.50	Light Brown	Clay	Stones	Vegetation
28025437	TP-EW04	2.00	Dark Brown	Sandy Clay	Stones	Vegetation
28025438	TP-EW05	0.50	Light Brown	Stone/Soil	Stones	Vegetation
28025440	TP-EW11	0.50	Dark Brown	Loamy Sand	Stones	Vegetation
28025442	TP-EWCS2	0.40	Dark Brown	Loamy Sand	Stones	Vegetation
28025443	TP-EWCS2	1.00	Dark Brown	Sandy Clay Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

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.	TP418	TP419	TP-EW02	TP-EW04	TP-EW05	TP-EW05
			Depth (m)	0.50	1.00	1.50	2.00	0.50	0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025433	28025434	28025436	28025437	28025438	28025439
			AGS Reference	ES	ES	ES	ES	ES	EW
PFBA (375-22-4)	<0.000002 mg/l	TM434							0.000006 #
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434							<0.000002 #
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434							<0.000004 #
PFPA (2706-90-3)	<0.000001 mg/l	TM434							<0.000002 #
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434							<0.000002 #
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434							<0.000002 #
NFDHA (151772-58-6)	<0.000003 mg/l	TM434							<0.000006 #
PFBS (375-73-5)	<0.000001 mg/l	TM434							0.000004 #
PFHxA (307-24-4)	<0.000001 mg/l	TM434							0.000003 #
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434							<0.000004 #
PFEESA (113507-82-7)	<0.000001 mg/l	TM434							<0.000002 #
PFHpA (375-85-9)	<0.000001 mg/l	TM434							0.000002 #
PFPeS (2706-91-4)	<0.000001 mg/l	TM434							<0.000002 #
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434							<0.00001 #
ADONA (919005-14-4)	<0.000001 mg/l	TM434							<0.000002 #
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434							<0.000002 #
FBSA (30334-69-1)	<0.000001 mg/l	TM434							<0.000002 #
PFOA (335-67-1)	<0.000001 mg/l	TM434							0.000005 #
PFHxS (355-46-4)	<0.000001 mg/l	TM434							<0.000002 #
PFNA (375-95-1)	<0.000001 mg/l	TM434							<0.000002 #
PFecHS (133201-07-7)	<0.000001 mg/l	TM434							<0.000002 #
PFHpS (375-92-8)	<0.000001 mg/l	TM434							<0.000002 #
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434							<0.000004 #
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434							<0.00001 #
PFDA (335-76-2)	<0.000002 mg/l	TM434							<0.000004 #
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434							<0.000004 #
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434							<0.00001 #
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434							0.000003 #
Branched PFOS	<0.000001 mg/l	TM434							0.000002 #
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434							<0.000004 #
PFUnA (2058-94-8)	<0.000002 mg/l	TM434							<0.000004 #
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434							<0.000002 #
PFNS (68259-12-1)	<0.000001 mg/l	TM434							<0.000002 #

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

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.	TP418	TP419	TP-EW02	TP-EW04	TP-EW05	TP-EW05
			Depth (m)	0.50	1.00	1.50	2.00	0.50	0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025433	28025434	28025436	28025437	28025438	28025439
			AGS Reference	ES	ES	ES	ES	ES	EW
FHxSA (41997-13-1)	<0.000001 mg/l	TM434							<0.000002 #
PFDoA (307-55-1)	<0.000002 mg/l	TM434							<0.000004 #
PFDS (335-77-3)	<0.000002 mg/l	TM434							<0.000004 #
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434							<0.000006 #
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434							<0.000004 #
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434							<0.000004 #
PFTeA (376-06-7)	<0.000001 mg/l	TM434							<0.000002 #
PFOSA (754-91-6)	<0.000002 mg/l	TM434							<0.000004 #
PFDoS (79780-39-5)	<0.000002 mg/l	TM434							<0.000004 #
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434							<0.000002 #
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434							<0.000002 #
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434							<0.00002 #
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434							<0.000002 #
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434							<0.00002 #
PFODA (16517-11-6)	<0.000001 mg/l	TM434							<0.000002 #
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434							<0.000002 #
Total PFOS	<0.000001 mg/l	TM434							0.000005 #
Moisture Content Ratio (% of as received sample)	%	PM024		13	14	15	14	25	
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 @ M			<0.01 @ M	<0.01 @ M	
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 @ M			<0.01 @ M	<0.01 @ M	
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 @ M			<0.015 @ M	<0.015 @ M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 @ M			<0.035 @ M	<0.035 @ M	
Organic Carbon, Total	<0.2 %	TM132		0.308 M			0.81 M	21.3 M	
pH	1 pH Units	TM133		7.4 M			8.75 M	7.12 M	
Cyanide, Total	<1 mg/kg	TM153		<1 @ M			<1 @ M	<1 @ M	
Antimony	<0.6 mg/kg	TM181		<0.6 #			<0.6 #	<6 #	
Arsenic	<0.6 mg/kg	TM181		3.8 M			7.98 M	43.7 M	
Beryllium	<0.01 mg/kg	TM181		0.729 M			0.9 M	2.8 M	
Cadmium	<0.02 mg/kg	TM181		0.537 M			0.111 M	9.84 M	
Chromium	<0.9 mg/kg	TM181		2.96 M			13.7 M	<9 M	
Copper	<1.4 mg/kg	TM181		13.4 M			24.6 M	424 M	
Lead	<0.7 mg/kg	TM181		5.64 M			18.7 M	381 M	
Mercury	<0.1 mg/kg	TM181		<0.1 M			<0.1 M	<1 M	

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

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.	TP418	TP419	TP-EW02	TP-EW04	TP-EW05	TP-EW05
			Depth (m)	0.50	1.00	1.50	2.00	0.50	0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025433	28025434	28025436	28025437	28025438	28025439
			AGS Reference	ES	ES	ES	ES	ES	EW
Nickel	<0.2 mg/kg	TM181		22.6 M			26.1 M	49.3 M	
Selenium	<1 mg/kg	TM181		<1 #			<1 #	<10 #	
Vanadium	<0.2 mg/kg	TM181		8.06 #			28.2 #	50.8 #	
Zinc	<1.9 mg/kg	TM181		694 M			57 M	2690 M	
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3			<3	<3	
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3			<3	<3	
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2			<2	<2	
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1			<1	<1	
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1			<1	<1	
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1			<1	<1	
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1			<1	<1	
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
Branched PFOS	<1 µg/kg	TM338		<1			<1	<1	
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1			<1	<1	
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1			<1	<1	
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1			<1	<1	
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1			<1	<1	
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1			<1	<1	
Total PFOS	<1 µg/kg	TM338		<1			<1	<1	

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW08	TP-EW11	TP-EW11	TP-EWCS2	TP-EWCS2
			Depth (m)	1.00	0.50	1.00	0.40	1.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025435	28025440	28025441	28025442	28025443
			AGS Reference	EW	ES	EW	ES	ES
PFBA (375-22-4)	<0.000002 mg/l	TM434		0.000016 #		<0.00013 #		
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFPA (2706-90-3)	<0.000001 mg/l	TM434		<0.000002 #		0.000011 #		
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
NFDHA (151772-58-6)	<0.000003 mg/l	TM434		<0.000006 #		<0.000006 #		
PFBS (375-73-5)	<0.000001 mg/l	TM434		0.000008 #		0.000009 #		
PFHxA (307-24-4)	<0.000001 mg/l	TM434		0.000003 #		0.00001 #		
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFEESA (113507-82-7)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFHpA (375-85-9)	<0.000001 mg/l	TM434		0.000003 #		0.000009 #		
PFPeS (2706-91-4)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434		<0.00001 #		<0.00001 #		
ADONA (919005-14-4)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
FBSA (30334-69-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFOA (335-67-1)	<0.000001 mg/l	TM434		0.000011 #		0.000011 #		
PFHxS (355-46-4)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFNA (375-95-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFecHS (133201-07-7)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFHpS (375-92-8)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434		<0.00001 #		<0.00001 #		
PFDA (335-76-2)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434		<0.00001 #		<0.00001 #		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434		0.000003 #		0.000001 #		
Branched PFOS	<0.000001 mg/l	TM434		0.000002 #		<0.000001 #		
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFUnA (2058-94-8)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFNS (68259-12-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		

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.	TP-EW08	TP-EW11	TP-EW11	TP-EWCS2	TP-EWCS2
			Depth (m)	1.00	0.50	1.00	0.40	1.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025435	28025440	28025441	28025442	28025443
			AGS Reference	EW	ES	EW	ES	ES
FHxSA (41997-13-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFDoA (307-55-1)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFDS (335-77-3)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434		<0.000006 #		<0.000006 #		
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFTeA (376-06-7)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFOSA (754-91-6)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFDoS (79780-39-5)	<0.000002 mg/l	TM434		<0.000004 #		<0.000004 #		
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434		<0.00002 #		<0.00002 #		
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434		<0.00002 #		<0.00002 #		
PFODA (16517-11-6)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434		<0.000002 #		<0.000002 #		
Total PFOS	<0.000001 mg/l	TM434		0.000005 #		0.000001 #		
Moisture Content Ratio (% of as received sample)	%	PM024			20		13	17
Phenol	<0.01 mg/kg	TM062 (S)			<0.01 @ M		<0.01 @ M	<0.01 @ M
Cresols	<0.01 mg/kg	TM062 (S)			<0.01 @ M		<0.01 @ M	<0.01 @ M
Xylenols	<0.015 mg/kg	TM062 (S)			<0.015 @ M		<0.015 @ M	<0.015 @ M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)			<0.035 @ M		<0.035 @ M	<0.035 @ M
Organic Carbon, Total	<0.2 %	TM132			14.6 M		18.1 M	2.88 M
pH	1 pH Units	TM133			7.76 M		8.23 M	8.56 M
Cyanide, Total	<1 mg/kg	TM153			<1 @ M		<1 @ M	<1 @ M
Antimony	<0.6 mg/kg	TM181			<6 #		6.04 #	<0.6 #
Arsenic	<0.6 mg/kg	TM181			28 M		23.7 M	8.63 M
Beryllium	<0.01 mg/kg	TM181			1.71 M		1.63 M	0.841 M
Cadmium	<0.02 mg/kg	TM181			0.863 M		0.843 M	0.143 M
Chromium	<0.9 mg/kg	TM181			15.2 M		<0.9 M	7.9 M
Copper	<1.4 mg/kg	TM181			160 M		254 M	51.4 M
Lead	<0.7 mg/kg	TM181			150 M		340 M	44.4 M
Mercury	<0.1 mg/kg	TM181			<1 M		<0.1 M	<0.1 M

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW08	TP-EW11	TP-EW11	TP-EWCS2	TP-EWCS2
			Depth (m)	1.00	0.50	1.00	0.40	1.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			Sample Time	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-22	230520-22	230520-22	230520-22	230520-22
			Lab Sample No.(s)	28025435	28025440	28025441	28025442	28025443
			AGS Reference	EW	ES	EW	ES	ES
Nickel	<0.2 mg/kg	TM181			39.4 M		41.5 M	23.9 M
Selenium	<1 mg/kg	TM181			<10 #		2.22 #	1.06 #
Vanadium	<0.2 mg/kg	TM181			87.7 #		43.3 #	23 #
Zinc	<1.9 mg/kg	TM181			570 M		357 M	95.6 M
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338			<3		<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338			<3		<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338			<2		<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338			<1		<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338			<1		<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338			<1		<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338			<1		<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338			<1		<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338			<1		<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338			<1		<1	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338			<1		2.61	<1
Branched PFOS	<1 µg/kg	TM338			<1		<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338			<1		<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338			<1		<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338			<1		<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338			<1		<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338			<1		<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338			<1		<1	<1
Total PFOS	<1 µg/kg	TM338			<1		2.61	<1

CERTIFICATE OF ANALYSIS

SDG: 230520-22 Report Number: 699680 Superseded Report: 693517
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	15.7
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86.5
Particle Size <4mm	>95%		

Case	
SDG	230520-22
Lab Sample Number(s)	28025434
Sampled Date	19-May-2023
Customer Sample Ref.	TP419 ESZ
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Branched PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-

Leach Test Information

Date Prepared	23-May-2023
pH (pH Units)	7.21
Conductivity (µS/cm)	46
Volume Leachant (Litres)	0.885

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 13:17:05

13:16:47 10/08/2023

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	15.7
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86.5
Particle Size <4mm	>95%		

Case	
SDG	230520-22
Lab Sample Number(s)	28025434
Sampled Date	19-May-2023
Customer Sample Ref.	TP419 ESZ
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Total PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-

Leach Test Information

Date Prepared	23-May-2023
pH (pH Units)	7.21
Conductivity (µS/cm)	46
Volume Leachant (Litres)	0.885

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 13:17:05

13:16:47 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230520-22 Report Number: 699680 Superseded Report: 693517
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.100	**Natural Moisture Content (%)**	11.6
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	89.6
Particle Size <4mm	>95%		

Case	
SDG	230520-22
Lab Sample Number(s)	28025436
Sampled Date	19-May-2023
Customer Sample Ref.	TP-EW02 ESZ
Depth (m)	1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Branched PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-

Leach Test Information

Date Prepared	23-May-2023
pH (pH Units)	7.23
Conductivity (µS/cm)	62
Volume Leachant (Litres)	0.890

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 13:17:05

13:16:47 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230520-22 Report Number: 699680 Superseded Report: 693517
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.100	**Natural Moisture Content (%)**	11.6
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	89.6
Particle Size <4mm	>95%		

Case	
SDG	230520-22
Lab Sample Number(s)	28025436
Sampled Date	19-May-2023
Customer Sample Ref.	TP-EW02 ESZ
Depth (m)	1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Total PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-

Leach Test Information

Date Prepared	23-May-2023
pH (pH Units)	7.23
Conductivity (µS/cm)	62
Volume Leachant (Litres)	0.890

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 13:17:05

13:16:47 10/08/2023

Data Amendment

Sample No. : 28025435 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28025439 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28025441 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM062 (S)	Determination of Phenols in Soils by HPLC
TM153	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM434	Analysis of PFAS
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM337	Analysis of PFAS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

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

CERTIFICATE OF ANALYSIS

SDG: 230520-22 **Report Number:** 699680 **Superseded Report:** 693517
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28025433	28025434	28025436	28025437	28025438	28025439	28025435	28025440	28025441	28025442
Customer Sample Ref.	TP418	TP419	TP-EW02	TP-EW04	TP-EW05	TP-EW05	TP-EW08	TP-EW11	TP-EW11	TP-EWCS2
AGS Ref.	ES	ES	ES	ES	ES	EW	EW	ES	EW	ES
Depth	0.50	1.00	1.50	2.00	0.50	0.75	1.00	0.50	1.00	0.40
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Ground Water	Ground Water	Soil/Solid (S)	Ground Water	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)		24-May-2023	23-May-2023							
CEN Readings		26-May-2023	05-Jun-2023							
Cyanide Comp/Free/Total/Thiocyanate	12-Jun-2023			12-Jun-2023	12-Jun-2023			13-Jun-2023		13-Jun-2023
Metals in solid samples by OES	12-Jun-2023			12-Jun-2023	12-Jun-2023			12-Jun-2023		12-Jun-2023
Moisture at 105C		23-May-2023	23-May-2023							
PFAS (Post Ox.) Liquids		01-Jun-2023	07-Jun-2023							
PFAS Liquids		30-May-2023	06-Jun-2023							
PFAS Liquids (Full Suite)						22-Jun-2023	22-Jun-2023		22-Jun-2023	
PFAS Solids	25-May-2023			25-May-2023	25-May-2023			25-May-2023		25-May-2023
pH	12-Jun-2023			08-Jun-2023	12-Jun-2023			08-Jun-2023		08-Jun-2023
pH Value of Filtered Water		26-May-2023	05-Jun-2023							
Phenols by HPLC (S)	12-Jun-2023			12-Jun-2023	12-Jun-2023			12-Jun-2023		12-Jun-2023
Sample description	23-May-2023	23-May-2023	23-May-2023	23-May-2023	23-May-2023			23-May-2023		23-May-2023
Total Organic Carbon	13-Jun-2023			13-Jun-2023	13-Jun-2023			13-Jun-2023		12-Jun-2023

Lab Sample No(s)	28025443
Customer Sample Ref.	TP-EWCS2
AGS Ref.	ES
Depth	1.00
Type	Soil/Solid (S)
Cyanide Comp/Free/Total/Thiocyanate	13-Jun-2023
Metals in solid samples by OES	12-Jun-2023
PFAS Solids	25-May-2023
pH	08-Jun-2023
Phenols by HPLC (S)	12-Jun-2023
Sample description	23-May-2023
Total Organic Carbon	12-Jun-2023

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230520-23
Your Reference:	326R
Location:	Victoria North
Report No:	699679
Order Number:	RIT298665896

This report has been revised and directly supersedes 693518 in its entirety.

We received 15 samples on Friday May 19, 2023 and 15 of these samples were scheduled for analysis which was completed on Thursday June 22, 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

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28025796	TP-CS3	ES1A	1.50	18/05/2023
28025797	TP-CS3	EW2A	1.70	18/05/2023
28025799	TP-CS4	ES2A	1.60	18/05/2023
28025800	TP-CS4	EW4A	1.70	18/05/2023
28025801	TP-CS4	ES3A	1.80	18/05/2023
28025804	TP-CS7	ES1A	0.50	18/05/2023
28025805	TP-CS7	EW3A	2.00	18/05/2023
28025806	TP-CS7	ES2A	2.65	18/05/2023
28025807	TP-CS8	ES1A	0.50	18/05/2023
28025808	TP-CS8	EW4A	1.50	18/05/2023
28025809	TP-CS8	ES2A	1.50	18/05/2023
28025810	TP-CS8	ES3A	2.00	18/05/2023
28025798	TP-CS3A	EW3A	1.20	18/05/2023
28025802	TP-CS4A	ES1A	0.50	18/05/2023
28025803	TP-CS4A	ES2A	1.50	18/05/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518

Client Ref.: 326R **Location:** Victoria North

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)	28025796	28025797	28025799	28025800	28025801	28025804	28025805	28025806	28025807	28025808	28025809
			Customer Sample Reference	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A	EW3A	ES2A	ES1A	EW4A	ES2A
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50	2.00	2.65	0.50	1.50	1.50
			Container	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	500ml Plastic (ALE208)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)
			Sample Type	S	S	S	GW	S	S	S	S	S	GW	S	S	S	S	GW	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2								X									
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9		X		X		X		X			X			X			
EPH CWG GC (S)	All	NDPs: 0 Tests: 6		X				X			X								
GRO by GC-FID (S)	All	NDPs: 0 Tests: 6			X				X			X							
Metals in solid samples by OES	All	NDPs: 0 Tests: 11		X		X		X		X	X			X			X		
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 4			X		X			X					X			X	
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 4	X											X					X
PFAS Liquids	All	NDPs: 0 Tests: 4			X		X			X					X			X	
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 4			X		X			X					X			X	
PFAS Solids	All	NDPs: 0 Tests: 9	X			X		X			X			X			X		X
pH	All	NDPs: 0 Tests: 9		X		X		X		X						X			
Phenols by HPLC (S)	All	NDPs: 0 Tests: 9		X		X		X		X						X			
Sample description	All	NDPs: 0 Tests: 11		X		X		X		X	X					X			
Total Organic Carbon	All	NDPs: 0 Tests: 9		X		X		X		X						X			
TPH CWG GC (S)	All	NDPs: 0 Tests: 6		X				X			X								

28025803	TP-CS4A	ES2A	1.50	60g VOC (ALE215)	S				X											
				250g Amber Jar (ALE210)	S		X	X		X						X	X	X	X	X
				1kg TUB with Handle (ALE260)	S										X					
28025802	TP-CS4A	ES1A	0.50	250g Amber Jar (ALE210)	S		X			X						X	X	X	X	
				1kg TUB with Handle (ALE260)	S	X									X					
28025798	TP-CS3A	EW3A	1.20	60g VOC (ALE215)	S				X											
				250g Amber Jar (ALE210)	S			X		X								X		X
28025810	TP-CS8	ES3A	2.00	60g VOC (ALE215)	S				X											
				250g Amber Jar (ALE210)	S		X	X		X						X	X	X	X	X
				1kg TUB with Handle (ALE260)	S							X			X					
28025809	TP-CS8	ES2A	1.50	250g Amber Jar (ALE210)	S		X			X						X	X	X	X	

Validated

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518

Client Ref.: 326R **Location:** Victoria North

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)			28025796	28025797	28025799	28025800	28025801	28025804	28025805	28025806	28025807	28025808	28025809
Customer Sample Reference			TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8
AGS Reference			ES1A	EW2A	ES2A	EW4A	ES3A	ES1A	EW3A	ES2A	ES1A	EW4A	ES2A
Depth (m)			1.50	1.70	1.60	1.70	1.80	0.50	2.00	2.65	0.50	1.50	1.50
Container			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	500ml Plastic (ALE208)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	500ml Plastic (ALE208)	1kg TUB with Handle (ALE260)
Sample Type			S	S	S	GW	S	S	GW	S	S	S	S	S	S	S	S	GW	S
VOC MS (S)	All	NDPs: 0 Tests: 6			X								X				X		

28025803	TP-CS4A	ES2A	1.50	60g VOC (ALE215)	S		x
				250g Amber Jar (ALE210)	S		
				1kg TUB with Handle (ALE260)	S		
28025802	TP-CS4A	ES1A	0.50	250g Amber Jar (ALE210)	S		
				1kg TUB with Handle (ALE260)	S		
28025798	TP-CS3A	EW3A	1.20	60g VOC (ALE215)	S		x
				250g Amber Jar (ALE210)	S		
28025810	TP-CS8	ES3A	2.00	60g VOC (ALE215)	S		x
				250g Amber Jar (ALE210)	S		
				1kg TUB with Handle (ALE260)	S		
28025809	TP-CS8	ES2A	1.50	250g Amber Jar (ALE210)	S		

CERTIFICATE OF ANALYSIS

SDG: 230520-23 Report Number: 699679 Superseded Report: 693518
Client Ref.: 326R Location: Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
28025796	TP-CS3	1.50	Dark Brown	Loamy Sand	Stones	Vegetation
28025799	TP-CS4	1.60	Dark Brown	Sandy Clay Loam	Stones	Vegetation
28025801	TP-CS4	1.80	Dark Brown	Sandy Clay Loam	Stones	Vegetation
28025804	TP-CS7	0.50	Dark Brown	Loamy Sand	Stones	Brick
28025806	TP-CS7	2.65	Dark Brown	Clay	Stones	None
28025807	TP-CS8	0.50	Dark Brown	Loamy Sand	Stones	None
28025809	TP-CS8	1.50	Dark Brown	Sand	Stones	None
28025810	TP-CS8	2.00	Dark Brown	Sand	None	None
28025798	TP-CS3A	1.20	Dark Brown	Sand	Stones	N/A
28025802	TP-CS4A	0.50	Dark Brown	Sand	Stones	Brick
28025803	TP-CS4A	1.50	Dark Brown	Sandy Clay Loam	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50
			Sample Type	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025797	28025799	28025800	28025801	28025804
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A
PFBA (375-22-4)	<0.000002 mg/l	TM337			0.000046 #		0.000055 #		
PFPA (2706-90-3)	<0.000001 mg/l	TM337			0.000023 #		0.000023 #		
PFHxA (307-24-4)	<0.000001 mg/l	TM337			0.000016 #		0.000021 #		
PFBS (375-73-5)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFHpA (375-85-9)	<0.000001 mg/l	TM337			0.00001 #		0.000013 #		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFOA (335-67-1)	<0.000001 mg/l	TM337			0.000041 #		0.00005 #		
PFHxS (355-46-4)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFNA (375-95-1)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFHpS (375-92-8)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFDA (335-76-2)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337			0.000033 #		0.000021 #		
Branched PFOS	<0.000001 mg/l	TM337			0.000017 #		0.000012 #		
PFUnA (2058-94-8)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFDoA (307-55-1)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
PFOSA (754-91-6)	<0.000002 mg/l	TM337			<0.00002 #		<0.00002 #		
PFDS (335-77-3)	<0.000001 mg/l	TM337			<0.00001		<0.00001		
PFPeS (2706-91-4)	<0.000001 mg/l	TM337			<0.00001 #		<0.00001 #		
Total PFOS	<0.000001 mg/l	TM337			0.00005 #		0.000033 #		
PFBA (Post Ox.) (375-22-4)	<0.000004 mg/l	TM405			<0.00002		0.000024		
PFPA (Post Ox.) (2706-90-3)	<0.000002 mg/l	TM405			<0.00001		0.000015		
PFHxA (Post Ox.) (307-24-4)	<0.000002 mg/l	TM405			<0.00001		0.000017		
PFBS (Post Ox.) (375-73-5)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFHpA (Post Ox.) (375-85-9)	<0.000002 mg/l	TM405			0.000014		0.000015		
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFOA (Post Ox.) (335-67-1)	<0.000002 mg/l	TM405			0.000044		0.000047		
PFHxS (Post Ox.) (355-46-4)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFNA (Post Ox.) (375-95-1)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFHpS (Post Ox.) (375-92-8)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFDA (Post Ox.) (335-76-2)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002 mg/l	TM405			0.000037		0.000027		
Branched PFOS (Post Ox.)	<0.000002 mg/l	TM405			0.000022		0.000014		
PFUnA (Post Ox.) (2058-94-8)	<0.000002 mg/l	TM405			<0.00001		<0.00001		

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.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50
			Sample Type	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025797	28025799	28025800	28025801	28025804
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A
PFDoA (Post Ox.) (307-55-1)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFOSA (Post Ox.) (754-91-6)	<0.000004 mg/l	TM405			<0.00002		<0.00002		
PFDS (Post Ox.) (335-77-3)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
PFPeS (Post Ox.) (2706-91-4)	<0.000002 mg/l	TM405			<0.00001		<0.00001		
Total PFOS (Post Ox.)	<0.000002 mg/l	TM405			0.000059		0.00004		
PFBA (375-22-4)	<0.000002 mg/l	TM434			0.000027 #		0.000017 #		
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFPA (2706-90-3)	<0.000001 mg/l	TM434			0.000015 #		0.000016 #		
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
NFDHA (151772-58-6)	<0.000003 mg/l	TM434			<0.000006 #		<0.000006 #		
PFBS (375-73-5)	<0.000001 mg/l	TM434			0.000006 #		0.000008 #		
PFHxA (307-24-4)	<0.000001 mg/l	TM434			0.000009 #		0.000007 #		
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFEESA (113507-82-7)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFHpA (375-85-9)	<0.000001 mg/l	TM434			0.000008 #		0.000009 #		
PFPeS (2706-91-4)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434			<0.00001 #		<0.00001 #		
ADONA (919005-14-4)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
FBSA (30334-69-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFOA (335-67-1)	<0.000001 mg/l	TM434			0.000023 #		0.000021 #		
PFHxS (355-46-4)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFNA (375-95-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFecHS (133201-07-7)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFHpS (375-92-8)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434			<0.00001 #		<0.00001 #		
PFDA (335-76-2)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434			<0.00001 #		<0.00001 #		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434			0.000017 #		0.000008 #		

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.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50
			Sample Type	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025797	28025799	28025800	28025801	28025804
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A
Branched PFOS	<0.000001 mg/l	TM434			0.000009 #		0.000003 #		
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFUnA (2058-94-8)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFNS (68259-12-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
FHxSA (41997-13-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFDoA (307-55-1)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFDS (335-77-3)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434			<0.000006 #		<0.000006 #		
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFTeA (376-06-7)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFOSA (754-91-6)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFDoS (79780-39-5)	<0.000002 mg/l	TM434			<0.000004 #		<0.000004 #		
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434			<0.00002 #		<0.00002 #		
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434			<0.00002 #		<0.00002 #		
PFODA (16517-11-6)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434			<0.000002 #		<0.000002 #		
Total PFOS	<0.000001 mg/l	TM434			0.000026 #		0.000012 #		
Moisture Content Ratio (% of as received sample)	%	PM024		14		19		18	18
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M		<0.01 M		<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M		<0.01 M		<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M		<0.015 M		<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M		<0.035 M		<0.035 M	<0.035 M
Organic Carbon, Total	<0.2 %	TM132		2.36 M		2.24 M		1.82 M	8.41 M
pH	1 pH Units	TM133		8.19 M		8.65 M		8.77 M	8.04 M
Cyanide, Total	<1 mg/kg	TM153		<1 M		<1 M		<1 M	<1 M
Antimony	<0.6 mg/kg	TM181		<0.6 #		<0.6 #		3.73 #	3.46 #
Arsenic	<0.6 mg/kg	TM181		<0.6 M		8.45 M		9.73 M	19.4 M
Beryllium	<0.01 mg/kg	TM181		0.015 M		1.12 M		1.23 M	0.928 M

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.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50
			Sample Type	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025797	28025799	28025800	28025801	28025804
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A
Cadmium	<0.02 mg/kg	TM181		<0.02 M		0.199 M		0.258 M	0.953 M
Chromium	<0.9 mg/kg	TM181		<0.9 M		9.33 M		9.06 M	13.7 M
Copper	<1.4 mg/kg	TM181		<1.4 M		69.3 M		76.4 M	124 M
Lead	<0.7 mg/kg	TM181		0.836 M		390 M		277 M	121 M
Mercury	<0.1 mg/kg	TM181		<0.1 M		<0.1 M		<0.1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		0.372 M		29.6 M		29.8 M	31.6 M
Selenium	<1 mg/kg	TM181		<1 #		<1 #		<1 #	1.41 #
Vanadium	<0.2 mg/kg	TM181		0.414 #		26.1 #		27 #	26.8 #
Zinc	<1.9 mg/kg	TM181		<1.9 M		92.9 M		76.4 M	238 M
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3		<3		<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3		<3		<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2		<2		<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
Branched PFOS	<1 µg/kg	TM338		<1		<1		<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1		<1		<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1		<1		<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1		<1		<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1		<1		<1	<1
Total PFOS	<1 µg/kg	TM338		<1		<1		<1	<1
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428		<3					
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428		<3					
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428		<2					
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428		<1					
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428		<1					

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7
			Depth (m)	1.50	1.70	1.60	1.70	1.80	0.50
			Sample Type	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025797	28025799	28025800	28025801	28025804
			AGS Reference	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428		<1					
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428		<1					
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428		<1					
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428		<1					
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428		<1					
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428		<1					
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428		<1					
Branched PFOS (Post Ox.)	<1 µg/kg	TM428		<1					
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428		<1					
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428		<1					
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428		<1					
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428		<1					
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428		<1					
Total PFOS (Post Ox.)	<2 µg/kg	TM428		<2					

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8	TP-CS8
			Depth (m)	2.00	2.65	0.50	1.50	1.50	2.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025805	28025806	28025807	28025808	28025809	28025810
			AGS Reference	EW3A	ES2A	ES1A	EW4A	ES2A	ES3A
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.00001 #			0.000048 #		
PFPA (2706-90-3)	<0.000001 mg/l	TM337		0.000023 #			0.00002 #		
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.00002 #			0.000019 #		
PFBS (375-73-5)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFHpA (375-85-9)	<0.000001 mg/l	TM337		0.000017 #			0.000014 #		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		0.000008 #			<0.00001 #		
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000035 #			0.00005 #		
PFHxS (355-46-4)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000012 #			0.000028 #		
Branched PFOS	<0.000001 mg/l	TM337		0.000007 #			0.000015 #		
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.00001 #			<0.00002 #		
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000005			<0.00001		
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000005 #			<0.00001 #		
Total PFOS	<0.000001 mg/l	TM337		0.000019 #			0.000043 #		
PFBA (Post Ox.) (375-22-4)	<0.000004 mg/l	TM405		0.000018			0.000042		
PFPA (Post Ox.) (2706-90-3)	<0.000002 mg/l	TM405		0.000027			0.00002		
PFHxA (Post Ox.) (307-24-4)	<0.000002 mg/l	TM405		0.000019			0.000028		
PFBS (Post Ox.) (375-73-5)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFHpA (Post Ox.) (375-85-9)	<0.000002 mg/l	TM405		0.000018			0.000018		
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFOA (Post Ox.) (335-67-1)	<0.000002 mg/l	TM405		0.00003			0.000056		
PFHxS (Post Ox.) (355-46-4)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFNA (Post Ox.) (375-95-1)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFHpS (Post Ox.) (375-92-8)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFDA (Post Ox.) (335-76-2)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002 mg/l	TM405		0.000016			0.000037		
Branched PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000007			0.000019		
PFUnA (Post Ox.) (2058-94-8)	<0.000002 mg/l	TM405		<0.000005			<0.00001		

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.	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8	TP-CS8
			Depth (m)	2.00	2.65	0.50	1.50	1.50	2.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025805	28025806	28025807	28025808	28025809	28025810
			AGS Reference	EW3A	ES2A	ES1A	EW4A	ES2A	ES3A
PFDoA (Post Ox.) (307-55-1)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFOSA (Post Ox.) (754-91-6)	<0.000004 mg/l	TM405		<0.00001			<0.00002		
PFDS (Post Ox.) (335-77-3)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
PFPeS (Post Ox.) (2706-91-4)	<0.000002 mg/l	TM405		<0.000005			<0.00001		
Total PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000023			0.000056		
PFBA (375-22-4)	<0.000002 mg/l	TM434		0.000013 #			0.000013 #		
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFPA (2706-90-3)	<0.000001 mg/l	TM434		0.000024 #			0.00001 #		
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
NFDHA (151772-58-6)	<0.000003 mg/l	TM434		<0.000006 #			<0.000006 #		
PFBS (375-73-5)	<0.000001 mg/l	TM434		0.000006 #			0.000008 #		
PFHxA (307-24-4)	<0.000001 mg/l	TM434		0.000023 #			0.000006 #		
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFEESA (113507-82-7)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFHpA (375-85-9)	<0.000001 mg/l	TM434		0.000014 #			0.000008 #		
PFPeS (2706-91-4)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434		<0.00001 #			<0.00001 #		
ADONA (919005-14-4)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434		0.000005 #			<0.000002 #		
FBSA (30334-69-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFOA (335-67-1)	<0.000001 mg/l	TM434		0.000024 #			0.00002 #		
PFHxS (355-46-4)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFNA (375-95-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFecHS (133201-07-7)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFHpS (375-92-8)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434		<0.00001 #			<0.00001 #		
PFDA (335-76-2)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434		0.000006 #			<0.000004 #		
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434		<0.00001 #			<0.00001 #		
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434		0.000013 #			0.000011 #		

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8	TP-CS8
			Depth (m)	2.00	2.65	0.50	1.50	1.50	2.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025805	28025806	28025807	28025808	28025809	28025810
			AGS Reference	EW3A	ES2A	ES1A	EW4A	ES2A	ES3A
Branched PFOS	<0.000001 mg/l	TM434		0.000006 #			0.000004 #		
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFUnA (2058-94-8)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFNS (68259-12-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
FHxSA (41997-13-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFDoA (307-55-1)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFDS (335-77-3)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434		<0.000006 #			<0.000006 #		
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFTeA (376-06-7)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFOSA (754-91-6)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFDoS (79780-39-5)	<0.000002 mg/l	TM434		<0.000004 #			<0.000004 #		
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434		<0.00002 #			<0.00002 #		
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434		<0.00002 #			<0.00002 #		
PFODA (16517-11-6)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434		<0.000002 #			<0.000002 #		
Total PFOS	<0.000001 mg/l	TM434		0.000019 #			0.000015 #		
Moisture Content Ratio (% of as received sample)	%	PM024			10	15		14	17
Phenol	<0.01 mg/kg	TM062 (S)				<0.01 M		<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)				<0.01 M		<0.01 M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)				<0.015 M		<0.015 M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)				<0.035 M		<0.035 M	<0.035 M
Organic Carbon, Total	<0.2 %	TM132				27.4 M		0.258 M	0.336 M
pH	1 pH Units	TM133				7.78 M		8.92 M	9.02 M
Cyanide, Total	<1 mg/kg	TM153				<1 M		<1 M	<1 M
Antimony	<0.6 mg/kg	TM181			<0.6 #	3.91 #		<0.6 #	<0.6 #
Arsenic	<0.6 mg/kg	TM181			8.77 M	18.8 M		4.18 M	<0.6 M
Barium	<0.6 mg/kg	TM181			31.1 #			97.5 #	

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
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- * 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.	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8	TP-CS8
			Depth (m)	2.00	2.65	0.50	1.50	1.50	2.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025805	28025806	28025807	28025808	28025809	28025810
			AGS Reference	EW3A	ES2A	ES1A	EW4A	ES2A	ES3A
Beryllium	<0.01 mg/kg	TM181		1.02 M		1.57 M		0.282 M	<0.01 M
Cadmium	<0.02 mg/kg	TM181		0.23 M		2.88 M		0.0908 M	<0.02 M
Chromium	<0.9 mg/kg	TM181		10.6 M		1.6 M		1.65 M	<0.9 M
Copper	<1.4 mg/kg	TM181		5.11 M		320 M		8.95 M	<1.4 M
Lead	<0.7 mg/kg	TM181		9.59 M		233 M		7.21 M	<0.7 M
Mercury	<0.1 mg/kg	TM181		<0.1 M		0.42 M		<0.1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		34 M		47.4 M		7.39 M	<0.2 M
Selenium	<1 mg/kg	TM181		<1 #		1.64 #		<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181		31.5 #		32.3 #		9.31 #	<0.2 #
Zinc	<1.9 mg/kg	TM181		38.5 M		854 M		36.1 M	<1.9 M
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338				<3		<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338				<3		<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338				<2		<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338				<1		<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338				<1		<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338				<1		<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338				<1		<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338				<1		<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338				<1		<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338				<1		<1	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338				<1		<1	<1
Branched PFOS	<1 µg/kg	TM338				<1		<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338				<1		<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338				<1		<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338				<1		<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338				<1		<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338				<1		<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338				<1		<1	<1
Total PFOS	<1 µg/kg	TM338				<1		<1	<1
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428				<3		<3	<3
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428				<3		<3	<3
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428				<2		<2	<2
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428				<1		<1	<1

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS7	TP-CS7	TP-CS8	TP-CS8	TP-CS8	TP-CS8
			Depth (m)	2.00	2.65	0.50	1.50	1.50	2.00
			Sample Type	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025805	28025806	28025807	28025808	28025809	28025810
			AGS Reference	EW3A	ES2A	ES1A	EW4A	ES2A	ES3A
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428				<1		<1	<1
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428				<1		<1	<1
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428				<1		<1	<1
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428				<1		<1	<1
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428				<1		<1	<1
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428				<1		<1	<1
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428				<1		<1	<1
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428				1.52		<1	<1
Branched PFOS (Post Ox.)	<1 µg/kg	TM428				<1		<1	<1
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428				<1		<1	<1
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428				<1		<1	<1
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428				<1		<1	<1
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428				<1		<1	<1
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428				<1		<1	<1
Total PFOS (Post Ox.)	<2 µg/kg	TM428				<2		<2	<2

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

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.	TP-CS3A	TP-CS4A	TP-CS4A			
			Depth (m)	1.20	0.50	1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	18/05/2023	18/05/2023	18/05/2023			
			Sample Time	.	.	.			
			Date Received	19/05/2023	19/05/2023	19/05/2023			
			SDG Ref	230520-23	230520-23	230520-23			
			Lab Sample No.(s)	28025798	28025802	28025803			
			AGS Reference	EW3A	ES1A	ES2A			
Moisture Content Ratio (% of as received sample)	%	PM024		27	8.3	16			
Phenol	<0.01 mg/kg	TM062 (S)			<0.01 M	<0.01 M			
Cresols	<0.01 mg/kg	TM062 (S)			<0.01 M	<0.01 M			
Xylenols	<0.015 mg/kg	TM062 (S)			<0.015 M	<0.015 M			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)			<0.035 M	<0.035 M			
Organic Carbon, Total	<0.2 %	TM132			16.5 M	0.313 M			
pH	1 pH Units	TM133			8.43 M	8.96 M			
Cyanide, Total	<1 mg/kg	TM153			<1 M	<1 M			
Antimony	<0.6 mg/kg	TM181		3.31 #	4 #	<0.6 #			
Arsenic	<0.6 mg/kg	TM181		23 M	19.7 M	15.4 M			
Beryllium	<0.01 mg/kg	TM181		2.12 M	1.24 M	0.889 M			
Cadmium	<0.02 mg/kg	TM181		0.433 M	0.554 M	0.2 M			
Chromium	<0.9 mg/kg	TM181		2.46 M	10.4 M	10.6 M			
Copper	<1.4 mg/kg	TM181		237 M	138 M	11.5 M			
Lead	<0.7 mg/kg	TM181		277 M	218 M	44.3 M			
Mercury	<0.1 mg/kg	TM181		0.116 M	0.1 M	<0.1 M			
Nickel	<0.2 mg/kg	TM181		45.5 M	30 M	33.9 M			
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #			
Vanadium	<0.2 mg/kg	TM181		47.9 #	36.5 #	21.7 #			
Zinc	<1.9 mg/kg	TM181		251 M	164 M	36.8 M			
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338			<3	<3			
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338			<3	<3			
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338			<2	<2			
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338			<1	<1			
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338			<1	<1			
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338			<1	<1			
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338			<1	<1			
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338			<1	<1			
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338			<1	<1			
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338			<1	<1			
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338			3.01	<1			
Branched PFOS	<1 µg/kg	TM338			<1	<1			
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338			<1	<1			

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

Results Legend								
# ISO17025 accredited.	Customer Sample Ref.	TP-CS3A	TP-CS4A	TP-CS4A			
M mCERTS accredited.								
aq Aqueous / settled sample.	Depth (m)	1.20	0.50	1.50			
diss.filt Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
tot.unfilt Total / unfiltered sample.	Date Sampled	18/05/2023	18/05/2023	18/05/2023			
* Subcontracted - refer to subcontractor report for accreditation status.	Sample Time	.	.	.			
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	19/05/2023	19/05/2023	19/05/2023			
	SDG Ref	230520-23	230520-23	230520-23			
(F) Trigger breach confirmed	Lab Sample No.(s)	28025798	28025802	28025803			
1-4+§@ Sample deviation (see appendix)	AGS Reference	EW3A	ES1A	ES2A			

Component	LOD/Units	Method						
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1			
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1			
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1			
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1			
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1			
Total PFOS	<1 µg/kg	TM338		3.01	<1			

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

TPH CWG (S)

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.			TP-CS3	TP-CS4	TP-CS7	TP-CS8	TP-CS3A	TP-CS4A
Depth (m)			1.50	1.80	2.65	2.00	1.20	1.50
Sample Type			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Date Sampled			18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
Sample Time			.	.	.	.	.	.
Date Received			19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
SDG Ref			230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
Lab Sample No.(s)			28025796	28025801	28025806	28025810	28025798	28025803
AGS Reference			ES1A	ES3A	ES2A	ES3A	EW3A	ES2A
Component	**LOD/Units**	**Method**						
GRO Surrogate % recovery**	%	TM089	97.7	107	111	111	52.8 4	99.8
Aliphatics >C5-C6 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	<10
Aliphatics >C6-C8 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	11.9
Aliphatics >C8-C10 (HS_1D_AL)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	13.1
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #	<1000 #	<1000 #	<1000 #	5270 #	<1000 #
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000 #	3900 #	<1000 #	<1000 #	5420 #	<1000 #
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1000 µg/kg	TM414	2470 #	6650 #	<1000 #	<1000 #	4120 #	<1000 #
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1000 µg/kg	TM414	3320 #	10600 #	<1000 #	<1000 #	1160 #	<1000 #
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1000 µg/kg	TM414	<1000	<1000	<1000	<1000	<1000	<1000
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	6190	21900	<5000	<5000	16000	<5000
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10000 µg/kg	TM414	84000	636000	<10000	<10000	111000	22600
Aromatics >EC5-EC7 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	<10
Aromatics >EC7-EC8 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	<10
Aromatics >EC8-EC10 (HS_1D_AR)	<10 µg/kg	TM089	<10	<10	<10	<10	<10 4	<10
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1000 µg/kg	TM414	<1000 #	1980 #	<1000 #	<1000 #	2370 #	<1000 #
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1000 µg/kg	TM414	1040 #	53500 #	<1000 #	<1000 #	23700 #	1220 #
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1000 µg/kg	TM414	10100 #	183000 #	<1000 #	1470 #	35100 #	6400 #
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1000 µg/kg	TM414	51600 #	320000 #	<1000 #	1110 #	33200 #	12700 #
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	15000	54700	<1000	<1000	<1000	1180
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1000 µg/kg	TM414	3480	9940	<1000	<1000	<1000	<1000
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5000 µg/kg	TM414	77800	614000	<5000	<5000	95300	21700
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10000 µg/kg	TM414	84000	636000	<10000	<10000	133000	12000
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50 4	<50
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<50 µg/kg	TM089	<50	<50	<50	<50	<50 4	<50
GRO >C5-C10 (HS_1D_TOTAL)	<20 µg/kg	TM089	<20	<20	<20	<20	<20 4	<20

CERTIFICATE OF ANALYSIS

SDG: 230520-23 Report Number: 699679 Superseded Report: 693518

Client Ref.: 326R Location: Victoria North

VOC MS (S)

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.	TP-CS3	TP-CS4	TP-CS7	TP-CS8	TP-CS3A	TP-CS4A
			Depth (m)	1.50	1.80	2.65	2.00	1.20	1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025801	28025806	28025810	28025798	28025803
			AGS Reference	ES1A	ES3A	ES2A	ES3A	EW3A	ES2A
Dibromofluoromethane**	%	TM116		105	115	106	112	111	97.7
Toluene-d8**	%	TM116		94.8	97.7	98.6	92.9	97.1	91.7
4-Bromofluorobenzene**	%	TM116		85	85.6	97.9	81.8	88.9	76.8
Dichlorodifluoromethane	<0.5 µg/kg	TM116		<6 #	<6 #	<6 #	<6 #	<6 #	<6 #
Chloromethane	<2 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Vinyl Chloride	<0.5 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<6 M	<6 M
Bromomethane	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Chloroethane	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Trichlorofluorormethane	<0.5 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<6 M	<6 M
1,1-Dichloroethene	<0.5 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Carbon Disulphide	<1 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<7 M	<7 M
Dichloromethane	<5 µg/kg	TM116		<10 #	35.3 #	<10 #	<10 #	<10 #	30.5 #
Methyl Tertiary Butyl Ether	<0.5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
trans-1,2-Dichloroethene	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
1,1-Dichloroethane	<0.5 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
cis-1,2-Dichloroethene	<0.5 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<6 M	<6 M
2,2-Dichloropropane	<1 µg/kg	TM116		<10	<10	<10	<10	<10	<10
Bromochloromethane	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Chloroform	<3 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
1,1,1-Trichloroethane	<0.5 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<7 M	<7 M
1,1-Dichloropropene	<0.5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Carbontetrachloride	<0.5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
1,2-Dichloroethane	<1 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<5 M	<5 M
Benzene	<1 µg/kg	TM116		<9 M	26.4 M	95.3 M	<9 M	<9 M	<9 M
Trichloroethene	<1 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #	<9 #	<9 #
1,2-Dichloropropane	<0.5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Dibromomethane	<1 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<9 M	<9 M
Bromodichloromethane	<2 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<7 M	<7 M
cis-1,3-Dichloropropene	<0.5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Toluene	<1 µg/kg	TM116		<7 M	<7 M	9.95 M	<7 M	<7 M	<7 M
trans-1,3-Dichloropropene	<1 µg/kg	TM116		<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
1,3-Dichloropropane	<1 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<7 M	<7 M

VOC MS (S)

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.	TP-CS3	TP-CS4	TP-CS7	TP-CS8	TP-CS3A	TP-CS4A
			Depth (m)	1.50	1.80	2.65	2.00	1.20	1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025801	28025806	28025810	28025798	28025803
			AGS Reference	ES1A	ES3A	ES2A	ES3A	EW3A	ES2A
Tetrachloroethene	<2 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<5 M	<5 M
Dibromochloromethane	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
1,2-Dibromoethane	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Chlorobenzene	<2 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<5 M	<5 M
1,1,1,2-Tetrachloroethane	<1 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Ethylbenzene	<1 µg/kg	TM116		<4 M	<4 M	<4 M	<4 M	<4 M	<4 M
p/m-Xylene	<2 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
o-Xylene	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Styrene	<2 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Bromoform	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Isopropylbenzene	<2 µg/kg	TM116		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
1,1,2,2-Tetrachloroethane	<2 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
1,2,3-Trichloropropane	<2 µg/kg	TM116		<16 M	<16 M	<16 M	<16 M	<16 M	<16 M
Bromobenzene	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Propylbenzene	<2 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
2-Chlorotoluene	<3 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<9 M	<9 M
1,3,5-Trimethylbenzene	<2 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
4-Chlorotoluene	<3 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
tert-Butylbenzene	<2 µg/kg	TM116		<14 #	<14 #	<14 #	<14 #	<14 #	<14 #
1,2,4-Trimethylbenzene	<3 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #	<9 #	<9 #
sec-Butylbenzene	<1 µg/kg	TM116		<10	<10	<10	<10	<10	<10
4-Isopropyltoluene	<2 µg/kg	TM116		<10	<10	<10	<10	<10	<10
1,3-Dichlorobenzene	<5 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<8 M	<8 M
1,4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<5 M	<5 M
n-Butylbenzene	<3 µg/kg	TM116		<11	<11	<11	<11	<11	<11
1,2-Dichlorobenzene	<5 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
1,2-Dibromo-3-chloropropane	<2 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<14 M	<14 M
Tert-amyl methyl ether	<1 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
1,2,4-Trichlorobenzene	<7 µg/kg	TM116		<20	<20	<20	<20	<20	<20
Hexachlorobutadiene	<4 µg/kg	TM116		<20	<20	<20	<20	<20	<20
Naphthalene	<8 µg/kg	TM116		<13 M	21.6 M	<13 M	<13 M	<13 M	<13 M
1,2,3-Trichlorobenzene	<10 µg/kg	TM116		<20 #	<20 #	<20 #	<20 #	<20 #	<20 #
1,3,5-Trichlorobenzene	<7 µg/kg	TM116		<20	<20	<20	<20	<20	<20

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

VOC MS (S)

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.	TP-CS3	TP-CS4	TP-CS7	TP-CS8	TP-CS3A	TP-CS4A
			Depth (m)	1.50	1.80	2.65	2.00	1.20	1.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
			Sample Time	.	.	.	.	.	.
			Date Received	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
			SDG Ref	230520-23	230520-23	230520-23	230520-23	230520-23	230520-23
			Lab Sample No.(s)	28025796	28025801	28025806	28025810	28025798	28025803
			AGS Reference	ES1A	ES3A	ES2A	ES3A	EW3A	ES2A
Sum of Detected Xylenes	<0.02 mg/kg	TM116		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Sum of BTEX	<7 µg/kg	TM116		<40	<40	105	<40	<40	<40

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

Asbestos Identification - Solid Samples

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&♦$@	Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP-CS7ES1A 0.50 SOLID 18/05/2023 00:00:00 19/05/2023 15:40:00 230520-23 28025804 TM048	30/05/2023	Paul Poynton	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP-CS4AES1A 0.50 SOLID 18/05/2023 00:00:00 19/05/2023 15:40:00 230520-23 28025802 TM048	30/05/2023	Paul Poynton	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Data Amendment

Sample No. : 28025797 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28025800 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28025805 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28025809 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM048	Identification of Asbestos in Bulk Material
TM062 (S)	Determination of Phenols in Soils by HPLC
TM153	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM089	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM414	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM434	Analysis of PFAS
TM116	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM337	Analysis of PFAS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

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

CERTIFICATE OF ANALYSIS

SDG: 230520-23 **Report Number:** 699679 **Superseded Report:** 693518
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28025796	28025797	28025799	28025800	28025801	28025804	28025805	28025806	28025807	28025808
Customer Sample Ref.	TP-CS3	TP-CS3	TP-CS4	TP-CS4	TP-CS4	TP-CS7	TP-CS7	TP-CS7	TP-CS8	TP-CS8
AGS Ref.	ES1A	EW2A	ES2A	EW4A	ES3A	ES1A	EW3A	ES2A	ES1A	EW4A
Depth	1.50	1.70	1.60	1.70	1.80	0.50	2.00	2.65	0.50	1.50
Type	Soil/Solid (S)	Ground Water	Soil/Solid (S)	Ground Water	Soil/Solid (S)	Soil/Solid (S)	Ground Water	Soil/Solid (S)	Soil/Solid (S)	Ground Water
Asbestos ID in Solid Samples						30-May-2023				
Cyanide Comp/Free/Total/Thiocyanate	25-May-2023		23-May-2023		25-May-2023	25-May-2023			25-May-2023	
EPH CWG GC (S)	25-May-2023				25-May-2023			25-May-2023		
GRO by GC-FID (S)	23-May-2023				23-May-2023			23-May-2023		
Metals in solid samples by OES	26-May-2023		09-Jun-2023		26-May-2023	09-Jun-2023		26-May-2023	09-Jun-2023	
PFAS (Post Ox.) Liquids		02-Jun-2023		02-Jun-2023			05-Jun-2023			02-Jun-2023
PFAS (Post Ox.) Solids	30-May-2023								30-May-2023	
PFAS Liquids		30-May-2023		30-May-2023			02-Jun-2023			30-May-2023
PFAS Liquids (Full Suite)		22-Jun-2023		22-Jun-2023			22-Jun-2023			22-Jun-2023
PFAS Solids	26-May-2023		25-May-2023		25-May-2023	25-May-2023			26-May-2023	
pH	23-May-2023		23-May-2023		23-May-2023	23-May-2023			23-May-2023	
Phenols by HPLC (S)	25-May-2023		26-May-2023		25-May-2023	26-May-2023			25-May-2023	
Sample description	22-May-2023		22-May-2023		22-May-2023	22-May-2023		22-May-2023	22-May-2023	
Total Organic Carbon	30-May-2023		26-May-2023		30-May-2023	26-May-2023			30-May-2023	
TPH CWG GC (S)	24-May-2023				24-May-2023			01-Jun-2023		
VOC MS (S)	25-May-2023				25-May-2023			25-May-2023		

Lab Sample No(s)	28025809	28025810	28025798	28025802	28025803
Customer Sample Ref.	TP-CS8	TP-CS8	TP-CS3A	TP-CS4A	TP-CS4A
AGS Ref.	ES2A	ES3A	EW3A	ES1A	ES2A
Depth	1.50	2.00	1.20	0.50	1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Asbestos ID in Solid Samples				30-May-2023	
Cyanide Comp/Free/Total/Thiocyanate	25-May-2023	25-May-2023		25-May-2023	25-May-2023
EPH CWG GC (S)		25-May-2023	25-May-2023		25-May-2023
GRO by GC-FID (S)		23-May-2023	25-May-2023		25-May-2023
Metals in solid samples by OES	25-May-2023	26-May-2023	12-Jun-2023	25-May-2023	09-Jun-2023
PFAS (Post Ox.) Solids	30-May-2023	30-May-2023			
PFAS Solids	26-May-2023	26-May-2023		25-May-2023	25-May-2023
pH	23-May-2023	23-May-2023		23-May-2023	23-May-2023
Phenols by HPLC (S)	26-May-2023	26-May-2023		26-May-2023	26-May-2023
Sample description	22-May-2023	22-May-2023	22-May-2023	22-May-2023	22-May-2023
Total Organic Carbon	30-May-2023	30-May-2023		26-May-2023	30-May-2023
TPH CWG GC (S)		24-May-2023	01-Jun-2023		01-Jun-2023
VOC MS (S)		25-May-2023	25-May-2023		25-May-2023

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 one month 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
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	24 July 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230524-55
Your Reference:	326R
Location:	Victoria North
Report No:	697563
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 697129 in its entirety.

We received 13 samples on Wednesday May 24, 2023 and 11 of these samples were scheduled for analysis which was completed on Wednesday July 12, 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

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28045208	TP422	ES2	0.50	22/05/2023
28045209	TP422	ES3	1.00	22/05/2023
28045210	TP422	ES4	2.00	22/05/2023
28045211	TP423	ES2	0.50	22/05/2023
28045212	TP423	ES3	1.00	22/05/2023
28045213	TP423	ES4	2.00	22/05/2023
28045214	TP403A	ES2	0.50	22/05/2023
28045215	TP403A	ES3	1.00	22/05/2023
28045216	TP403A	ES4	2.00	22/05/2023
28045217	TP405A	ES2	0.50	22/05/2023
28045218	TP405A	ES3	1.25	22/05/2023
28045219	TP405A	ES4	1.50	22/05/2023
28045220	TP405A	ES5	2.00	22/05/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129

Client Ref.: 326R **Location:** Victoria North

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
CEN Readings	All	NDPs: 0 Tests: 11	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215	X	TP403A	ES3	1.00	1kg TUB	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217	X	TP405A	ES2	0.50	1kg TUB	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 5	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
Metals in solid samples by OES	All	NDPs: 0 Tests: 5	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 11	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215	X	TP403A	ES3	1.00	1kg TUB	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217	X	TP405A	ES2	0.50	1kg TUB	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 5	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219		TP405A	ES4	1.50	250g Amber Jar (ALE210)	S
PFAS Liquids	All	NDPs: 0 Tests: 11	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215	X	TP403A	ES3	1.00	1kg TUB	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217	X	TP405A	ES2	0.50	1kg TUB	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 11	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215	X	TP403A	ES3	1.00	1kg TUB	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217	X	TP405A	ES2	0.50	1kg TUB	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
PFAS Solids	All	NDPs: 0 Tests: 5	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219		TP405A	ES4	1.50	250g Amber Jar (ALE210)	S
pH	All	NDPs: 0 Tests: 5	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
pH Value of Filtered Water	All	NDPs: 0 Tests: 11	28045208	X	TP422	ES2	0.50	1kg TUB	S
			28045209		TP422	ES3	1.00	250g Amber Jar (ALE210)	S
			28045210	X	TP422	ES4	2.00	1kg TUB	S
			28045212		TP423	ES3	1.00	250g Amber Jar (ALE210)	S
			28045213	X	TP423	ES4	2.00	1kg TUB	S
			28045214		TP403A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045215	X	TP403A	ES3	1.00	1kg TUB	S
			28045216		TP403A	ES4	2.00	250g Amber Jar (ALE210)	S
			28045217	X	TP405A	ES2	0.50	1kg TUB	S
			28045219	X	TP405A	ES4	1.50	1kg TUB	S
Phenols by HPLC (S)	All	NDPs: 0 Tests: 5	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219		TP405A	ES4	1.50	250g Amber Jar (ALE210)	S
Sample description	All	NDPs: 0 Tests: 11	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219		TP405A	ES4	1.50	250g Amber Jar (ALE210)	S
Total Organic Carbon	All	NDPs: 0 Tests: 5	28045208		TP422	ES2	0.50	250g Amber Jar (ALE210)	S
			28045209	X	TP422	ES3	1.00	1kg TUB	S
			28045210		TP422	ES4	2.00	250g Amber Jar (ALE210)	S
			28045212	X	TP423	ES3	1.00	1kg TUB	S
			28045213		TP423	ES4	2.00	250g Amber Jar (ALE210)	S
			28045214	X	TP403A	ES2	0.50	1kg TUB	S
			28045215		TP403A	ES3	1.00	250g Amber Jar (ALE210)	S
			28045216	X	TP403A	ES4	2.00	1kg TUB	S
			28045217		TP405A	ES2	0.50	250g Amber Jar (ALE210)	S
			28045219		TP405A	ES4	1.50	250g Amber Jar (ALE210)	S

28045219	28045220
TP405A	TP405A
ES4	ES5
1.50	2.00
250g Amber Jar (ALE210)	1kg TUB	250g Amber Jar (ALE210)
S	S	S
	X	
	X	
	X	
	X	
	X	
X		X

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
28045208	TP422	0.50	Black	Loamy Sand	Stones	Vegetation
28045209	TP422	1.00	Black	Loamy Sand	Stones	Vegetation
28045210	TP422	2.00	Dark Brown	Sandy Silt Loam	Stones	None
28045212	TP423	1.00	Dark Brown	Loamy Sand	Glass & Stones	None
28045213	TP423	2.00	Dark Brown	Sand	Stones	None
28045214	TP403A	0.50	Dark Brown	Loamy Sand	Stones	None
28045215	TP403A	1.00	Dark Brown	Sandy Clay Loam	Stones	Vegetation
28045216	TP403A	2.00	Dark Brown	Sand	Stones	None
28045217	TP405A	0.50	Dark Brown	Loamy Sand	Stones	Vegetation
28045219	TP405A	1.50	Dark Brown	Loamy Sand	Stones	Vegetation
28045220	TP405A	2.00	Dark Brown	Loamy Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129

Client Ref.: 326R **Location:** Victoria North

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.	TP422	TP422	TP422	TP423	TP423	TP403A
			Depth (m)	0.50	1.00	2.00	1.00	2.00	0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	22/05/2023	22/05/2023	22/05/2023	22/05/2023	22/05/2023	22/05/2023
			Sample Time	10:45:00	10:48:00	10:52:00	11:25:00	11:29:00	13:00:00
			Date Received	24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
			SDG Ref	230524-55	230524-55	230524-55	230524-55	230524-55	230524-55
			Lab Sample No.(s)	28045208	28045209	28045210	28045212	28045213	28045214
			AGS Reference	ES2	ES3	ES4	ES3	ES4	ES2
Moisture Content Ratio (% of as received sample)	%	PM024		6.9	13	24	19	16	16
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)		<0.035 M	<0.035 M	<0.035 M	<0.035 M	<0.035 M	
Organic Carbon, Total	<0.2 %	TM132		9.29 M	12.4 M	8.42 M	35.2 M	3.51 M	
pH	1 pH Units	TM133		8.15 M	6.95 M	7.29 M	7.76 M	8.56 M	
Cyanide, Total	<1 mg/kg	TM153		<1 M	4.42 M	<1 M	1.07 M	<1 M	
Antimony	<0.6 mg/kg	TM181		<6 #	11.9 #	21.5 #	9.92 #	0.815 #	
Arsenic	<0.6 mg/kg	TM181		15.5 M	134 M	400 M	38.7 M	6.9 M	
Beryllium	<0.01 mg/kg	TM181		1.82 M	2.21 M	2.6 M	3.26 M	1.58 M	
Cadmium	<0.02 mg/kg	TM181		0.262 M	<0.2 M	1.18 M	0.554 M	0.14 M	
Chromium	<0.9 mg/kg	TM181		<9 M	87.3 M	159 M	<9 M	5.73 M	
Copper	<1.4 mg/kg	TM181		170 M	843 M	568 M	397 M	26.2 M	
Lead	<0.7 mg/kg	TM181		195 M	509 M	2650 M	818 M	81.2 M	
Mercury	<0.1 mg/kg	TM181		<1 M	<1 M	<1 M	3.56 M	<0.1 M	
Nickel	<0.2 mg/kg	TM181		44.4 M	78.7 M	93.4 M	44.9 M	13.7 M	
Selenium	<1 mg/kg	TM181		<10 #	<10 #	<10 #	<10 #	<1 #	
Vanadium	<0.2 mg/kg	TM181		45 #	1110 #	1240 #	41.5 #	15.1 #	
Zinc	<1.9 mg/kg	TM181		179 M	479 M	628 M	548 M	44.1 M	
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		7.47	<2	<2	<2	<2	
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		13.8	2.31	<1	<1	<1	
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		29.8	4.89	1.24	<1	<1	
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		8.55	11	1.09	<1	<1	
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		22.5	5.46	1.07	<1	<1	
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		7.39	<1	<1	<1	<1	
Branched PFOS	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		3.04	21	2.77	<1	<1	

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129
Client Ref.: 326R **Location:** Victoria North

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.	TP422	TP422	TP422	TP423	TP423	TP403A
			Depth (m)	0.50	1.00	2.00	1.00	2.00	0.50
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	22/05/2023	22/05/2023	22/05/2023	22/05/2023	22/05/2023	22/05/2023
			Sample Time	10:45:00	10:48:00	10:52:00	11:25:00	11:29:00	13:00:00
			Date Received	24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
			SDG Ref	230524-55	230524-55	230524-55	230524-55	230524-55	230524-55
			Lab Sample No.(s)	28045208	28045209	28045210	28045212	28045213	28045214
			AGS Reference	ES2	ES3	ES4	ES3	ES4	ES2
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		2.74	<1	<1	<1	<1	
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	
Total PFOS	<1 µg/kg	TM338		7.39	<1	<1	<1	<1	
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428		4.82	<3	<3	<3	<3	
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428		7.78	<3	<3	<3	<3	
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428		11.2	<2	<2	<2	<2	
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428		18.3	<1	<1	<1	<1	
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428		15	<1	<1	<1	<1	
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428		7.64	1	<1	<1	<1	
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428		11.2	1.54	<1	<1	<1	
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428		5.27	<1	<1	<1	<1	
Branched PFOS (Post Ox.)	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428		4.4	6.52	1.68	<1	<1	
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428		3.58	<1	<1	<1	<1	
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428		<1	<1	<1	<1	<1	
Total PFOS (Post Ox.)	<2 µg/kg	TM428		5.27	<2	<2	<2	<2	

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129
Client Ref.: 326R **Location:** Victoria North

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.	TP403A	TP403A	TP405A	TP405A	TP405A
			Depth (m)	1.00	2.00	0.50	1.50	2.00
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	22/05/2023	22/05/2023	22/05/2023	22/05/2023	22/05/2023
			Sample Time	13:10:00	13:15:00	13:38:00	13:45:00	13:50:00
			Date Received	24/05/2023	24/05/2023	24/05/2023	24/05/2023	24/05/2023
			SDG Ref	230524-55	230524-55	230524-55	230524-55	230524-55
			Lab Sample No.(s)	28045215	28045216	28045217	28045219	28045220
			AGS Reference	ES3	ES4	ES2	ES4	ES5
Moisture Content Ratio (% of as received sample)	%	PM024		17	23	19	16	17

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.099	**Natural Moisture Content (%)**	10.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	90.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045208
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
4:2 FTS (757124-72-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-DA (13252-13-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
NFDHA (151772-58-6)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFBA (375-22-4)	0.0000705	<0.00002	0.000705	<0.0002	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFEESA (113507-82-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	0.000685	<0.00001	0.00685	<0.0001	-	-	-
PFMOBA (863090-89-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFMOPrA (377-73-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (2706-90-3)	0.000399	<0.00001	0.00399	<0.0001	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000005	<0.000001	<0.00005	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFBA (375-22-4)	0.000116	<0.000002	0.00116	<0.00002	-	-	-
PFDA (335-76-2)	0.00037	<0.000005	0.0037	<0.00005	-	-	-
PFHpA (375-85-9)	0.00153	<0.000005	0.0153	<0.00005	-	-	-
PFHxA (307-24-4)	0.000846	<0.000005	0.00846	<0.00005	-	-	-
PFNA (375-95-1)	0.000438	<0.000005	0.00438	<0.00005	-	-	-
PFOA (335-67-1)	0.00323	<0.00000325	0.0323	<0.0000325	-	-	-
PFPA (2706-90-3)	0.000349	<0.000005	0.00349	<0.00005	-	-	-
6:2 FTS (27619-97-2)	0.0000157	<0.000001	0.000157	<0.00001	-	-	-
Branched PFOS (Post Ox.)	0.000039	<0.000002	0.00039	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	0.0000336	<0.000002	0.000336	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.000243	<0.000004	0.00243	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	0.000413	<0.00001	0.00413	<0.0001	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00196	<0.00001	0.0196	<0.0001	-	-	-
PFHxA (Post Ox.) (307-24-4)	0.00122	<0.00001	0.0122	<0.0001	-	-	-
PFNA (Post Ox.) (375-95-1)	0.000582	<0.00001	0.00582	<0.0001	-	-	-
PFOA (Post Ox.) (335-67-1)	0.00338	<0.00001	0.0338	<0.0001	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00041	<0.00001	0.0041	<0.0001	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.20
Conductivity (µS/cm)	167
Volume Leachant (Litres)	0.891

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.099	**Natural Moisture Content (%)**	10.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	90.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045208
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
7:3 FTCA (812-70-4)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
8:2 FTS (39108-34-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
ADONA (919005-14-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
EtFOSAA (2991-50-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
FBSA (30334-69-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-TA (13252-14-7)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
Linear PFOS (1763-23-1)	0.00000956	<0.0000065	0.0000956	<0.000065	-	-	-
MeFOSAA (2355-31-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	0.000223	<0.00002	0.00223	<0.0002	-	-	-
PFecHS (133201-07-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	0.00154	<0.00001	0.0154	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	0.00036	<0.00001	0.0036	<0.0001	-	-	-
PFOA (335-67-1)	0.00251	<0.0000065	0.0251	<0.000065	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Branched PFOS	0.0000143	<0.00000065	0.000143	<0.0000065	-	-	-
Linear PFOS (1763-23-1)	0.0000375	<0.00000065	0.000375	<0.0000065	-	-	-
PFDS (335-77-3)	<0.000008	<0.000001	<0.00008	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000005	<0.000001	<0.00005	<0.00001	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000009	<0.000001	<0.00009	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.0000519	<0.00000065	0.000519	<0.0000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	0.00000969	<0.000002	0.0000969	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	0.0000195	<0.000002	0.000195	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	0.0000727	<0.000002	0.000727	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.20
Conductivity (µS/cm)	167
Volume Leachant (Litres)	0.891

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.099	**Natural Moisture Content (%)**	10.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	90.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045208
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
EtFOSE (1691-99-2)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
FHxSA (41997-13-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
MeFOSE (24448-09-7)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
N-EtFOSA (4151-50-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-MeFOSA (31506-32-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDoS (79780-39-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (335-77-3)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFHxDA (67905-19-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNS (68259-12-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFODA (16517-11-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFTeA (376-06-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFTrDA (72629-94-8)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFTrDS (174675-49-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnDS (749786-16-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	0.00000956	<0.0000065	0.0000956	<0.000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.20
Conductivity (µS/cm)	167
Volume Leachant (Litres)	0.891

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.103	**Natural Moisture Content (%)**	13.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.9
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045209
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
4:2 FTS (757124-72-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-DA (13252-13-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
NFDHA (151772-58-6)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFBA (375-22-4)	0.0000747	<0.00002	0.000747	<0.0002	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFEESA (113507-82-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	0.00287	<0.00005	0.0287	<0.0005	-	-	-
PFMOBA (863090-89-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFMOPrA (377-73-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (2706-90-3)	0.000916	<0.00001	0.00916	<0.0001	-	-	-
PFBS (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (375-92-8)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFHxS (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (375-22-4)	0.000105	<0.000004	0.00105	<0.00004	-	-	-
PFDA (335-76-2)	0.0000384	<0.000002	0.000384	<0.00002	-	-	-
PFHpA (375-85-9)	0.00174	<0.00001	0.0174	<0.0001	-	-	-
PFHxA (307-24-4)	0.0045	<0.00001	0.045	<0.0001	-	-	-
PFNA (375-95-1)	0.000128	<0.000002	0.00128	<0.00002	-	-	-
PFOA (335-67-1)	0.00193	<0.0000065	0.0193	<0.000065	-	-	-
PFPA (2706-90-3)	0.00102	<0.00001	0.0102	<0.0001	-	-	-
6:2 FTS (27619-97-2)	0.0000987	<0.000002	0.000987	<0.00002	-	-	-
Branched PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBA (Post Ox.) (375-22-4)	0.00134	<0.00005	0.0134	<0.0005	-	-	-
PFDA (Post Ox.) (335-76-2)	0.000548	<0.000005	0.00548	<0.00005	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00377	<0.000025	0.0377	<0.00025	-	-	-
PFHxA (Post Ox.) (307-24-4)	0.00769	<0.000025	0.0769	<0.00025	-	-	-
PFNA (Post Ox.) (375-95-1)	0.000732	<0.000005	0.00732	<0.00005	-	-	-
PFOA (Post Ox.) (335-67-1)	0.00379	<0.000025	0.0379	<0.00025	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00221	<0.000025	0.0221	<0.00025	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	25-May-2023
pH (pH Units)	7.57
Conductivity (µS/cm)	86
Volume Leachant (Litres)	0.888

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.103	**Natural Moisture Content (%)**	13.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.9
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045209
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	0.000147	<0.00005	0.00147	<0.0005	-	-	-
6:2 FTS (27619-97-2)	0.0000502	<0.00001	0.000502	<0.0001	-	-	-
7:3 FTCA (812-70-4)	0.000245	<0.00005	0.00245	<0.0005	-	-	-
8:2 FTS (39108-34-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
ADONA (919005-14-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
EtFOSAA (2991-50-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
FBSA (30334-69-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-TA (13252-14-7)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
MeFOSAA (2355-31-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFecHS (133201-07-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	0.000958	<0.00001	0.00958	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	0.000148	<0.00001	0.00148	<0.0001	-	-	-
PFOA (335-67-1)	0.00159	<0.0000065	0.0159	<0.000065	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Branched PFOS	<0.0000065	<0.0000013	<0.000065	<0.000013	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000013	<0.000065	<0.000013	-	-	-
PFDS (335-77-3)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFDoA (307-55-1)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFPeS (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFOSA (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFDoA (Post Ox.) (307-55-1)	0.000267	<0.000005	0.00267	<0.00005	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFUnA (Post Ox.) (2058-94-8)	0.000206	<0.000005	0.00206	<0.00005	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	25-May-2023
pH (pH Units)	7.57
Conductivity (µS/cm)	86
Volume Leachant (Litres)	0.888

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.103	**Natural Moisture Content (%)**	13.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.9
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045209
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
EtFOSE (1691-99-2)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
FHxSA (41997-13-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
MeFOSE (24448-09-7)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
N-EtFOSA (4151-50-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-MeFOSA (31506-32-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDoS (79780-39-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (335-77-3)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFHxDA (67905-19-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNS (68259-12-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFODA (16517-11-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFTeA (376-06-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFTrDA (72629-94-8)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFTrDS (174675-49-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnDS (749786-16-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-

Leach Test Information

Date Prepared	25-May-2023
pH (pH Units)	7.57
Conductivity (µS/cm)	86
Volume Leachant (Litres)	0.888

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.109	**Natural Moisture Content (%)**	22.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	81.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045210
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.00000513	<0.000002	0.0000513	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	0.000018	<0.000001	0.00018	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	0.0000158	<0.000001	0.000158	<0.00001	-	-	-
PFBS (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (375-92-8)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFHxS (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (375-22-4)	0.0000101	<0.000004	0.000101	<0.00004	-	-	-
PFDA (335-76-2)	0.0000117	<0.000002	0.000117	<0.00002	-	-	-
PFHpA (375-85-9)	0.0000459	<0.000002	0.000459	<0.00002	-	-	-
PFHxA (307-24-4)	0.0000214	<0.000002	0.000214	<0.00002	-	-	-
PFNA (375-95-1)	0.0000209	<0.000002	0.000209	<0.00002	-	-	-
PFOA (335-67-1)	0.000118	<0.0000013	0.00118	<0.000013	-	-	-
PFPA (2706-90-3)	0.0000162	<0.000002	0.000162	<0.00002	-	-	-
6:2 FTS (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBA (Post Ox.) (375-22-4)	0.0000136	<0.00001	0.000136	<0.0001	-	-	-
PFDA (Post Ox.) (335-76-2)	0.0000105	<0.000005	0.000105	<0.00005	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.0000611	<0.000005	0.000611	<0.00005	-	-	-
PFHxA (Post Ox.) (307-24-4)	0.0000549	<0.000005	0.000549	<0.00005	-	-	-
PFNA (Post Ox.) (375-95-1)	0.0000251	<0.000005	0.000251	<0.00005	-	-	-
PFOA (Post Ox.) (335-67-1)	0.000128	<0.000005	0.00128	<0.00005	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.0000304	<0.000005	0.000304	<0.00005	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.64
Conductivity (µS/cm)	113
Volume Leachant (Litres)	0.880

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.109	**Natural Moisture Content (%)**	22.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	81.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045210
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	0.00000109	<0.00000065	0.0000109	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	0.000000963	<0.00000065	0.00000963	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.0000395	<0.000001	0.000395	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	0.0000194	<0.000001	0.000194	<0.00001	-	-	-
PFOA (335-67-1)	0.0000899	<0.00000065	0.000899	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000005	<0.000002	<0.00005	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000013	<0.000065	<0.000013	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000013	<0.000065	<0.000013	-	-	-
PFDS (335-77-3)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFDoA (307-55-1)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFPeS (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.000002	<0.0001	<0.00002	-	-	-
PFOSA (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFUnA (Post Ox.) (2058-94-8)	0.0000124	<0.000005	0.000124	<0.00005	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.64
Conductivity (µS/cm)	113
Volume Leachant (Litres)	0.880

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.109	**Natural Moisture Content (%)**	22.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	81.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045210
Sampled Date	22-May-2023
Customer Sample Ref.	TP422 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.00000206	<0.00000065	0.0000206	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.64
Conductivity (µS/cm)	113
Volume Leachant (Litres)	0.880

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.118	**Natural Moisture Content (%)**	30.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.4
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045212
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.00000599	<0.000002	0.0000599	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	0.00000294	<0.000001	0.0000294	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	0.00000303	<0.000001	0.0000303	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	0.0000133	<0.0000065	0.000133	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.00000525	<0.000004	0.0000525	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00000328	<0.000002	0.0000328	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.00000773	<0.000002	0.0000773	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00000405	<0.000002	0.0000405	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.03
Conductivity (µS/cm)	146
Volume Leachant (Litres)	0.872

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.118	**Natural Moisture Content (%)**	30.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.4
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045212
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	0.00000149	<0.00000065	0.0000149	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	0.00000149	<0.00000065	0.0000149	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000301	<0.000001	0.0000301	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	0.00000113	<0.000001	0.0000113	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000733	<0.00000065	0.0000733	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.03
Conductivity (µS/cm)	146
Volume Leachant (Litres)	0.872

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.118	**Natural Moisture Content (%)**	30.8
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.4
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045212
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.00000297	<0.00000065	0.0000297	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.03
Conductivity (µS/cm)	146
Volume Leachant (Litres)	0.872

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.107	**Natural Moisture Content (%)**	18.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045213
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.00000258	<0.000002	0.0000258	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	0.00000102	<0.000001	0.0000102	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	0.0000102	<0.0000065	0.000102	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.33
Conductivity (µS/cm)	100
Volume Leachant (Litres)	0.883

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.107	**Natural Moisture Content (%)**	18.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045213
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	0.00000105	<0.00000065	0.0000105	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	0.0000011	<0.00000065	0.000011	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000122	<0.000001	0.0000122	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000297	<0.00000065	0.0000297	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Total PFOS (Post Ox.)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.33
Conductivity (µS/cm)	100
Volume Leachant (Litres)	0.883

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.107	**Natural Moisture Content (%)**	18.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045213
Sampled Date	22-May-2023
Customer Sample Ref.	TP423 ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.00000215	<0.00000065	0.0000215	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.33
Conductivity (µS/cm)	100
Volume Leachant (Litres)	0.883

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.108	**Natural Moisture Content (%)**	20.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	83.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045214
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.0000103	<0.000002	0.000103	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	0.00000225	<0.000001	0.0000225	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	0.00000206	<0.000001	0.0000206	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	0.0000156	<0.0000065	0.000156	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.00000562	<0.000004	0.0000562	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00000293	<0.000002	0.0000293	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.0000103	<0.000002	0.000103	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00000298	<0.000002	0.0000298	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	67
Volume Leachant (Litres)	0.882

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.108	**Natural Moisture Content (%)**	20.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	83.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045214
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	0.00000107	<0.00000065	0.0000107	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	0.00000103	<0.00000065	0.0000103	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000279	<0.000001	0.0000279	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.0000101	<0.00000065	0.000101	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	67
Volume Leachant (Litres)	0.882

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.108	**Natural Moisture Content (%)**	20.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	83.1
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045214
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.0000021	<0.00000065	0.000021	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	67
Volume Leachant (Litres)	0.882

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.106	**Natural Moisture Content (%)**	18
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045215
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
4:2 FTS (757124-72-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-DA (13252-13-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
NFDHA (151772-58-6)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFEESA (113507-82-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFMOBA (863090-89-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFMOPrA (377-73-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.76
Conductivity (µS/cm)	24
Volume Leachant (Litres)	0.884

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.106	**Natural Moisture Content (%)**	18
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045215
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
7:3 FTCA (812-70-4)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
8:2 FTS (39108-34-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
ADONA (919005-14-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS	0.00000768	<0.0000065	0.0000768	<0.000065	-	-	-
EtFOSAA (2991-50-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
FBSA (30334-69-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
HFPO-TA (13252-14-7)	<0.00005	<0.00005	<0.0005	<0.0005	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
MeFOSAA (2355-31-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFecHS (133201-07-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	0.000019	<0.0000065	0.00019	<0.000065	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS (Post Ox.)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.76
Conductivity (µS/cm)	24
Volume Leachant (Litres)	0.884

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.106	**Natural Moisture Content (%)**	18
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045215
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES3
Depth (m)	1.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
EtFOSE (1691-99-2)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
FHxSA (41997-13-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
MeFOSE (24448-09-7)	<0.0001	<0.0001	<0.001	<0.001	-	-	-
N-EtFOSA (4151-50-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-MeFOSA (31506-32-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDoS (79780-39-5)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDS (335-77-3)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFHxDA (67905-19-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNS (68259-12-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFODA (16517-11-6)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFTeA (376-06-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFTrDA (72629-94-8)	<0.00003	<0.00003	<0.0003	<0.0003	-	-	-
PFTrDS (174675-49-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnDS (749786-16-1)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	0.00000768	<0.0000065	0.0000768	<0.000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.76
Conductivity (µS/cm)	24
Volume Leachant (Litres)	0.884

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.117	**Natural Moisture Content (%)**	30.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045216
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.0000122	<0.000002	0.000122	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	0.0000114	<0.00001	0.000114	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.81
Conductivity (µS/cm)	74
Volume Leachant (Litres)	0.873

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.117	**Natural Moisture Content (%)**	30.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045216
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000291	<0.00000065	0.0000291	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.81
Conductivity (µS/cm)	74
Volume Leachant (Litres)	0.873

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.117	**Natural Moisture Content (%)**	30.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045216
Sampled Date	22-May-2023
Customer Sample Ref.	TP403A ES4
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	6.81
Conductivity (µS/cm)	74
Volume Leachant (Litres)	0.873

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.090	**Natural Moisture Content (%)**	0.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045217
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.00000665	<0.000002	0.0000665	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	0.0000021	<0.000001	0.000021	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	0.0000158	<0.0000065	0.000158	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	0.0000109	<0.000002	0.000109	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.00000704	<0.000004	0.0000704	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	0.00000221	<0.000002	0.0000221	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00000258	<0.000002	0.0000258	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	0.00000358	<0.000002	0.0000358	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.0000117	<0.000002	0.000117	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00000691	<0.000002	0.0000691	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.78
Conductivity (µS/cm)	166
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

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11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.090	**Natural Moisture Content (%)**	0.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045217
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	0.00000287	<0.00000065	0.0000287	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	0.00000886	<0.00000065	0.0000886	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000278	<0.000001	0.0000278	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	0.0000041	<0.000001	0.000041	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000845	<0.00000065	0.0000845	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	0.0000112	<0.0000065	0.000112	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	0.0000112	<0.0000065	0.000112	<0.000065	-	-	-
Branched PFOS (Post Ox.)	0.00000388	<0.000002	0.0000388	<0.00002	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	0.0000148	<0.000002	0.000148	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.78
Conductivity (µS/cm)	166
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.090	**Natural Moisture Content (%)**	0.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045217
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES2
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	0.0000117	<0.00000065	0.000117	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.78
Conductivity (µS/cm)	166
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.32
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045219
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES4
Depth (m)	1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	0.00000696	<0.000002	0.0000696	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.00000291	<0.000002	0.0000291	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.26
Conductivity (µS/cm)	173
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.32
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045219
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES4
Depth (m)	1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000173	<0.000001	0.0000173	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000251	<0.00000065	0.0000251	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
Linear PFOS (1763-23-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.26
Conductivity (µS/cm)	173
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.32
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.7
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045219
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES4
Depth (m)	1.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	8.26
Conductivity (µS/cm)	173
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.53
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.5
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045220
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES5
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
3:3 FTCA (356-02-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
4:2 FTS (757124-72-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-DA (13252-13-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
NFDHA (151772-58-6)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFBA (375-22-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFEESA (113507-82-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOBA (863090-89-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFMOPrA (377-73-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFPA (2706-90-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFBS (375-73-5)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpS (375-92-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxS (355-46-4)	0.0000498	<0.00001	0.000498	<0.0001	-	-	-
PFBA (375-22-4)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
PFDA (335-76-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHpA (375-85-9)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFHxA (307-24-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFNA (375-95-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOA (335-67-1)	<0.0000065	<0.0000065	<0.000065	<0.000065	-	-	-
PFPA (2706-90-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
6:2 FTS (27619-97-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	72
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.53
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.5
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045220
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES5
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
5:3 FTCA (914637-49-3)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
7:3 FTCA (812-70-4)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
8:2 FTS (39108-34-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
9Cl-PF3ONS (756426-58-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
ADONA (919005-14-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Branched PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
EtFOSAA (2991-50-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
FBSA (30334-69-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
HFPO-TA (13252-14-7)	<0.000005	<0.000005	<0.00005	<0.00005	-	-	-
Linear PFOS (1763-23-1)	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-
MeFOSAA (2355-31-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFecHS (133201-07-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000163	<0.00000065	0.0000163	<0.0000065	-	-	-
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS	0.00005	<0.0000065	0.0005	<0.000065	-	-	-
Linear PFOS (1763-23-1)	0.0000422	<0.0000065	0.000422	<0.000065	-	-	-
PFDS (335-77-3)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFDoA (307-55-1)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFPeS (2706-91-4)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFUnA (2058-94-8)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
PFOSA (754-91-6)	<0.00002	<0.00002	<0.0002	<0.0002	-	-	-
Total PFOS	0.0000922	<0.0000065	0.000922	<0.000065	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	72
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

CERTIFICATE OF ANALYSIS

SDG: 230524-55 Report Number: 697563 Superseded Report: 697129
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.091	**Natural Moisture Content (%)**	0.53
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	99.5
Particle Size <4mm	>95%		

Case	
SDG	230524-55
Lab Sample Number(s)	28045220
Sampled Date	22-May-2023
Customer Sample Ref.	TP405A ES5
Depth (m)	2.00

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
11Cl-PF3OUdS (763051-92-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
EtFOSE (1691-99-2)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
FHxSA (41997-13-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
MeFOSE (24448-09-7)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
N-EtFOSA (4151-50-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
N-MeFOSA (31506-32-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoS (79780-39-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDS (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxDA (67905-19-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFNS (68259-12-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFODA (16517-11-6)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFTeA (376-06-7)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFTrDA (72629-94-8)	<0.000003	<0.000003	<0.00003	<0.00003	-	-	-
PFTrDS (174675-49-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnDS (749786-16-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Total PFOS	<0.00000065	<0.00000065	<0.0000065	<0.0000065	-	-	-

Leach Test Information

Date Prepared	24-May-2023
pH (pH Units)	7.27
Conductivity (µS/cm)	72
Volume Leachant (Litres)	0.900

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

24/07/2023 11:05:58

11:05:39 24/07/2023

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28045208 **Date of Amendment :** 10/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
TP422	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	17.3	< 6.5
TP422	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	15.3	9.56
TP422	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	32.6	9.56

Sample No. : 28045217 **Date of Amendment :** 10/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
TP405A	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	10.7	2.87
TP405A	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	9.94	8.86
TP405A	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	20.6	11.7

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM062 (S)	Determination of Phenols in Soils by HPLC
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM153	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM337	Analysis of PFAS
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
TM434	Analysis of PFAS

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

CERTIFICATE OF ANALYSIS

SDG: 230524-55 **Report Number:** 697563 **Superseded Report:** 697129
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28045208	28045209	28045210	28045212	28045213	28045214	28045215	28045216	28045217	28045219
Customer Sample Ref.	TP422	TP422	TP422	TP423	TP423	TP403A	TP403A	TP403A	TP405A	TP405A
AGS Ref.	ES2	ES3	ES4	ES3	ES4	ES2	ES3	ES4	ES2	ES4
Depth	0.50	1.00	2.00	1.00	2.00	0.50	1.00	2.00	0.50	1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)	03-Jun-2023	03-Jun-2023	25-May-2023	03-Jun-2023	07-Jun-2023	07-Jun-2023	03-Jun-2023	07-Jun-2023	07-Jun-2023	07-Jun-2023
CEN Readings	04-Jun-2023	04-Jun-2023	31-May-2023	03-Jun-2023	06-Jun-2023	06-Jun-2023	04-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023
Cyanide Comp/Free/Total/Thiocyanate	31-May-2023	31-May-2023	31-May-2023	31-May-2023	31-May-2023					
Metals in solid samples by OES	30-May-2023	30-May-2023	30-May-2023	30-May-2023	30-May-2023					
Moisture at 105C	24-May-2023	25-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
PFAS (Post Ox.) Liquids	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023	02-Jun-2023
PFAS (Post Ox.) Solids	05-Jun-2023	30-May-2023	30-May-2023	30-May-2023	30-May-2023					
PFAS Liquids	02-Jun-2023	02-Jun-2023	01-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023
PFAS Liquids (Full Suite)	12-Jul-2023	08-Jun-2023	01-Jun-2023	08-Jun-2023	09-Jun-2023	09-Jun-2023	08-Jun-2023	09-Jun-2023	12-Jul-2023	09-Jun-2023
PFAS Solids	26-May-2023	26-May-2023	26-May-2023	26-May-2023	26-May-2023					
pH	31-May-2023	31-May-2023	31-May-2023	31-May-2023	31-May-2023					
pH Value of Filtered Water	07-Jun-2023	06-Jun-2023	31-May-2023	06-Jun-2023	06-Jun-2023	06-Jun-2023	08-Jun-2023	31-May-2023	15-Jun-2023	06-Jun-2023
Phenols by HPLC (S)	30-May-2023	30-May-2023	30-May-2023	30-May-2023	30-May-2023					
Sample description	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023	24-May-2023
Total Organic Carbon	31-May-2023	31-May-2023	31-May-2023	31-May-2023	31-May-2023					

Lab Sample No(s)	28045220
Customer Sample Ref.	TP405A
AGS Ref.	ES5
Depth	2.00
Type	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)	07-Jun-2023
CEN Readings	06-Jun-2023
Moisture at 105C	24-May-2023
PFAS (Post Ox.) Liquids	02-Jun-2023
PFAS Liquids	06-Jun-2023
PFAS Liquids (Full Suite)	09-Jun-2023
pH Value of Filtered Water	31-May-2023
Sample description	24-May-2023

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230527-31
Your Reference:	326R
Location:	Victoria North
Report No:	699682
Order Number:	RIT 298 665 596

This report has been revised and directly supersedes 691460 in its entirety.

We received 3 samples on Saturday May 20, 2023 and 3 of these samples were scheduled for analysis which was completed on Tuesday June 06, 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: 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230527-31 **Report Number:** 699682 **Superseded Report:** 691460
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28065054	BH103		2.10	25/05/2023
28065055	BH210		12.80	25/05/2023
28065053	BH315		10.85	25/05/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230527-31 **Report Number:** 699682 **Superseded Report:** 691460
Client Ref.: 326R **Location:** Victoria North

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)	28065054	28065055	28065053
			Customer Sample Reference	BH103	BH210	BH315
			AGS Reference			
			Depth (m)	2.10	12.80	10.85
			Container	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)
			Sample Type	GW	GW	GW
PFAS Liquids	All	NDPs: 0 Tests: 3		X	X	X

CERTIFICATE OF ANALYSIS

SDG: 230527-31 **Report Number:** 699682 **Superseded Report:** 691460
Client Ref.: 326R **Location:** Victoria North

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.	BH103	BH210	BH315			
Depth (m)	2.10	12.80	10.85			
Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
Date Sampled	25/05/2023	25/05/2023	25/05/2023			
Sample Time	10:30:00	11:00:00	09:45:00			
Date Received	20/05/2023	20/05/2023	20/05/2023			
SDG Ref	230527-31	230527-31	230527-31			
Lab Sample No.(s)	28065054	28065055	28065053			
AGS Reference						
Component	**LOD/Units**	**Method**				
PFBA (375-22-4)	<0.000002 mg/l	TM337	0.000012 #	<0.00001 #	<0.000004 #	
PFPA (2706-90-3)	<0.000001 mg/l	TM337	0.000024 #	<0.000005 #	<0.000002 #	
PFHxA (307-24-4)	<0.000001 mg/l	TM337	0.000017 #	<0.000005 #	<0.000002 #	
PFBS (375-73-5)	<0.000001 mg/l	TM337	0.000015 #	<0.000005 #	<0.000002 #	
PFHpA (375-85-9)	<0.000001 mg/l	TM337	0.000014 #	<0.000005 #	<0.000002 #	
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	<0.000002 #	<0.000005 #	<0.000002 #	
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.000026 #	0.000008 #	<0.000001 #	
PFHxS (355-46-4)	<0.000001 mg/l	TM337	0.000003 #	<0.000005 #	<0.000002 #	
PFNA (375-95-1)	<0.000001 mg/l	TM337	0.000006 #	<0.000005 #	<0.000002 #	
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000002 #	<0.000005 #	<0.000002 #	
PFDA (335-76-2)	<0.000001 mg/l	TM337	0.000006 #	<0.000005 #	<0.000002 #	
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	0.000016 #	<0.000003 #	<0.000001 #	
Branched PFOS	<0.000001 mg/l	TM337	0.000009 #	<0.000003 #	<0.000001 #	
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000002 #	<0.000005 #	<0.000002 #	
PFDoA (307-55-1)	<0.000001 mg/l	TM337	<0.000002 #	<0.000005 #	<0.000002 #	
PFOSA (754-91-6)	<0.000002 mg/l	TM337	<0.000004 #	<0.00001 #	<0.000004 #	
PFDS (335-77-3)	<0.000001 mg/l	TM337	<0.000002	<0.000005	<0.000002	
PFPeS (2706-91-4)	<0.000001 mg/l	TM337	<0.000002 #	<0.000005 #	<0.000002 #	
Total PFOS	<0.000001 mg/l	TM337	0.000025 #	<0.000003 #	<0.000001 #	

CERTIFICATE OF ANALYSIS

SDG: 230527-31 **Report Number:** 699682 **Superseded Report:** 691460
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM337	Analysis of PFAS

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

CERTIFICATE OF ANALYSIS

SDG: 230527-31 **Report Number:** 699682 **Superseded Report:** 691460
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28065054	28065055	28065053
Customer Sample Ref.	BH103	BH210	BH315
AGS Ref.			
Depth	2.10	12.80	10.85
Type	Ground Water	Ground Water	Ground Water
PFAS Liquids	31-May-2023	06-Jun-2023	31-May-2023

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 one month 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.

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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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230602-42
Your Reference:	326R
Location:	Victoria North
Report No:	699683
Order Number:	RIT 298665896

This report has been revised and directly supersedes 697571 in its entirety.

We received 1 sample on Friday June 02, 2023 and 1 of these samples were scheduled for analysis which was completed on Wednesday July 12, 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

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28089275	SHOWMANS GUILD			31/05/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)			28089275								
Customer Sample Reference			SHOWMANS GUILD								
AGS Reference											
Depth (m)											
Container			1000ml glass bottle (ALE220)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1					X					
Anions by Kone (w)	All	NDPs: 0 Tests: 1				X						
BOD True Total	All	NDPs: 0 Tests: 1			X							
COD Unfiltered	All	NDPs: 0 Tests: 1			X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1								X		
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1									X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1						X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X								
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X								
Faecal Coliforms (W)*	All	NDPs: 0 Tests: 1				X						
Fats Oils and Greases.	All	NDPs: 0 Tests: 1	X									
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1									X	
Mercury Dissolved	All	NDPs: 0 Tests: 1						X				
Mercury Unfiltered	All	NDPs: 0 Tests: 1							X			
Methylene blue active substances	All	NDPs: 0 Tests: 1				X						

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)			28089275									
Customer Sample Reference			SHOWMANS GUILD									
AGS Reference												
Depth (m)												
Container			1000ml glass bottle (ALE220)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Neutralised Suspended Solids	All	NDPs: 0 Tests: 1				X						
Organotins in Aqueous Samples	All	NDPs: 0 Tests: 1	X									
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1		X								
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1	X									
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 1				X						
pH Value	All	NDPs: 0 Tests: 1				X						
pH Value of Filtered Water	All	NDPs: 0 Tests: 1				X						
Pharmaceuticals and Personal Care	All	NDPs: 0 Tests: 1	X									
Phenols and ethoxylates in Liquids	All	NDPs: 0 Tests: 1	X									
Settleable Solids	All	NDPs: 1 Tests: 0		N								
Settleable Solids 5 Mins	All	NDPs: 1 Tests: 0		N								
Sulphide	All	NDPs: 0 Tests: 1										X
Suspended Solids	All	NDPs: 0 Tests: 1		X								
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1		X								
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1							X			

Validated

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)			28089275									
Customer Sample Reference			SHOWMANS GUILD									
AGS Reference												
Depth (m)												
Container			1000ml glass bottle (ALE220)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Total Nitrogen	All	NDPs: 0 Tests: 1				X						
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1					X					
TPH CWG (W)	All	NDPs: 0 Tests: 1		X								
Urea Herbicides (Suite 1)*	All	NDPs: 0 Tests: 1	X									
VOC MS (W)	All	NDPs: 0 Tests: 1									X	

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
	SHOWMANS GUILD	.	Ground Water (GW)	31/05/2023	.	02/06/2023	230602-42	28089275	

Component	LOD/Units	Method					
Chloroxuron*	mg/l	SUB	<0.00005				
Faecal coliforms confirmed (M7M)*		SUB	0				
Chlortoluron*	mg/l	SUB	<0.00005				
Diflubenzuron*	mg/l	SUB	<0.00005				
Dimefuron*	mg/l	SUB	<0.00005				
Diuron*	mg/l	SUB	<0.00005				
Isoproturon*	mg/l	SUB	<0.00005				
Linuron*	mg/l	SUB	<0.00005				
Methabenzthiauron*	mg/l	SUB	<0.00005				
Metoxuron*	mg/l	SUB	<0.00005				
Monolinuron*	mg/l	SUB	<0.00005				
Monuron*	mg/l	SUB	<0.00005				
Pencycuron*	mg/l	SUB	<0.00005				
Suspended Solids, Total neutralised	<2 mg/l	TM022	58.5				
Suspended solids, Total	<2 mg/l	TM022	42.4 #				
BOD, unfiltered	<1 mg/l	TM045	<1 #				
Organic Carbon, Total	<3 mg/l	TM090	5.94 #				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	34 #				
Sulphide	<0.01 mg/l	TM101	0.133 #				
COD, unfiltered	<7 mg/l	TM107	23.8 #				
Arsenic (diss.filt)	<0.0005 mg/l	TM152	0.00285 #				
Arsenic (tot.unfilt)	<0.002 mg/l	TM152	0.00319 #				
Cadmium (diss.filt)	<0.00008 mg/l	TM152	<0.00008 #				
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152	<0.0005 #				
Chromium (tot.unfilt)	<0.003 mg/l	TM152	<0.003 #				
Chromium (diss.filt)	<0.001 mg/l	TM152	<0.001 #				
Copper (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Lead (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Copper (diss.filt)	<0.0003 mg/l	TM152	0.000321 #				
Lead (diss.filt)	<0.0002 mg/l	TM152	0.00044 #				
Nickel (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Selenium (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Nickel (diss.filt)	<0.0004 mg/l	TM152	0.000613 #				

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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.	SHOWMANS GUILD
		Depth (m)	.
		Sample Type	Ground Water (GW)
		Date Sampled	31/05/2023
		Sample Time	.
		Date Received	02/06/2023
		SDG Ref	230602-42
		Lab Sample No.(s)	28089275
		AGS Reference	
Component	**LOD/Units**	**Method**	
Selenium (diss.filt)	<0.001 mg/l	TM152	<0.001 #
Zinc (tot.unfilt)	<0.005 mg/l	TM152	<0.005 #
Zinc (diss.filt)	<0.001 mg/l	TM152	0.00727 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152	673
Mercury (diss.filt)	<0.00001 mg/l	TM183	<0.00001 #
Mercury (tot.unfilt)	<0.00002 mg/l	TM183	<0.00002 #
Sulphate (soluble) as S	<1 mg/l	TM184	5.07 #
Nitrogen, Total	<1 mg/l	TM212	32.1 #
Methane, dissolved	<0.001 mg/l	TM223	3.3
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249	0.08
pH	<1 pH Units	TM256	7.04 #
pH (diss.filt)	<1 pH Units	TM256	7.09
Conductivity @ 20 deg.C (diss.filt)	<20 us/cm	TM256	1480
Tributyl tin	<0.000001 mg/l	TM328	<0.00001
Surrogate**	%	TM328	99
Trifluralin	<0.00001 mg/l	TM343	<0.00005
alpha-HCH	<0.00001 mg/l	TM343	<0.00005
gamma-HCH (Lindane)	<0.00001 mg/l	TM343	<0.00005
Heptachlor	<0.00001 mg/l	TM343	<0.00005
Aldrin	<0.00001 mg/l	TM343	<0.00005
beta-HCH	<0.00001 mg/l	TM343	<0.00005
Isodrin	<0.00001 mg/l	TM343	<0.00005
delta-HCH	<0.00001 mg/l	TM343	<0.00005
Heptachlor epoxide	<0.00001 mg/l	TM343	<0.00005
o,p'-DDE	<0.00001 mg/l	TM343	<0.00005
Endosulphan I	<0.00001 mg/l	TM343	<0.0001
trans-Chlordane	<0.00001 mg/l	TM343	<0.00005
cis-Chlordane	<0.00001 mg/l	TM343	<0.00005
p,p'-DDE	<0.00001 mg/l	TM343	<0.00005
Dieldrin	<0.00001 mg/l	TM343	<0.00005
o,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.00005
Endrin	<0.00001 mg/l	TM343	<0.00005

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	SHOWMANS GUILD
#	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)
		Date Sampled	31/05/2023
		Sample Time	.
		Date Received	02/06/2023
		SDG Ref	230602-42
		Lab Sample No.(s)	28089275
		AGS Reference	

Component	LOD/Units	Method	
o,p'-DDT	<0.00001 mg/l	TM343	<0.00005
p,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.00005
Endosulphan II	<0.00002 mg/l	TM343	<0.0001
p,p'-DDT	<0.00001 mg/l	TM343	<0.00005
o,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.00005
p,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.00005
Endosulphan Sulphate	<0.00002 mg/l	TM343	<0.0001
Permethrin I	<0.00001 mg/l	TM343	<0.00005
Permethrin II	<0.00001 mg/l	TM343	<0.00005
Fats, Oils, Greases	<1 mg/l	TM383	<1
4-tert-Octylphenol	<0.000014 mg/l	TM426	0.000214
4-tert-Nonylphenol	<0.00004 mg/l	TM426	0.0001
4-n-Octylphenol	<0.000014 mg/l	TM426	<0.000028
4-n-Nonylphenol	<0.00004 mg/l	TM426	<0.00008
4-Nonylphenol monoethoxylate	<0.00004 mg/l	TM426	<0.00008
4-Nonylphenol diethoxylate	<0.00004 mg/l	TM426	<0.00008
4-Octylphenol (sum of isomers)	<0.000028 mg/l	TM426	<0.00014
4-Nonylphenol (sum of isomers)	<0.00008 mg/l	TM426	<0.00016
1,7-Dimethylxanthine	<0.00005 mg/l	TM432	<0.00005
2,4-D	<0.00002 mg/l	TM432	<0.00005
Acesulfame-K	<0.0002 mg/l	TM432	0.00133
Acetaminophen	<0.00002 mg/l	TM432	<0.00005
Albuterol	<0.000005 mg/l	TM432	<0.00001
Amoxicillin	<0.0001 mg/l	TM432	<0.0002
Andorostenedione	<0.00001 mg/l	TM432	<0.00001
Atenolol	<0.000005 mg/l	TM432	<0.00001
Atrazine	<0.000002 mg/l	TM432	<0.000002
Bendroflumethiazide	<0.00001 mg/l	TM432	0.000011
Bezafibrate	<0.000005 mg/l	TM432	<0.00001
BPA	<0.00001 mg/l	TM432	0.000366
Bromacil	<0.00001 mg/l	TM432	0.000013
Butalbital	<0.00001 mg/l	TM432	<0.00001
Butylparaben	<0.00001 mg/l	TM432	<0.00001

Results Legend		Customer Sample Ref.	SHOWMANS GUILD
#	ISO17025 accredited.		
M	mCERTS accredited.		
aq	Aqueous / settled sample.		
diss.filt	Dissolved / filtered sample.	Depth (m)	.
tot.unfilt	Total / unfiltered sample.	Sample Type	Ground Water (GW)
*	Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	31/05/2023
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	.
		Date Received	02/06/2023
		SDG Ref	230602-42
(F)	Trigger breach confirmed	Lab Sample No.(s)	28089275
1-4+§@	Sample deviation (see appendix)	AGS Reference	

Component	LOD/Units	Method	
Caffeine	<0.00001 mg/l	TM432	<0.00001
Carbadox	<0.00002 mg/l	TM432	<0.00001
Carbamazepine	<0.000002 mg/l	TM432	<0.000002
Carisoprodol	<0.00002 mg/l	TM432	<0.00001
Chloramphenicol	<0.000005 mg/l	TM432	<0.00005
Chloridazon	<0.00001 mg/l	TM432	<0.00001
Chlorotoluron	<0.00001 mg/l	TM432	<0.00001
Cimetidine	<0.00002 mg/l	TM432	<0.00001
Clofibric Acid	<0.00001 mg/l	TM432	<0.00005
Cotinine	<0.00001 mg/l	TM432	<0.00002
DACT	<0.00005 mg/l	TM432	<0.0001
DEA	<0.000005 mg/l	TM432	<0.00001
DEET	<0.00001 mg/l	TM432	<0.00001
Dehydronifedipine	<0.000005 mg/l	TM432	<0.000005
DIA	<0.00005 mg/l	TM432	<0.00001
Diclofenac	<0.00003 mg/l	TM432	<0.0001
Dilantin	<0.00002 mg/l	TM432	<0.00002
Diltiazem	<0.000005 mg/l	TM432	<0.00002
Diuron	<0.000005 mg/l	TM432	<0.000005
Erythromycin	<0.000025 mg/l	TM432	<0.0001
Estradiol	<0.00005 mg/l	TM432	<0.0001
Estriol	<0.00005 mg/l	TM432	<0.00005
Estrone	<0.00001 mg/l	TM432	<0.00005
Ethinyl Estradiol - 17 alpha	<0.0001 mg/l	TM432	<0.0001
Ethylparaben	<0.000005 mg/l	TM432	<0.000005
Flumeqine	<0.00005 mg/l	TM432	<0.00005
Fluoxetine	<0.00001 mg/l	TM432	<0.00025
Gemfibrozil	<0.000005 mg/l	TM432	<0.00002
Ibuprofen	<0.000025 mg/l	TM432	<0.00005
Iohexol	<0.00005 mg/l	TM432	<0.0001
Iopromide	<0.00001 mg/l	TM432	<0.00005
Isobutylparaben	<0.00001 mg/l	TM432	<0.00001
Isoproturon	<0.00002 mg/l	TM432	<0.00001

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	SHOWMANS GUILD
#	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)
		Date Sampled	31/05/2023
		Sample Time	.
		Date Received	02/06/2023
		SDG Ref	230602-42
		Lab Sample No.(s)	28089275
		AGS Reference	

Component	LOD/Units	Method					
Ketoprofen	<0.000005 mg/l	TM432	<0.00001				
Ketorolac	<0.000005 mg/l	TM432	<0.000005				
Lidocaine	<0.000005 mg/l	TM432	<0.000005				
Lincomycin	<0.00005 mg/l	TM432	<0.00005				
Linuron	<0.000005 mg/l	TM432	<0.00005				
Lopressor	<0.0002 mg/l	TM432	<0.0001				
Meclofenamic Acid	<0.00005 mg/l	TM432	<0.00005				
Metazachlor	<0.000005 mg/l	TM432	<0.000005				
Metformin	<0.0001 mg/l	TM432	<0.00003				
Methylparaben	<0.000005 mg/l	TM432	<0.00001				
Metolachlor	<0.000005 mg/l	TM432	<0.000005				
Naproxen	<0.00002 mg/l	TM432	<0.00005				
Nifedipine	<0.00001 mg/l	TM432	<0.000005				
Norethisterone	<0.00002 mg/l	TM432	<0.00002				
OUST (Sulfometuron.methyl)	<0.000005 mg/l	TM432	<0.000005				
Oxolinic acid	<0.00002 mg/l	TM432	<0.00005				
Pentoxifylline	<0.00001 mg/l	TM432	<0.000005				
Phenazone	<0.00002 mg/l	TM432	0.000048				
Primidone	<0.00001 mg/l	TM432	<0.00005				
Progesterone	<0.00002 mg/l	TM432	<0.00004				
Propazine	<0.000005 mg/l	TM432	<0.000005				
Propylparaben	<0.000005 mg/l	TM432	<0.000005				
Quinoline	<0.00002 mg/l	TM432	<0.0001				
Salicylic Acid	<0.0005 mg/l	TM432	<0.0005				
Simazine	<0.000005 mg/l	TM432	<0.000005				
Sucralose	<0.0001 mg/l	TM432	0.000339				
Sulfachloropyridazine	<0.000005 mg/l	TM432	<0.00001				
Sulfadiazine	<0.000025 mg/l	TM432	<0.00005				
Sulfadimethoxine	<0.00001 mg/l	TM432	<0.00001				
Sulfamerazine	<0.000005 mg/l	TM432	0.00004				
Sulfamethazine	<0.00002 mg/l	TM432	0.000226				
Sulfamethizole	<0.00001 mg/l	TM432	<0.00001				
Sulfamethoxazole	<0.000005 mg/l	TM432	<0.00001				

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.			SHOWMANS GUILD					
Depth (m)			.					
Sample Type			Ground Water (GW)					
Date Sampled			31/05/2023					
Sample Time			.					
Date Received			02/06/2023					
SDG Ref			230602-42					
Lab Sample No.(s)			28089275					
AGS Reference								
Component	**LOD/Units**	**Method**						
Sulfathiazole	<0.0001 mg/l	TM432	0.000062					
TCEP	<0.001 mg/l	TM432	<0.001					
TCPP	<0.001 mg/l	TM432	<0.001					
TDCPP	<0.0002 mg/l	TM432	<0.0002					
Testosterone	<0.00002 mg/l	TM432	<0.00001					
Theobromine	<0.00005 mg/l	TM432	<0.00025					
Theophylline	<0.0001 mg/l	TM432	<0.0001					
Thiabendazole	<0.000005 mg/l	TM432	<0.00001					
Triclocarban	<0.00005 mg/l	TM432	<0.00005					
Triclosan	<0.00005 mg/l	TM432	<0.0002					
Trimethoprim	<0.00002 mg/l	TM432	<0.00001					
Warfarin	<0.000005 mg/l	TM432	<0.00001					
PFBA (375-22-4)	<0.000002 mg/l	TM434	0.000009 #					
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434	<0.000001 #					
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434	<0.000002 #					
PFPA (2706-90-3)	<0.000001 mg/l	TM434	0.000004 #					
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434	<0.000001 #					
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434	<0.000001 #					
NFDHA (151772-58-6)	<0.000003 mg/l	TM434	<0.000003 #					
PFBS (375-73-5)	<0.000001 mg/l	TM434	0.000003 #					
PFHxA (307-24-4)	<0.000001 mg/l	TM434	0.000003 #					
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434	<0.000002 #					
PFEESA (113507-82-7)	<0.000001 mg/l	TM434	<0.000001 #					
PFHpA (375-85-9)	<0.000001 mg/l	TM434	<0.000001 #					
PFPeS (2706-91-4)	<0.000001 mg/l	TM434	<0.000001 #					
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434	<0.000005 #					
ADONA (919005-14-4)	<0.000001 mg/l	TM434	<0.000001 #					
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434	<0.000001 #					
FBSA (30334-69-1)	<0.000001 mg/l	TM434	0.000002 #					
PFOA (335-67-1)	<0.000001 mg/l	TM434	0.000007 #					
PFHxS (355-46-4)	<0.000001 mg/l	TM434	0.000004 #					
PFNA (375-95-1)	<0.000001 mg/l	TM434	<0.000001 #					
PFecHS (133201-07-7)	<0.000001 mg/l	TM434	<0.000001 #					

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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.	
			Depth (m)	.
			Sample Type	Ground Water (GW)
			Date Sampled	31/05/2023
			Sample Time	.
			Date Received	02/06/2023
			SDG Ref	230602-42
			Lab Sample No.(s)	28089275
			AGS Reference	SHOWMANS GUILD
PFHpS (375-92-8)	<0.000001 mg/l	TM434	<0.000001 #	
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434	<0.000002 #	
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434	<0.000005 #	
PFDA (335-76-2)	<0.000002 mg/l	TM434	<0.000002 #	
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434	<0.000002 #	
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434	<0.000005 #	
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434	0.000001 #	
Branched PFOS	<0.000001 mg/l	TM434	0.000003 #	
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434	<0.000002 #	
PFUnA (2058-94-8)	<0.000002 mg/l	TM434	<0.000002 #	
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434	<0.000001 #	
PFNS (68259-12-1)	<0.000001 mg/l	TM434	<0.000001 #	
FHxSA (41997-13-1)	<0.000001 mg/l	TM434	<0.000001 #	
PFDoA (307-55-1)	<0.000002 mg/l	TM434	<0.000002 #	
PFDS (335-77-3)	<0.000002 mg/l	TM434	<0.000002 #	
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434	<0.000003 #	
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434	<0.000002 #	
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434	<0.000002 #	
PFTeA (376-06-7)	<0.000001 mg/l	TM434	<0.000001 #	
PFOSA (754-91-6)	<0.000002 mg/l	TM434	<0.000002 #	
PFDoS (79780-39-5)	<0.000002 mg/l	TM434	<0.000002 #	
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434	<0.000001 #	
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434	<0.000001 #	
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434	<0.00001 #	
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434	<0.000001 #	
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434	<0.00001 #	
PFODA (16517-11-6)	<0.000001 mg/l	TM434	<0.000001 #	
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434	<0.000001 #	
Total PFOS	<0.000001 mg/l	TM434	0.000005 #	

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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.				
			SHOWMANS GUILD				
			Depth (m)				
			Sample Type	Ground Water (GW)			
			Date Sampled	31/05/2023			
			Sample Time				
			Date Received	02/06/2023			
			SDG Ref	230602-42			
			Lab Sample No.(s)	28089275			
			AGS Reference				
Naphthalene (aq)	<0.00001 mg/l	TM178	0.000027 #				
Acenaphthene (aq)	<0.000005 mg/l	TM178	0.000146 #				
Acenaphthylene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Fluoranthene (aq)	<0.000005 mg/l	TM178	0.000047 #				
Anthracene (aq)	<0.000005 mg/l	TM178	0.000015 #				
Phenanthrene (aq)	<0.000005 mg/l	TM178	0.000055 #				
Fluorene (aq)	<0.000005 mg/l	TM178	0.000058 #				
Chrysene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Pyrene (aq)	<0.000005 mg/l	TM178	0.000038 #				
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178	<0.000002 #				
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178	<0.000005 #				
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178	0.000386 #				

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			SHOWMANS GUILD . Ground Water (GW) 31/05/2023 . 02/06/2023 230602-42 28089275				
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.004 #				
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004				
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.004				
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.004				
Azobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.004 #				
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.004 #				
Anthracene (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.008 #				
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #				
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.004 #				

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	SHOWMANS GUILD					
#	ISO17025 accredited.							
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.	Depth (m)	.					
tot.unfilt	Total / unfiltered sample.	Sample Type	Ground Water (GW)					
*	Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	31/05/2023					
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	.					
		Date Received	02/06/2023					
		SDG Ref	230602-42					
(F)	Trigger breach confirmed	Lab Sample No.(s)	28089275					
1-4+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #					
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #					
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.004 #					
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.004 #					
Carbazole (aq)	<0.001 mg/l	TM176	<0.004 #					
Chrysene (aq)	<0.001 mg/l	TM176	<0.004 #					
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.004 #					
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #					
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #					
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.004 #					
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #					
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.02 #					
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #					
Fluorene (aq)	<0.001 mg/l	TM176	<0.004 #					
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #					
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.004 #					
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.004					
Phenol (aq)	<0.001 mg/l	TM176	<0.004					
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.004 #					
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.004 #					
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.004 #					
Naphthalene (aq)	<0.001 mg/l	TM176	<0.004 #					
Isophorone (aq)	<0.001 mg/l	TM176	<0.004 #					
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.004					
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.004 #					
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.004 #					
Pyrene (aq)	<0.001 mg/l	TM176	<0.004 #					

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.				
			SHOWMANS GUILD				
			Depth (m)	.			
			Sample Type	Ground Water (GW)			
			Date Sampled	31/05/2023			
			Sample Time	.			
			Date Received	02/06/2023			
			SDG Ref	230602-42			
			Lab Sample No.(s)	28089275			
			AGS Reference				
GRO Surrogate % recovery**	%	TM245	94				
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 #				
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01				
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01				
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01				
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01				
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01				
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01				
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01				
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01				
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.01				

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			SHOWMANS GUILD . Ground Water (GW) 31/05/2023 . 02/06/2023 230602-42 28089275				
Dibromofluoromethane**	%	TM208	95.2				
Toluene-d8**	%	TM208	96.4				
4-Bromofluorobenzene**	%	TM208	102				
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001 #				
Chloromethane	<0.001 mg/l	TM208	<0.001 #				
Vinyl chloride	<0.001 mg/l	TM208	<0.001 #				
Bromomethane	<0.001 mg/l	TM208	<0.001 #				
Chloroethane	<0.001 mg/l	TM208	<0.001 #				
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
Carbon disulphide	<0.001 mg/l	TM208	<0.001 #				
Dichloromethane	<0.003 mg/l	TM208	<0.003 #				
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001 #				
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001				
Bromochloromethane	<0.001 mg/l	TM208	<0.001 #				
Chloroform	<0.001 mg/l	TM208	<0.001 #				
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Carbontetrachloride	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
Benzene	<0.001 mg/l	TM208	<0.001 #				
Trichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				
Dibromomethane	<0.001 mg/l	TM208	<0.001 #				
Bromodichloromethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Toluene	<0.001 mg/l	TM208	<0.001 #				
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,3-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				

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.	SHOWMANS GUILD				
			Depth (m)	.				
			Sample Type	Ground Water (GW)				
			Date Sampled	31/05/2023				
			Sample Time	.				
			Date Received	02/06/2023				
			SDG Ref	230602-42				
			Lab Sample No.(s)	28089275				
			AGS Reference					
Component	**LOD/Units**	**Method**						
Tetrachloroethene	<0.001 mg/l	TM208	<0.001 #					
Dibromochloromethane	<0.001 mg/l	TM208	<0.001 #					
1,2-Dibromoethane	<0.001 mg/l	TM208	<0.001 #					
Chlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #					
Ethylbenzene	<0.001 mg/l	TM208	<0.001 #					
m,p-Xylene	<0.001 mg/l	TM208	<0.001 #					
o-Xylene	<0.001 mg/l	TM208	<0.001 #					
Styrene	<0.001 mg/l	TM208	<0.001 #					
Bromoform	<0.001 mg/l	TM208	<0.001 #					
Isopropylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #					
1,2,3-Trichloropropane	<0.001 mg/l	TM208	<0.001 #					
Bromobenzene	<0.001 mg/l	TM208	<0.001 #					
Propylbenzene	<0.001 mg/l	TM208	<0.001 #					
2-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #					
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #					
4-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #					
tert-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #					
sec-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
4-iso-Propyltoluene	<0.001 mg/l	TM208	<0.001 #					
1,3-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,4-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
n-Butylbenzene	<0.001 mg/l	TM208	<0.001 #					
1,2-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208	<0.001					
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
Hexachlorobutadiene	<0.001 mg/l	TM208	<0.001 #					
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208	<0.001 #					
Naphthalene	<0.001 mg/l	TM208	<0.001 #					
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #					
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208	<0.001					

Validated

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571

Client Ref.: 326R **Location:** Victoria North

VOC MS (W)

Results Legend		Customer Sample Ref.	SHOWMANS GUILD
#	ISO17025 accredited.		
M	mCERTS accredited.		
aq	Aqueous / settled sample.		
diss.filt	Dissolved / filtered sample.	Depth (m)	.
tot.unfilt	Total / unfiltered sample.	Sample Type	Ground Water (GW)
*	Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	31/05/2023
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	.
		Date Received	02/06/2023
(F)	Trigger breach confirmed	SDG Ref	230602-42
1-4+§@	Sample deviation (see appendix)	Lab Sample No.(s)	28089275
		AGS Reference	

Component	LOD/Units	Method	
Sum of detected Xylenes	<0.002 mg/l	TM208	<0.002
Sum of BTEX	<0.005 mg/l	TM208	<0.005

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

Notification of NDPs (No determination possible)

Date Received : 02/06/2023 08:43:19

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
28089275	SHOWMANS GUILD		Settleable Solids	Insufficient Sample
28089275	SHOWMANS GUILD		Settleable Solids 5 Mins	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG: 230602-42 **Report Number:** 699683 **Superseded Report:** 697571
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28089275 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28089275 **Date of Amendment :** 10/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
SHOWMANS GUILD	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	5.32	3.42
SHOWMANS GUILD	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	5.30	1.46
SHOWMANS GUILD	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	10.6	4.88

Table of Results - Appendix

Method No	Description
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM426	Determination of Specific Phenols and their Ethoxylates in Liquids by GC/MS/MS
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM328	
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM434	Analysis of PFAS
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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
TM176	Determination of SVOCs in Water by GCMS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM432	Pharmacuiticals and Personal Care Products
SUB	Subcontracted Test
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

Test Completion Dates

Lab Sample No(s)	28089275
Customer Sample Ref.	SHOWMANS GUILD
AGS Ref.	
Depth	
Type	Ground Water
Ammoniacal Nitrogen	06-Jun-2023
Anions by Kone (w)	06-Jun-2023
BOD True Total	08-Jun-2023
COD Unfiltered	08-Jun-2023
Cyanide Comp/Free/Total/Thiocyanate	06-Jun-2023
Determination of Dissolved Gases	05-Jun-2023
Dissolved Metals by ICP-MS	06-Jun-2023
EPH CWG (Aliphatic) Aqueous GC (W)	08-Jun-2023
EPH CWG (Aromatic) Aqueous GC (W)	08-Jun-2023
Faecal Coliforms (W)*	12-Jun-2023
Fats Oils and Greases.	08-Jun-2023
GRO by GC-FID (W)	07-Jun-2023
Mercury Dissolved	06-Jun-2023
Mercury Unfiltered	06-Jun-2023
Methylene blue active substances	07-Jun-2023
Neutralised Suspended Solids	08-Jun-2023
Organotins in Aqueous Samples	06-Jun-2023
PAH Spec MS - Aqueous (W)	08-Jun-2023
Pesticides (Suite I) by GCMS	06-Jun-2023
PFAS Liquids (Full Suite)	12-Jul-2023
pH Value	06-Jun-2023
pH Value of Filtered Water	06-Jun-2023
Pharmaceuticals and Personal Care	20-Jun-2023
Phenols and ethoxylates in Liquids	11-Jul-2023
Sulphide	09-Jun-2023
Suspended Solids	07-Jun-2023
SVOC MS (W) - Aqueous	07-Jun-2023
Total Metals by ICP-MS	06-Jun-2023
Total Nitrogen	07-Jun-2023
Total Organic and Inorganic Carbon	04-Jun-2023
TPH CWG (W)	08-Jun-2023
Urea Herbicides (Suite 1)*	16-Jun-2023
VOC MS (W)	09-Jun-2023

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F.A.O Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside CH5 3US

08 June 2023

Test Report: COV/2489967/2023

Dear F.A.O Quotes

Analysis of your sample(s) submitted on 07 June 2023 is now complete and we have pleasure in enclosing the appropriate test report(s).

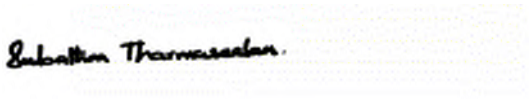
An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Laboratories (UK) Limited and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

Name: S. Tharmaseelan

Title: Legionella Team Leader

UKAS TESTING 1314
bsi ISO 14001 Environmental Management CERTIFIED EMS675527 ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 542058
CERTS

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No.02391955.
Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.

Report Summary

ANALYSED BY

F.A.O Hawarden Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside
CH5 3US

Date of Issue: **08 June 2023**

Report Number: **COV/2489967/2023** Issue **1**

This issue replaces all previous issues

Job Description: Master Quote 2022 - 2023

Job Location: BAM RITCHIES - 230602-42

Number of Samples included in this report **1**

Job Received: **07 June 2023**

Number of Test Results included in this report **2**

Analysis Commenced: **07 June 2023**

Signed: 

Name: **S. Tharmaseelan** Date: **08 June 2023**

Title: **Legionella Team Leader**

ALS Laboratories (UK) Limited was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.
This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No. 02391955. Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.
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Certificate of Analysis

ANALYSED BY

Report Number:	**COV/2489967/2023**	Issue	**1**
Laboratory Number:	**22866084**	Sample	**1** of **1**
Sample Source:	**ALS Laboratories (UK) Ltd**		
Sample Point Description:			
Sample Description:	**Showmans Guild**		
Sample Matrix:	**Not In Project**		
Sample Date/Time:			
Sample Received:	**07 June 2023**		
Analysis Complete:	**08 June 2023**		

Test Description	Result	Units	Analysis Date	Accreditation		Method
Faecal coliforms presumptive	0	cfu/100ml	08/06/2023	N	Cov	W57
Faecal coliforms confirmed	0	cfu/100ml	08/06/2023	N	Cov	W57

Analyst Comments for 22866084: The date of sampling has not been provided and therefore sample stability times cannot be assessed. It is therefore possible that the results provided may be compromised.

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: S Tharmaseelan

Name: **S. Tharmaseelan** Date: **08 June 2023**

Title: **Legionella Team Leader**

ANALYST COMMENTS FOR REPORT COV/2489967/2023 Issue 1

This issue replaces all previous issues

Date of Issue: **08 June 2023**

Sample No	Analysis Comments
22866084	The date of sampling has not been provided and therefore sample stability times cannot be assessed. It is therefore possible that the results provided may be compromised.

Signed: Sabathan Tharmaseelan

Name: **S. Tharmaseelan** Date: **08 June 2023**

Title: **Legionella Team Leader**

DETERMINAND COMMENTS FOR REPORT COV/2489967/2023

ISSUE 1

This issue replaces all previous issues

Date of Issue: 08 June 2023

Sample No	Description	Determinand	Comments

Signed: 

Name: **S. Tharmaseelan** Date: **08 June 2023**

Title: **Legionella Team Leader**

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Certificate of Analysis

Report No.:	**23-03984-1**
Issue No.:	**1**
Date of Issue	**16/06/2023**
Customer Details:	ALS Laboratories (UK) Ltd, Unit7-8, Hawarden Business Park, Manor Road, Hawarden, Deeside, Flintshire, CH5 3US, United Kingdom
Customer Contact:	Results mailbox
Customer Order No.:	230602-42
Customer Reference:	Not Supplied
Quotation Reference:	Q23-00645 (Issue: 7)
Description:	1 liquid sample
Date Received:	07/06/2023
Date Started:	07/06/2023
Date Completed:	14/06/2023
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None



Approved By: **David Long, LIMS Manager**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 23-03984-1

Customer Reference: Not Supplied

Customer Order No: 230602-42

Customer Sample No	**28094433 SHOWMAN GUILD**
RPS Sample No	24029
Sample Type	**LIQUID**
Sample Matrix	FORMULATN
Sampling Date	31/05/2023

Determinand	CAS No	Codes	SOP	RL	Units	
chloroxuron	1982-47-4	N	L005	0.05	µg/L	< 0.05 (T)
chlorotoluron	15545-48-9	N	L005	0.05	µg/L	< 0.05 (T)
diflubenzuron	35367-38-5	N	L005	0.05	µg/L	< 0.05 (T)
dimefuron	34205-21-5	N	L005	0.05	µg/L	< 0.05 (T)
diuron	330-54-1	N	L005	0.05	µg/L	< 0.05 (T)
isoproturon	34123-59-6	N	L005	0.05	µg/L	< 0.05 (T)
linuron	330-55-2	N	L005	0.05	µg/L	< 0.05 (T)
methabenzthiazuron	18691-97-9	N	L005	0.05	µg/L	< 0.05 (T)
metoxuron	19937-59-8	N	L005	0.05	µg/L	< 0.05 (T)
monolinuron	1746-81-2	N	L005	0.05	µg/L	< 0.05 (T)
monuron	150-68-5	N	L005	0.05	µg/L	< 0.05 (T)
pencycuron	66063-05-6	N	L005	0.05	µg/L	< 0.05 (T)

Deviating Samples

Report No.: 23-03984-1

Customer Reference: Not Supplied

Customer Order No: 230602-42

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
24029	28094433 SHOWMAN GUILD		31/05/2023	GAB500 500 mL amber glass bottle	**Yes**	No sampling time provided.

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	PACKAGING	Packaging material
Solid	PLANT	Plant (vegetation)
Solid	SWAB	Swab
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Water

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
L (in results)	Result is outside normal limits
DW (in units)	Results are expressed on a dry weight basis

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 July 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230607-44
Your Reference:	326R
Location:	Victoria North
Report No:	695790
Order Number:	RIT 298665896

This report has been revised and directly supersedes 694431 in its entirety.

We received 1 sample on Wednesday June 07, 2023 and 1 of these samples were scheduled for analysis which was completed on Tuesday July 11, 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

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28110715	Showmans Guild			06/06/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)			28110715								
Customer Sample Reference			Showmans Guild								
AGS Reference											
Depth (m)											
Container			1000ml glass bottle (ALE220)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1					X				
Anions by Kone (w)	All	NDPs: 0 Tests: 1				X					
BOD True Total	All	NDPs: 0 Tests: 1			X						
CEN Readings	All	NDPs: 0 Tests: 1		X							
COD Unfiltered	All	NDPs: 0 Tests: 1			X						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1							X		
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1								X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1						X			
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X							
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X							
Fats Oils and Greases.	All	NDPs: 0 Tests: 1	X								
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1		X							
Mercury Dissolved	All	NDPs: 0 Tests: 1						X			
Mercury Unfiltered	All	NDPs: 0 Tests: 1			X						
Methylene blue active substances	All	NDPs: 0 Tests: 1				X					

Validated

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)	28110715
			Customer Sample Reference	Showmans Guild
			AGS Reference	
			Depth (m)	
			Container	1000ml glass bottle (ALE220) / 250ml Amber Gl. PTFE/PE (ALE219) / 250ml BOD (ALE212) / 500ml Plastic (ALE208) / H2SO4 (ALE244) / HNO3 Filtered (ALE204) / NaOH (ALE245) / Vial (ALE297) / ZnAc (ALE246)
			Sample Type	SW / SW / SW / SW / SW / SW / SW / SW / SW
Neutralised Suspended Solids	All	NDPs: 0 Tests: 1		X
Organotins in Aqueous Samples	All	NDPs: 0 Tests: 1	X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1	X	
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1	X	
PFAS Liquids	All	NDPs: 0 Tests: 1		X
pH Value	All	NDPs: 0 Tests: 1		X
pH Value of Filtered Water	All	NDPs: 0 Tests: 1		X
Pharmaceuticals and Personal Care	All	NDPs: 0 Tests: 1	X	
Phenols and ethoxylates in Liquids	All	NDPs: 0 Tests: 1	X	
Settleable Solids	All	NDPs: 1 Tests: 0		N
Settleable Solids 5 Mins	All	NDPs: 1 Tests: 0		N
Sulphide	All	NDPs: 0 Tests: 1		X
Suspended Solids	All	NDPs: 0 Tests: 1		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1	X	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1	X	

Validated

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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
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Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			28110715								
Customer Sample Reference			Showmans Guild								
AGS Reference											
Depth (m)											
Container			1000ml glass bottle (ALE220)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			SW	SW	SW	SW	SW	SW	SW	SW	SW
Total Nitrogen	All	NDPs: 0 Tests: 1				X					
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1					X				
TPH CWG (W)	All	NDPs: 0 Tests: 1		X							
Urea Herbicides (Suite 1)*	All	NDPs: 0 Tests: 1	X								
VOC MS (W)	All	NDPs: 0 Tests: 2		X						X	

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild . Surface Water (SW) 06/06/2023 . 07/06/2023 230607-44 28110715				
pH	pH Units	PM115	7.11				
Conductivity @ 20 deg.C	µS/cm	PM115	1420				
Chloroxuron*	mg/l	SUB	<0.00005				
Chlortoluron*	mg/l	SUB	<0.00005				
Diflubenzuron*	mg/l	SUB	<0.00005				
Dimefuron*	mg/l	SUB	<0.00005				
Diuron*	mg/l	SUB	<0.00005				
Isoproturon*	mg/l	SUB	<0.00005				
Linuron*	mg/l	SUB	<0.00005				
Methabenzthiauron*	mg/l	SUB	<0.00005				
Metoxuron*	mg/l	SUB	<0.00005				
Monolinuron*	mg/l	SUB	<0.00005				
Monuron*	mg/l	SUB	<0.00005				
Pencycuron*	mg/l	SUB	<0.00005				
Suspended Solids, Total neutralised	<2 mg/l	TM022	72				
Suspended solids, Total	<2 mg/l	TM022	72.2 #				
BOD, unfiltered	<1 mg/l	TM045	<10 #				
Organic Carbon, Total	<3 mg/l	TM090	9.61 #				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	35.3 #				
Sulphide	<0.01 mg/l	TM101	0.0461				
COD, unfiltered	<7 mg/l	TM107	18.5 #				
Arsenic (diss.filt)	<0.0005 mg/l	TM152	0.0028 #				
Arsenic (tot.unfilt)	<0.002 mg/l	TM152	0.00309 2 #				
Cadmium (diss.filt)	<0.00008 mg/l	TM152	<0.00008 #				
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152	<0.0005 2 #				
Chromium (tot.unfilt)	<0.003 mg/l	TM152	<0.003 2 #				
Chromium (diss.filt)	<0.001 mg/l	TM152	<0.001 #				
Copper (tot.unfilt)	<0.001 mg/l	TM152	<0.001 2 #				
Lead (tot.unfilt)	<0.001 mg/l	TM152	<0.001 2 #				
Copper (diss.filt)	<0.0003 mg/l	TM152	0.000756 #				
Lead (diss.filt)	<0.0002 mg/l	TM152	0.000438 #				
Nickel (tot.unfilt)	<0.001 mg/l	TM152	<0.001 2 #				
Selenium (tot.unfilt)	<0.001 mg/l	TM152	<0.001 2 #				

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.	Showmans Guild
	Depth (m)	.
	Sample Type	Surface Water (SW)
	Date Sampled	06/06/2023
	Sample Time	.
	Date Received	07/06/2023
	SDG Ref	230607-44
	Lab Sample No.(s)	28110715
	AGS Reference	

Component	LOD/Units	Method	
Nickel (diss.filt)	<0.0004 mg/l	TM152	0.00121 #
Selenium (diss.filt)	<0.001 mg/l	TM152	<0.001 #
Zinc (tot.unfilt)	<0.005 mg/l	TM152	0.00667 2 #
Zinc (diss.filt)	<0.001 mg/l	TM152	0.0138 #
Calcium Hardness Unfiltered	<0.14 mg/l	TM152	578 2
Mercury (diss.filt)	<0.00001 mg/l	TM183	<0.00001
Mercury (tot.unfilt)	<0.00002 mg/l	TM183	<0.00002 2
Sulphate (soluble) as S	<1 mg/l	TM184	4.87 #
Nitrogen, Total	<1 mg/l	TM212	33.4 #
Methane, dissolved	<0.001 mg/l	TM223	<0.001
Cyanide, Total	<0.05 mg/l	TM227	<0.05
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249	0.21
pH	<1 pH Units	TM256	7.13 #
pH (diss.filt)	<1 pH Units	TM256	7.11
Conductivity @ 20 deg.C (diss.filt)	<20 us/cm	TM256	1420
Tributyl tin	<0.000001 mg/l	TM328	<0.000001
Surrogate**	%	TM328	98
Trifluralin	<0.00001 mg/l	TM343	<0.0001
alpha-HCH	<0.00001 mg/l	TM343	<0.0001
gamma-HCH (Lindane)	<0.00001 mg/l	TM343	<0.0001
Heptachlor	<0.00001 mg/l	TM343	<0.0001
Aldrin	<0.00001 mg/l	TM343	<0.0001
beta-HCH	<0.00001 mg/l	TM343	<0.0001
Isodrin	<0.00001 mg/l	TM343	<0.0001
delta-HCH	<0.00001 mg/l	TM343	<0.0001
Heptachlor epoxide	<0.00001 mg/l	TM343	<0.0001
o,p'-DDE	<0.00001 mg/l	TM343	<0.0001
Endosulphan I	<0.00001 mg/l	TM343	<0.0001
trans-Chlordane	<0.00001 mg/l	TM343	<0.0001
cis-Chlordane	<0.00001 mg/l	TM343	<0.0001
p,p'-DDE	<0.00001 mg/l	TM343	<0.0001
Dieldrin	<0.00001 mg/l	TM343	<0.0001
o,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.0001

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.	Showmans Guild
		Depth (m)	.
		Sample Type	Surface Water (SW)
		Date Sampled	06/06/2023
		Sample Time	.
		Date Received	07/06/2023
		SDG Ref	230607-44
		Lab Sample No.(s)	28110715
		AGS Reference	
Component	**LOD/Units**	**Method**	
Endrin	<0.00001 mg/l	TM343	<0.0001
o,p'-DDT	<0.00001 mg/l	TM343	<0.0001
p,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.0001
Endosulphan II	<0.00002 mg/l	TM343	<0.0002
p,p'-DDT	<0.00001 mg/l	TM343	<0.0001
o,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.0001
p,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.0001
Endosulphan Sulphate	<0.00002 mg/l	TM343	<0.0002
Permethrin I	<0.00001 mg/l	TM343	<0.0001
Permethrin II	<0.00001 mg/l	TM343	<0.0001
Fats, Oils, Greases	<1 mg/l	TM383	<1
4-tert-Octylphenol	<0.000014 mg/l	TM426	0.000177
4-tert-Nonylphenol	<0.00004 mg/l	TM426	0.000074
4-n-Octylphenol	<0.000014 mg/l	TM426	<0.000014
4-n-Nonylphenol	<0.00004 mg/l	TM426	<0.00004
4-Nonylphenol monoethoxylate	<0.00004 mg/l	TM426	<0.00008
4-Nonylphenol diethoxylate	<0.00004 mg/l	TM426	<0.00008
4-Octylphenol (sum of isomers)	<0.000028 mg/l	TM426	<0.000028
4-Nonylphenol (sum of isomers)	<0.00008 mg/l	TM426	<0.00008
1,7-Dimethylxanthine	<0.00005 mg/l	TM432	<0.00005
2,4-D	<0.00002 mg/l	TM432	<0.00005
Acesulfame-K	<0.0002 mg/l	TM432	0.000809
Acetaminophen	<0.00002 mg/l	TM432	<0.00005
Albuterol	<0.000005 mg/l	TM432	<0.00001
Amoxicillin	<0.0001 mg/l	TM432	<0.0001
Androstenedione	<0.00001 mg/l	TM432	<0.00001
Atenolol	<0.000005 mg/l	TM432	<0.00001
Atrazine	<0.000002 mg/l	TM432	<0.000002
Bendroflumethiazide	<0.00001 mg/l	TM432	<0.00001
Bezafibrate	<0.000005 mg/l	TM432	<0.00001
BPA	<0.00001 mg/l	TM432	<0.0003
Bromacil	<0.00001 mg/l	TM432	<0.00001
Butalbital	<0.00001 mg/l	TM432	<0.00001

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	Showmans Guild
#	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)
		Date Sampled	06/06/2023
		Sample Time	.
		Date Received	07/06/2023
		SDG Ref	230607-44
		Lab Sample No.(s)	28110715
		AGS Reference	

Component	LOD/Units	Method					
Butylparaben	<0.00001 mg/l	TM432	<0.00001				
Caffeine	<0.00001 mg/l	TM432	<0.00001				
Carbadox	<0.00002 mg/l	TM432	<0.00001				
Carbamazepine	<0.000002 mg/l	TM432	<0.000002				
Carisoprodol	<0.00002 mg/l	TM432	<0.00001				
Chloramphenicol	<0.000005 mg/l	TM432	<0.00005				
Chloridazon	<0.00001 mg/l	TM432	<0.00001				
Chlorotoluron	<0.00001 mg/l	TM432	<0.00001				
Cimetidine	<0.00002 mg/l	TM432	<0.00001				
Clofibric Acid	<0.00001 mg/l	TM432	<0.00005				
Cotinine	<0.00001 mg/l	TM432	<0.00002				
DACT	<0.00005 mg/l	TM432	<0.0001				
DEA	<0.000005 mg/l	TM432	<0.00001				
DEET	<0.00001 mg/l	TM432	<0.00001				
Dehydronifedipine	<0.000005 mg/l	TM432	<0.000005				
DIA	<0.00005 mg/l	TM432	<0.00001				
Diclofenac	<0.00003 mg/l	TM432	<0.00005				
Dilantin	<0.00002 mg/l	TM432	<0.00002				
Diltiazem	<0.000005 mg/l	TM432	<0.00001				
Diuron	<0.000005 mg/l	TM432	<0.000005				
Erythromycin	<0.000025 mg/l	TM432	<0.00005				
Estradiol	<0.00005 mg/l	TM432	<0.00005				
Estriol	<0.00005 mg/l	TM432	<0.00005				
Estrone	<0.00001 mg/l	TM432	<0.00005				
Ethinyl Estradiol - 17 alpha	<0.0001 mg/l	TM432	<0.0001				
Ethylparaben	<0.000005 mg/l	TM432	<0.000005				
Flumeqine	<0.00005 mg/l	TM432	<0.00005				
Fluoxetine	<0.00001 mg/l	TM432	<0.00005				
Gemfibrozil	<0.000005 mg/l	TM432	<0.00002				
Ibuprofen	<0.000025 mg/l	TM432	<0.00005				
Iohexol	<0.00005 mg/l	TM432	<0.0001				
Iopromide	<0.00001 mg/l	TM432	<0.00001				
Isobutylparaben	<0.00001 mg/l	TM432	<0.00001				

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	Showmans Guild
#	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)
		Date Sampled	06/06/2023
		Sample Time	.
		Date Received	07/06/2023
		SDG Ref	230607-44
		Lab Sample No.(s)	28110715
		AGS Reference	

Component	LOD/Units	Method					
Isoproturon	<0.00002 mg/l	TM432	<0.00001				
Ketoprofen	<0.000005 mg/l	TM432	<0.00001				
Ketorolac	<0.000005 mg/l	TM432	<0.000005				
Lidocaine	<0.000005 mg/l	TM432	<0.000005				
Lincomycin	<0.00005 mg/l	TM432	<0.00005				
Linuron	<0.000005 mg/l	TM432	<0.00005				
Lopressor	<0.0002 mg/l	TM432	<0.0001				
Meclofenamic Acid	<0.00005 mg/l	TM432	<0.00005				
Metazachlor	<0.000005 mg/l	TM432	<0.000005				
Metformin	<0.0001 mg/l	TM432	<0.00003				
Methylparaben	<0.000005 mg/l	TM432	<0.00001				
Metolachlor	<0.000005 mg/l	TM432	<0.000005				
Naproxen	<0.00002 mg/l	TM432	<0.00005				
Nifedipine	<0.00001 mg/l	TM432	<0.000005				
Norethisterone	<0.00002 mg/l	TM432	<0.00002				
OUST (Sulfometuron.methyl)	<0.000005 mg/l	TM432	<0.000005				
Oxolinic acid	<0.00002 mg/l	TM432	<0.00005				
Pentoxifylline	<0.00001 mg/l	TM432	<0.000005				
Phenazone	<0.00002 mg/l	TM432	0.000038				
Primidone	<0.00001 mg/l	TM432	<0.00005				
Progesterone	<0.00002 mg/l	TM432	<0.00001				
Propazine	<0.000005 mg/l	TM432	<0.000005				
Propylparaben	<0.000005 mg/l	TM432	<0.000005				
Quinoline	<0.00002 mg/l	TM432	<0.0001				
Salicylic Acid	<0.0005 mg/l	TM432	<0.0005				
Simazine	<0.000005 mg/l	TM432	<0.000005				
Sucralose	<0.0001 mg/l	TM432	0.000537				
Sulfachloropyridazine	<0.000005 mg/l	TM432	<0.00001				
Sulfadiazine	<0.000025 mg/l	TM432	<0.00005				
Sulfadimethoxine	<0.00001 mg/l	TM432	<0.00001				
Sulfamerazine	<0.000005 mg/l	TM432	0.000011				
Sulfamethazine	<0.00002 mg/l	TM432	0.000113				
Sulfamethizole	<0.00001 mg/l	TM432	<0.00001				

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild
Depth (m)	.
Sample Type	Surface Water (SW)
Date Sampled	06/06/2023
Sample Time	.
Date Received	07/06/2023
SDG Ref	230607-44
Lab Sample No.(s)	28110715
AGS Reference	

Component	LOD/Units	Method	
Sulfamethoxazole	<0.000005 mg/l	TM432	<0.00001
Sulfathiazole	<0.0001 mg/l	TM432	0.000068
TCEP	<0.001 mg/l	TM432	<0.001
TCPP	<0.001 mg/l	TM432	<0.001
TDCPP	<0.0002 mg/l	TM432	<0.0002
Testosterone	<0.00002 mg/l	TM432	<0.00001
Theobromine	<0.00005 mg/l	TM432	<0.00025
Theophylline	<0.0001 mg/l	TM432	<0.0001
Thiabendazole	<0.000005 mg/l	TM432	<0.00001
Triclocarban	<0.00005 mg/l	TM432	<0.0005
Triclosan	<0.00005 mg/l	TM432	<0.0001
Trimethoprim	<0.00002 mg/l	TM432	<0.00001
Warfarin	<0.000005 mg/l	TM432	<0.00001
PFBA (375-22-4)	<0.000002 mg/l	TM434	<0.00001 #
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434	<0.000005 #
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434	<0.00001 #
PFPA (2706-90-3)	<0.000001 mg/l	TM434	<0.000005 #
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434	<0.000005 #
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434	<0.000005 #
NFDHA (151772-58-6)	<0.000003 mg/l	TM434	<0.000015 #
PFBS (375-73-5)	<0.000001 mg/l	TM434	<0.000005 #
PFHxA (307-24-4)	<0.000001 mg/l	TM434	<0.000005 #
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434	<0.00001 #
PFEESA (113507-82-7)	<0.000001 mg/l	TM434	<0.000005 #
PFHpA (375-85-9)	<0.000001 mg/l	TM434	<0.000005 #
PFPeS (2706-91-4)	<0.000001 mg/l	TM434	<0.000005 #
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434	<0.000025 #
ADONA (919005-14-4)	<0.000001 mg/l	TM434	<0.000005 #
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434	<0.000005 #
FBSA (30334-69-1)	<0.000001 mg/l	TM434	<0.000005 #
PFOA (335-67-1)	<0.000001 mg/l	TM434	0.000003 #
PFHxS (355-46-4)	<0.000001 mg/l	TM434	<0.000005 #
PFNA (375-95-1)	<0.000001 mg/l	TM434	<0.000005 #

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	Showmans Guild
#	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)
		Date Sampled	06/06/2023
		Sample Time	.
		Date Received	07/06/2023
		SDG Ref	230607-44
		Lab Sample No.(s)	28110715
		AGS Reference	

Component	LOD/Units	Method	
PFecHS (133201-07-7)	<0.000001 mg/l	TM434	<0.000005 #
PFHpS (375-92-8)	<0.000001 mg/l	TM434	<0.000005 #
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434	<0.00001 #
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434	<0.000025 #
PFDA (335-76-2)	<0.000002 mg/l	TM434	<0.00001 #
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434	<0.00001 #
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434	<0.000025 #
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434	<0.000003 #
Branched PFOS	<0.000001 mg/l	TM434	<0.000003 #
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434	<0.00001 #
PFUnA (2058-94-8)	<0.000002 mg/l	TM434	<0.00001 #
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434	<0.000005 #
PFNS (68259-12-1)	<0.000001 mg/l	TM434	<0.000005 #
FHxSA (41997-13-1)	<0.000001 mg/l	TM434	<0.000005 #
PFDoA (307-55-1)	<0.000002 mg/l	TM434	<0.00001 #
PFDS (335-77-3)	<0.000002 mg/l	TM434	<0.00001 #
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434	<0.000015 #
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434	<0.00001 #
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434	<0.00001 #
PFTeA (376-06-7)	<0.000001 mg/l	TM434	<0.000005 #
PFOSA (754-91-6)	<0.000002 mg/l	TM434	<0.00001 #
PFDoS (79780-39-5)	<0.000002 mg/l	TM434	<0.00001 #
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434	<0.000005 #
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434	<0.000005 #
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434	<0.00005 #
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434	<0.000005 #
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434	<0.00005 #
PFODA (16517-11-6)	<0.000001 mg/l	TM434	<0.000005 #
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434	<0.000005 #
Total PFOS	<0.000001 mg/l	TM434	<0.000003 #

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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.	
			Depth (m)	.
			Sample Type	Surface Water (SW)
			Date Sampled	06/06/2023
			Sample Time	.
			Date Received	07/06/2023
			SDG Ref	230607-44
			Lab Sample No.(s)	28110715
			AGS Reference	
Naphthalene (aq)	<0.00001 mg/l	TM178	0.000024 #	
Acenaphthene (aq)	<0.000005 mg/l	TM178	0.000118 #	
Acenaphthylene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Fluoranthene (aq)	<0.000005 mg/l	TM178	0.000041 #	
Anthracene (aq)	<0.000005 mg/l	TM178	0.000012 #	
Phenanthrene (aq)	<0.000005 mg/l	TM178	0.000058 #	
Fluorene (aq)	<0.000005 mg/l	TM178	0.000041 #	
Chrysene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Pyrene (aq)	<0.000005 mg/l	TM178	0.000033 #	
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178	<0.000002 #	
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178	0.000327 #	

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild / . / Surface Water (SW) / 06/06/2023 / . / 07/06/2023 / 230607-44 / 28110715				
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.004 #				
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004 #				
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.004 #				
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004				
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.004				
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.004 #				
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.004				
Azobenzene (aq)	<0.001 mg/l	TM176	<0.004 #				
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.004 #				
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.004 #				
Anthracene (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.004 #				
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.008 #				
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #				
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.004 #				

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	Showmans Guild
#	ISO17025 accredited.			
M	mCERTS accredited.			
aq	Aqueous / settled sample.			
diss.filt	Dissolved / filtered sample.		Depth (m)	.
tot.unfilt	Total / unfiltered sample.		Sample Type	Surface Water (SW)
*	Subcontracted - refer to subcontractor report for accreditation status.		Date Sampled	06/06/2023
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		Sample Time	.
			Date Received	07/06/2023
(F)	Trigger breach confirmed		SDG Ref	230607-44
1-4+§@	Sample deviation (see appendix)		Lab Sample No.(s)	28110715
			AGS Reference	

Component	LOD/Units	Method	
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.004 #
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.004 #
Carbazole (aq)	<0.001 mg/l	TM176	<0.004 #
Chrysene (aq)	<0.001 mg/l	TM176	<0.004 #
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.004 #
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.004 #
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.004 #
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.02 #
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.004 #
Fluorene (aq)	<0.001 mg/l	TM176	<0.004 #
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.004 #
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.004 #
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.004
Phenol (aq)	<0.001 mg/l	TM176	<0.004
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.004 #
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.004 #
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.004 #
Naphthalene (aq)	<0.001 mg/l	TM176	<0.004 #
Isophorone (aq)	<0.001 mg/l	TM176	<0.004 #
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.004
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.004 #
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.004 #
Pyrene (aq)	<0.001 mg/l	TM176	<0.004 #

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.				
			Showmans Guild				
			.				
			Surface Water (SW)				
			06/06/2023				
			.				
			07/06/2023				
			230607-44				
			28110715				
GRO Surrogate % recovery**	%	TM245	99 1				
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 1 #				
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01 1				
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01 1				
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01 1				
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01 1				
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01 1				
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01 1				
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01 1				
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01 1				
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.01				

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild / . / Surface Water (SW) / 06/06/2023 / . / 07/06/2023 / 230607-44 / 28110715				
Dibromofluoromethane**	%	TM208	112 2				
Toluene-d8**	%	TM208	101 2				
4-Bromofluorobenzene**	%	TM208	104 2				
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001 2 #				
Chloromethane	<0.001 mg/l	TM208	<0.001 2 #				
Vinyl chloride	<0.001 mg/l	TM208	<0.001 2 #				
Bromomethane	<0.001 mg/l	TM208	<0.001 2 #				
Chloroethane	<0.001 mg/l	TM208	<0.001 2 #				
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001 2 #				
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001 2 #				
Carbon disulphide	<0.001 mg/l	TM208	<0.001 2 #				
Dichloromethane	<0.003 mg/l	TM208	<0.003 2 #				
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001 1 #				
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 2 #				
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001 2 #				
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 2 #				
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001 2				
Bromochloromethane	<0.001 mg/l	TM208	<0.001 2 #				
Chloroform	<0.001 mg/l	TM208	<0.001 2 #				
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001 2 #				
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001 2 #				
Carbontetrachloride	<0.001 mg/l	TM208	<0.001 2 #				
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001 2 #				
Benzene	<0.001 mg/l	TM208	<0.001 1 #				
Trichloroethene	<0.001 mg/l	TM208	<0.001 2 #				
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001 2 #				
Dibromomethane	<0.001 mg/l	TM208	<0.001 2 #				
Bromodichloromethane	<0.001 mg/l	TM208	<0.001 2 #				
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 2 #				
Toluene	<0.001 mg/l	TM208	<0.001 1 #				
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 2 #				
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001 2 #				
1,3-Dichloropropane	<0.001 mg/l	TM208	<0.001 2 #				

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			Showmans Guild	.	Surface Water (SW)	06/06/2023	.	07/06/2023	230607-44	28110715	
Tetrachloroethene	<0.001 mg/l	TM208	<0.001								2 #
Dibromochloromethane	<0.001 mg/l	TM208	<0.001								2 #
1,2-Dibromoethane	<0.001 mg/l	TM208	<0.001								2 #
Chlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001								2 #
Ethylbenzene	<0.001 mg/l	TM208	<0.001								1 #
m,p-Xylene	<0.001 mg/l	TM208	<0.001								1 #
o-Xylene	<0.001 mg/l	TM208	<0.001								1 #
Styrene	<0.001 mg/l	TM208	<0.001								2 #
Bromoform	<0.001 mg/l	TM208	<0.001								2 #
Isopropylbenzene	<0.001 mg/l	TM208	<0.001								2 #
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001								2 #
1,2,3-Trichloropropane	<0.001 mg/l	TM208	<0.001								2 #
Bromobenzene	<0.001 mg/l	TM208	<0.001								2 #
Propylbenzene	<0.001 mg/l	TM208	<0.001								2 #
2-Chlorotoluene	<0.001 mg/l	TM208	<0.001								2 #
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208	<0.001								2 #
4-Chlorotoluene	<0.001 mg/l	TM208	<0.001								2 #
tert-Butylbenzene	<0.001 mg/l	TM208	<0.001								2 #
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208	<0.001								2 #
sec-Butylbenzene	<0.001 mg/l	TM208	<0.001								2 #
4-iso-Propyltoluene	<0.001 mg/l	TM208	<0.001								2 #
1,3-Dichlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
1,4-Dichlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
n-Butylbenzene	<0.001 mg/l	TM208	<0.001								2 #
1,2-Dichlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208	<0.001								2
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
Hexachlorobutadiene	<0.001 mg/l	TM208	<0.001								2 #
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208	<0.001								2 #
Naphthalene	<0.001 mg/l	TM208	<0.001								2 #
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208	<0.001								2 #
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208	<0.001								2

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

VOC MS (W)

Results Legend		Customer Sample Ref.	Showmans Guild
#	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)
		Date Sampled	06/06/2023
		Sample Time	.
		Date Received	07/06/2023
		SDG Ref	230607-44
		Lab Sample No.(s)	28110715
		AGS Reference	

Component	LOD/Units	Method	
Sum of detected Xylenes	<0.002 mg/l	TM208	<0.002 1
Sum of BTEX	<0.005 mg/l	TM208	<0.005 1

CERTIFICATE OF ANALYSIS

SDG: 230607-44 **Report Number:** 695790 **Superseded Report:** 694431
Client Ref.: 326R **Location:** Victoria North

Notification of NDPs (No determination possible)

Date Received : 07/06/2023 07:44:55

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
28110715	Showmans Guild		Settleable Solids	Insufficient Sample
28110715	Showmans Guild		Settleable Solids	Insufficient Sample
28110715	Showmans Guild		Settleable Solids 5 Mins	Insufficient Sample
28110715	Showmans Guild		Settleable Solids 5 Mins	Insufficient Sample

Table of Results - Appendix

Method No	Description
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM426	Determination of Specific Phenols and their Ethoxylates in Liquids by GC/MS/MS
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM328	
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM434	Analysis of PFAS
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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
TM176	Determination of SVOCs in Water by GCMS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM432	Pharmacuiticals and Personal Care Products
SUB	Subcontracted Test
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

Test Completion Dates

Lab Sample No(s)	28110715
Customer Sample Ref.	Showmans Guild
AGS Ref.	
Depth	
Type	Surface Water
Ammoniacal Nitrogen	09-Jun-2023
Anions by Kone (w)	09-Jun-2023
BOD True Total	14-Jun-2023
CEN Readings	09-Jun-2023
COD Unfiltered	13-Jun-2023
Cyanide Comp/Free/Total/Thiocyanate	09-Jun-2023
Determination of Dissolved Gases	14-Jun-2023
Dissolved Metals by ICP-MS	09-Jun-2023
EPH CWG (Aliphatic) Aqueous GC (W)	13-Jun-2023
EPH CWG (Aromatic) Aqueous GC (W)	13-Jun-2023
Fats Oils and Greases.	09-Jun-2023
GRO by GC-FID (W)	12-Jun-2023
Mercury Dissolved	13-Jun-2023
Mercury Unfiltered	14-Jun-2023
Methylene blue active substances	13-Jun-2023
Neutralised Suspended Solids	13-Jun-2023
Organotins in Aqueous Samples	16-Jun-2023
PAH Spec MS - Aqueous (W)	12-Jun-2023
Pesticides (Suite I) by GCMS	15-Jun-2023
PFAS Liquids	12-Jun-2023
pH Value	09-Jun-2023
pH Value of Filtered Water	09-Jun-2023
Pharmaceuticals and Personal Care	14-Jun-2023
Phenols and ethoxylates in Liquids	11-Jul-2023
Sulphide	13-Jun-2023
Suspended Solids	13-Jun-2023
SVOC MS (W) - Aqueous	14-Jun-2023
Total Metals by ICP-MS	12-Jun-2023
Total Nitrogen	12-Jun-2023
Total Organic and Inorganic Carbon	09-Jun-2023
TPH CWG (W)	13-Jun-2023
Urea Herbicides (Suite 1)*	29-Jun-2023
VOC MS (W)	13-Jun-2023

Certificate of Analysis

Report No.: **23-04094-1**

Issue No.: **1**
Date of Issue **29/06/2023**

Customer Details:	ALS Laboratories (UK) Ltd, Unit7-8, Hawarden Business Park, Manor Road, Hawarden, Deeside, Flintshire, CH5 3US, United Kingdom
Customer Contact:	Results mailbox
Customer Order No.:	230607-44
Customer Reference:	Not Supplied
Quotation Reference:	Q23-00645 (Issue: 7)
Description:	1 water sample
Date Received:	09/06/2023
Date Started:	13/06/2023
Date Completed:	28/06/2023
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None



Approved By: **Grace Lau, Study Manager**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 23-04094-1

Customer Reference: Not Supplied

Customer Order No: 230607-44

Customer Sample No	**28119420 SHOWMNA NS GUILD**
RPS Sample No	24579
Sample Type	**WATER**
Sample Matrix	SW
Sampling Date	06/06/2023

Determinand	CAS No	Codes	SOP	RL	Units	
chloroxuron	1982-47-4	N	L005	0.05	µg/L	< 0.05 (T)
chlorotoluron	15545-48-9	N	L005	0.05	µg/L	< 0.05 (T)
diflubenzuron	35367-38-5	N	L005	0.05	µg/L	< 0.05 (T)
dimefuron	34205-21-5	N	L005	0.05	µg/L	< 0.05 (T)
diuron	330-54-1	N	L005	0.05	µg/L	< 0.05 (T)
isoproturon	34123-59-6	N	L005	0.05	µg/L	< 0.05 (T)
linuron	330-55-2	N	L005	0.05	µg/L	< 0.05 (T)
methabenzthiazuron	18691-97-9	N	L005	0.05	µg/L	< 0.05 (T)
metoxuron	19937-59-8	N	L005	0.05	µg/L	< 0.05 (T)
monolinuron	1746-81-2	N	L005	0.05	µg/L	< 0.05 (T)
monuron	150-68-5	N	L005	0.05	µg/L	< 0.05 (T)
pencycuron	66063-05-6	N	L005	0.05	µg/L	< 0.05 (T)

Deviating Samples

Report No.: 23-04094-1

Customer Reference: Not Supplied

Customer Order No: 230607-44

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
24579	28119420 SHOWMNANS GUILD		06/06/2023	GAB500 500 mL amber glass bottle	**Yes**	No sampling time provided.

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	PACKAGING	Packaging material
Solid	PLANT	Plant (vegetation)
Solid	SWAB	Swab
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Water

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
L (in results)	Result is outside normal limits
DW (in units)	Results are expressed on a dry weight basis

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230614-31
Your Reference:	326R
Location:	Victoria North
Report No:	699699
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 695793 in its entirety.

We received 1 sample on Wednesday June 14, 2023 and 1 of these samples were scheduled for analysis which was completed on Tuesday July 11, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28146572	Showmans Guild			13/06/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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)	28146572
			Customer Sample Reference	Showmans Guild
			AGS Reference	
			Depth (m)	
			Container	1000ml glass bottle (ALE220)
				1lplastic (ALE221)
				250ml Amber Gl. PTFE/PE (ALE219)
				250ml BOD (ALE212)
				500ml Plastic (ALE208)
				H2SO4 (ALE244)
				HNO3 Filtered (ALE204)
				HNO3 Unfiltered (ALE204)
				NaOH (ALE245)
				Vial (ALE297)
				ZnAc (ALE246)
			Sample Type	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1		X
Anions by Kone (w)	All	NDPs: 0 Tests: 1		X
BOD True Total	All	NDPs: 0 Tests: 1		X
COD Unfiltered	All	NDPs: 0 Tests: 1		X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 1		X
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1		X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1		X
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 1		X
Faecal Coliforms (W)*	All	NDPs: 0 Tests: 1		X
Fats Oils and Greases.	All	NDPs: 0 Tests: 1	X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 1		X
Mercury Dissolved	All	NDPs: 0 Tests: 1		X
Mercury Unfiltered	All	NDPs: 0 Tests: 1		X
Methylene blue active substances	All	NDPs: 0 Tests: 1		X

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Lab Sample No(s)			28146572										
Customer Sample Reference			Showmans Guild										
AGS Reference													
Depth (m)													
Container			1000ml glass bottle (ALE220)	1lplastic (ALE221)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Neutralised Suspended Solids	All	NDPs: 0 Tests: 1					X						
Organotins in Aqueous Samples	All	NDPs: 0 Tests: 1	X										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1			X								
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1	X										
PFAS Liquids	All	NDPs: 0 Tests: 1		X									
pH Value	All	NDPs: 0 Tests: 1					X						
pH Value of Filtered Water	All	NDPs: 0 Tests: 1					X						
Pharmaceuticals and Personal Care	All	NDPs: 0 Tests: 1	X										
Phenols and ethoxylates in Liquids	All	NDPs: 0 Tests: 1	X										
Settleable Solids	All	NDPs: 0 Tests: 1					X						
Settleable Solids 5 Mins	All	NDPs: 0 Tests: 1					X						
Sulphide	All	NDPs: 0 Tests: 1											X
Suspended Solids	All	NDPs: 0 Tests: 1		X									
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1			X								
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1								X			

Validated

CERTIFICATE OF ANALYSIS

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Results Legend

X Test

N No Determination Possible

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Non-regulatory
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Lab Sample No(s)			28146572										
Customer Sample Reference			Showmans Guild										
AGS Reference													
Depth (m)													
Container			1000ml glass bottle (ALE220)	1lplastic (ALE221)	250ml Amber Gl. PTFE/PE (ALE219)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Total Nitrogen	All	NDPs: 0 Tests: 1					X						
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 1						X					
TPH CWG (W)	All	NDPs: 0 Tests: 1			X								
Urea Herbicides (Suite 1)*	All	NDPs: 0 Tests: 1	X										
VOC MS (W)	All	NDPs: 0 Tests: 1										X	

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild . Ground Water (GW) 13/06/2023 . 14/06/2023 230614-31 28146572				
Chloroxuron*	mg/l	SUB	<0.00005				
Faecal coliforms confirmed (M7M)*		SUB	50				
Chlortoluron*	mg/l	SUB	<0.00005				
Diflubenzuron*	mg/l	SUB	<0.00005				
Dimefuron*	mg/l	SUB	<0.00005				
Diuron*	mg/l	SUB	0.00007				
Isoproturon*	mg/l	SUB	<0.00005				
Linuron*	mg/l	SUB	<0.00005				
Methabenzthiauron*	mg/l	SUB	<0.00005				
Metoxuron*	mg/l	SUB	<0.00005				
Monolinuron*	mg/l	SUB	<0.00005				
Monuron*	mg/l	SUB	<0.001				
Pencycuron*	mg/l	SUB	<0.00005				
Suspended solids, Neut. 5 mins. non-settleable	<2 mg/l	TM022	68				
Suspended solids, Neutralised 1 hr non-settleable	<2 mg/l	TM022	56.7				
Suspended Solids, Total neutralised	<2 mg/l	TM022	57				
Suspended solids, Neutralised 1 hr settleable	<2 mg/l	TM022	<9				
Suspended solids, Neutralised 5 mins. settleable	<2 mg/l	TM022	<6				
Suspended solids, Total	<2 mg/l	TM022	25.3 #				
BOD, unfiltered	<1 mg/l	TM045	2.21 #				
Organic Carbon, Total	<3 mg/l	TM090	6.15 #				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	34.9 #				
Sulphide	<0.01 mg/l	TM101	0.0202 #				
COD, unfiltered	<7 mg/l	TM107	25 #				
Arsenic (diss.filt)	<0.0005 mg/l	TM152	0.00283 #				
Arsenic (tot.unfilt)	<0.002 mg/l	TM152	0.00293 #				
Cadmium (diss.filt)	<0.00008 mg/l	TM152	<0.00008 #				
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152	<0.0005 #				
Chromium (tot.unfilt)	<0.003 mg/l	TM152	<0.003 #				
Chromium (diss.filt)	<0.001 mg/l	TM152	<0.001 #				
Copper (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Lead (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #				
Copper (diss.filt)	<0.0003 mg/l	TM152	<0.0003 #				

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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.	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			Showmans Guild	.	Ground Water (GW)	13/06/2023	.	14/06/2023	230614-31	28146572	
Lead (diss.filt)	<0.0002 mg/l	TM152	<0.0002 #								
Nickel (tot.unfilt)	<0.001 mg/l	TM152	0.00102 #								
Selenium (tot.unfilt)	<0.001 mg/l	TM152	<0.001 #								
Nickel (diss.filt)	<0.0004 mg/l	TM152	0.000739 #								
Selenium (diss.filt)	<0.001 mg/l	TM152	<0.001 #								
Zinc (tot.unfilt)	<0.005 mg/l	TM152	0.00798 #								
Zinc (diss.filt)	<0.001 mg/l	TM152	0.00898 #								
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152	689								
Mercury (diss.filt)	<0.00001 mg/l	TM183	<0.00001 #								
Mercury (tot.unfilt)	<0.00002 mg/l	TM183	<0.00002 #								
Sulphate (soluble) as S	<1 mg/l	TM184	1.87 #								
Nitrogen, Total	<1 mg/l	TM212	31.7 #								
Methane, dissolved	<0.001 mg/l	TM223	2.1								
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #								
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249	0.11								
pH	<1 pH Units	TM256	6.99 #								
pH (diss.filt)	<1 pH Units	TM256	7.04								
Conductivity @ 20 deg.C (diss.filt)	<20 us/cm	TM256	1460								
Tributyl tin	<0.000001 mg/l	TM328	<0.000001								
Surrogate**	%	TM328	77.3								
PFBA (375-22-4)	<0.000002 mg/l	TM337	0.000013 #								
PFPA (2706-90-3)	<0.000001 mg/l	TM337	<0.000007 #								
PFHxA (307-24-4)	<0.000001 mg/l	TM337	0.000004 #								
PFBS (375-73-5)	<0.000001 mg/l	TM337	0.000008 #								
PFHpA (375-85-9)	<0.000001 mg/l	TM337	0.000003 #								
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	<0.000002 #								
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.00001 #								
PFHxS (355-46-4)	<0.000001 mg/l	TM337	0.000004 #								
PFNA (375-95-1)	<0.000001 mg/l	TM337	<0.000002 #								
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000002 #								
PFDA (335-76-2)	<0.000001 mg/l	TM337	<0.000002 #								
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	0.000003 #								
Branched PFOS	<0.000001 mg/l	TM337	0.000005 #								

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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.			Showmans Guild
Depth (m)			.
Sample Type			Ground Water (GW)
Date Sampled			13/06/2023
Sample Time			.
Date Received			14/06/2023
SDG Ref			230614-31
Lab Sample No.(s)			28146572
AGS Reference			
Component	**LOD/Units**	**Method**	
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000002 #
PFDoA (307-55-1)	<0.000001 mg/l	TM337	<0.000002 #
PFOSA (754-91-6)	<0.000002 mg/l	TM337	<0.000004 #
PFDS (335-77-3)	<0.000001 mg/l	TM337	<0.000002
PFPeS (2706-91-4)	<0.000001 mg/l	TM337	<0.000002 #
Total PFOS	<0.000001 mg/l	TM337	0.000008 #
Trifluralin	<0.00001 mg/l	TM343	<0.00002
alpha-HCH	<0.00001 mg/l	TM343	<0.00002
gamma-HCH (Lindane)	<0.00001 mg/l	TM343	<0.00002
Heptachlor	<0.00001 mg/l	TM343	<0.00002
Aldrin	<0.00001 mg/l	TM343	<0.00002
beta-HCH	<0.00001 mg/l	TM343	<0.00002
Isodrin	<0.00001 mg/l	TM343	<0.00002
delta-HCH	<0.00001 mg/l	TM343	<0.00002
Heptachlor epoxide	<0.00001 mg/l	TM343	<0.00002
o,p'-DDE	<0.00001 mg/l	TM343	<0.00002
Endosulphan I	<0.00001 mg/l	TM343	<0.00002
trans-Chlordane	<0.00001 mg/l	TM343	<0.00002
cis-Chlordane	<0.00001 mg/l	TM343	<0.00002
p,p'-DDE	<0.00001 mg/l	TM343	<0.00002
Dieldrin	<0.00001 mg/l	TM343	<0.00002
o,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.00002
Endrin	<0.00001 mg/l	TM343	<0.00002
o,p'-DDT	<0.00001 mg/l	TM343	<0.00002
p,p'-DDD (TDE)	<0.00001 mg/l	TM343	<0.00002
Endosulphan II	<0.00002 mg/l	TM343	<0.00004
p,p'-DDT	<0.00001 mg/l	TM343	<0.00002
o,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.00002
p,p'-Methoxychlor	<0.00001 mg/l	TM343	<0.00002
Endosulphan Sulphate	<0.00002 mg/l	TM343	<0.00012
Permethrin I	<0.00001 mg/l	TM343	<0.00002
Permethrin II	<0.00001 mg/l	TM343	<0.00002
Fats, Oils, Greases	<1 mg/l	TM383	1.38

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aq	Aqueous / settled sample.		
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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)
		Date Sampled	13/06/2023
		Sample Time	.
		Date Received	14/06/2023
		SDG Ref	230614-31
		Lab Sample No.(s)	28146572
		AGS Reference	

Component	LOD/Units	Method	
4-tert-Octylphenol	<0.000014	mg/l	TM426	0.000217
4-tert-Nonylphenol	<0.00004	mg/l	TM426	<0.0004
4-n-Octylphenol	<0.000014	mg/l	TM426	<0.00014
4-n-Nonylphenol	<0.00004	mg/l	TM426	<0.0004
4-Nonylphenol monoethoxylate	<0.00004	mg/l	TM426	<0.0004
4-Nonylphenol diethoxylate	<0.00004	mg/l	TM426	<0.0004
4-Octylphenol (sum of isomers)	<0.000028	mg/l	TM426	<0.00028
4-Nonylphenol (sum of isomers)	<0.00008	mg/l	TM426	<0.0008
1,7-Dimethylxanthine	<0.00005	mg/l	TM432	<0.00005
2,4-D	<0.00002	mg/l	TM432	<0.00005
Acesulfame-K	<0.0002	mg/l	TM432	0.000805
Acetaminophen	<0.00002	mg/l	TM432	<0.00005
Albuterol	<0.000005	mg/l	TM432	<0.00001
Amoxicillin	<0.0001	mg/l	TM432	<0.0001
Andorostenedione	<0.00001	mg/l	TM432	<0.00001
Atenolol	<0.000005	mg/l	TM432	<0.00001
Atrazine	<0.000002	mg/l	TM432	<0.000002
Bendroflumethiazide	<0.00001	mg/l	TM432	<0.00001
Bezafibrate	<0.000005	mg/l	TM432	<0.00001
BPA	<0.00001	mg/l	TM432	0.000177
Bromacil	<0.00001	mg/l	TM432	<0.00001
Butalbital	<0.00001	mg/l	TM432	<0.00001
Butylparaben	<0.00001	mg/l	TM432	<0.00001
Caffeine	<0.00001	mg/l	TM432	0.000021
Carbadox	<0.00002	mg/l	TM432	<0.00001
Carbamazepine	<0.000002	mg/l	TM432	<0.000002
Carisoprodol	<0.00002	mg/l	TM432	<0.00001
Chloramphenicol	<0.000005	mg/l	TM432	<0.00005
Chloridazon	<0.00001	mg/l	TM432	<0.00001
Chlorotoluron	<0.00001	mg/l	TM432	<0.00001
Cimetidine	<0.00002	mg/l	TM432	<0.00001
Clofibric Acid	<0.00001	mg/l	TM432	<0.00005
Cotinine	<0.00001	mg/l	TM432	<0.00002

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Results Legend		Customer Sample Ref.	Showmans Guild
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1-4+§@	Sample deviation (see appendix)		
		Depth (m)	.
		Sample Type	Ground Water (GW)
		Date Sampled	13/06/2023
		Sample Time	.
		Date Received	14/06/2023
		SDG Ref	230614-31
		Lab Sample No.(s)	28146572
		AGS Reference	

Component	LOD/Units	Method					
DACT	<0.00005 mg/l	TM432	<0.0001				
DEA	<0.000005 mg/l	TM432	<0.00001				
DEET	<0.00001 mg/l	TM432	<0.00001				
Dehydronifedipine	<0.000005 mg/l	TM432	<0.000005				
DIA	<0.00005 mg/l	TM432	<0.00001				
Diclofenac	<0.00003 mg/l	TM432	<0.00005				
Dilantin	<0.00002 mg/l	TM432	<0.00002				
Diltiazem	<0.000005 mg/l	TM432	<0.00002				
Diuron	<0.000005 mg/l	TM432	<0.000005				
Erythromycin	<0.000025 mg/l	TM432	<0.00015				
Estradiol	<0.00005 mg/l	TM432	<0.00005				
Estriol	<0.00005 mg/l	TM432	<0.00005				
Estrone	<0.00001 mg/l	TM432	<0.00005				
Ethinyl Estradiol - 17 alpha	<0.0001 mg/l	TM432	<0.0001				
Ethylparaben	<0.000005 mg/l	TM432	<0.000005				
Flumeqine	<0.00005 mg/l	TM432	<0.00005				
Fluoxetine	<0.00001 mg/l	TM432	<0.00005				
Gemfibrozil	<0.000005 mg/l	TM432	<0.00002				
Ibuprofen	<0.000025 mg/l	TM432	<0.00005				
Iohexol	<0.00005 mg/l	TM432	<0.0001				
Iopromide	<0.00001 mg/l	TM432	<0.00001				
Isobutylparaben	<0.00001 mg/l	TM432	<0.00001				
Isoproturon	<0.00002 mg/l	TM432	<0.00001				
Ketoprofen	<0.000005 mg/l	TM432	<0.00001				
Ketorolac	<0.000005 mg/l	TM432	<0.000005				
Lidocaine	<0.000005 mg/l	TM432	0.000006				
Lincomycin	<0.00005 mg/l	TM432	<0.00005				
Linuron	<0.000005 mg/l	TM432	<0.00005				
Lopressor	<0.0002 mg/l	TM432	<0.0001				
Meclofenamic Acid	<0.00005 mg/l	TM432	<0.00005				
Metazachlor	<0.000005 mg/l	TM432	<0.000005				
Metformin	<0.0001 mg/l	TM432	<0.00003				
Methylparaben	<0.000005 mg/l	TM432	<0.00005				

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
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*	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.		Showmans Guild
	Depth (m)		.
	Sample Type		Ground Water (GW)
	Date Sampled		13/06/2023
	Sample Time		.
	Date Received		14/06/2023
	SDG Ref		230614-31
	Lab Sample No.(s)		28146572
	AGS Reference		

Component	LOD/Units	Method	
Metolachlor	<0.000005	mg/l	TM432	<0.000005
Naproxen	<0.00002	mg/l	TM432	<0.00005
Nifedipine	<0.00001	mg/l	TM432	<0.000005
Norethisterone	<0.00002	mg/l	TM432	<0.00002
OUST (Sulfometuron.methyl)	<0.000005	mg/l	TM432	<0.000005
Oxolinic acid	<0.00002	mg/l	TM432	<0.00005
Pentoxifylline	<0.00001	mg/l	TM432	<0.000005
Phenazone	<0.00002	mg/l	TM432	0.00004
Primidone	<0.00001	mg/l	TM432	0.000055
Progesterone	<0.00002	mg/l	TM432	<0.00001
Propazine	<0.000005	mg/l	TM432	<0.000005
Propylparaben	<0.000005	mg/l	TM432	<0.000005
Quinoline	<0.00002	mg/l	TM432	<0.0001
Salicylic Acid	<0.0005	mg/l	TM432	<0.0005
Simazine	<0.000005	mg/l	TM432	<0.000005
Sucralose	<0.0001	mg/l	TM432	0.000444
Sulfachloropyridazine	<0.000005	mg/l	TM432	<0.00001
Sulfadiazine	<0.000025	mg/l	TM432	<0.00005
Sulfadimethoxine	<0.00001	mg/l	TM432	<0.00001
Sulfamerazine	<0.000005	mg/l	TM432	0.000015
Sulfamethazine	<0.00002	mg/l	TM432	0.000151
Sulfamethizole	<0.00001	mg/l	TM432	<0.00001
Sulfamethoxazole	<0.000005	mg/l	TM432	<0.00001
Sulfathiazole	<0.0001	mg/l	TM432	0.000105
TCEP	<0.001 mg/l		TM432	<0.001
TCPP	<0.001 mg/l		TM432	<0.0015
TDCPP	<0.0002	mg/l	TM432	<0.0002
Testosterone	<0.00002	mg/l	TM432	<0.00001
Theobromine	<0.00005	mg/l	TM432	<0.0005
Theophylline	<0.0001	mg/l	TM432	<0.0001
Thiabendazole	<0.000005	mg/l	TM432	<0.00001
Triclocarban	<0.00005	mg/l	TM432	<0.00005
Triclosan	<0.00005	mg/l	TM432	0.000107

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

Results Legend		Customer Sample Ref.	Showmans Guild
#	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	Depth (m)	.
1-4+§@	Sample deviation (see appendix)	Sample Type	Ground Water (GW)
		Date Sampled	13/06/2023
		Sample Time	.
		Date Received	14/06/2023
		SDG Ref	230614-31
		Lab Sample No.(s)	28146572
		AGS Reference	

Component	LOD/Units	Method	
Trimethoprim	<0.00002 mg/l	TM432	<0.00001
Warfarin	<0.000005 mg/l	TM432	<0.00001

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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.	
			Showmans Guild	
			Depth (m)	.
			Sample Type	Ground Water (GW)
			Date Sampled	13/06/2023
			Sample Time	.
			Date Received	14/06/2023
			SDG Ref	230614-31
			Lab Sample No.(s)	28146572
			AGS Reference	
Naphthalene (aq)	<0.00001 mg/l	TM178	0.00003 #	
Acenaphthene (aq)	<0.000005 mg/l	TM178	0.000127 #	
Acenaphthylene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Fluoranthene (aq)	<0.000005 mg/l	TM178	0.000049 #	
Anthracene (aq)	<0.000005 mg/l	TM178	0.000011 #	
Phenanthrene (aq)	<0.000005 mg/l	TM178	0.000059 #	
Fluorene (aq)	<0.000005 mg/l	TM178	0.000047 #	
Chrysene (aq)	<0.000005 mg/l	TM178	0.000006 #	
Pyrene (aq)	<0.000005 mg/l	TM178	0.000044 #	
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178	<0.000002 #	
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178	<0.000005 #	
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178	0.000373 #	

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	
			Depth (m)	.
			Sample Type	Ground Water (GW)
			Date Sampled	13/06/2023
			Sample Time	.
			Date Received	14/06/2023
			SDG Ref	230614-31
			Lab Sample No.(s)	28146572
			AGS Reference	Showmans Guild
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #	
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #	
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #	
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #	
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 #	
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 #	
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002 #	
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002	
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 #	
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #	
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.002	
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 #	
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 #	
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 #	
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002	
Azobenzene (aq)	<0.001 mg/l	TM176	<0.002 #	
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.002 #	
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.002 #	
Anthracene (aq)	<0.001 mg/l	TM176	<0.002 #	
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.002 #	
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.002 #	
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.004 #	
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #	
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.002 #	

CERTIFICATE OF ANALYSIS

SDG: 230614-31 Report Number: 699699 Superseded Report: 695793
Client Ref.: 326R Location: Victoria North

SVOC MS (W) - Aqueous

Results Legend	Customer Sample Ref.	Showmans Guild
# 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)
	Date Sampled	13/06/2023
	Sample Time	.
	Date Received	14/06/2023
	SDG Ref	230614-31
	Lab Sample No.(s)	28146572
	AGS Reference	

Component	LOD/Units	Method					
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #				
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #				
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.002 #				
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.002 #				
Carbazole (aq)	<0.001 mg/l	TM176	<0.002 #				
Chrysene (aq)	<0.001 mg/l	TM176	<0.002 #				
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.002 #				
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #				
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #				
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.002 #				
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 #				
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.01 #				
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 #				
Fluorene (aq)	<0.001 mg/l	TM176	<0.002 #				
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.002 #				
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.002				
Phenol (aq)	<0.001 mg/l	TM176	<0.002				
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.002 #				
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.002 #				
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.002 #				
Naphthalene (aq)	<0.001 mg/l	TM176	<0.002 #				
Isophorone (aq)	<0.001 mg/l	TM176	<0.002 #				
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.002				
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.002 #				
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.002 #				
Pyrene (aq)	<0.001 mg/l	TM176	<0.002 #				

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild / . / Ground Water (GW) / 13/06/2023 / . / 14/06/2023 / 230614-31 / 28146572				
GRO Surrogate % recovery**	%	TM245	84				
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 #				
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01				
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01				
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01				
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01				
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01				
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01				
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01				
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01				
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.01				
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.01				
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.01				
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.01				

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			Showmans Guild . Ground Water (GW) 13/06/2023 . 14/06/2023 230614-31 28146572				
Dibromofluoromethane**	%	TM208	120				
Toluene-d8**	%	TM208	106				
4-Bromofluorobenzene**	%	TM208	96.8				
Dichlorodifluoromethane	<0.001 mg/l	TM208	<0.001 #				
Chloromethane	<0.001 mg/l	TM208	<0.001 #				
Vinyl chloride	<0.001 mg/l	TM208	<0.001 #				
Bromomethane	<0.001 mg/l	TM208	<0.001 #				
Chloroethane	<0.001 mg/l	TM208	<0.001 #				
Trichlorofluoromethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
Carbon disulphide	<0.001 mg/l	TM208	<0.001 #				
Dichloromethane	<0.003 mg/l	TM208	<0.003 #				
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208	<0.001 #				
trans-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,2-Dichloroethene	<0.001 mg/l	TM208	<0.001 #				
2,2-Dichloropropane	<0.001 mg/l	TM208	<0.001				
Bromochloromethane	<0.001 mg/l	TM208	<0.001 #				
Chloroform	<0.001 mg/l	TM208	<0.001 #				
1,1,1-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,1-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Carbontetrachloride	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloroethane	<0.001 mg/l	TM208	<0.001 #				
Benzene	<0.001 mg/l	TM208	<0.001 #				
Trichloroethene	<0.001 mg/l	TM208	<0.001 #				
1,2-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				
Dibromomethane	<0.001 mg/l	TM208	<0.001 #				
Bromodichloromethane	<0.001 mg/l	TM208	<0.001 #				
cis-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
Toluene	<0.001 mg/l	TM208	<0.001 #				
trans-1,3-Dichloropropene	<0.001 mg/l	TM208	<0.001 #				
1,1,2-Trichloroethane	<0.001 mg/l	TM208	<0.001 #				
1,3-Dichloropropane	<0.001 mg/l	TM208	<0.001 #				

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild
		Depth (m)	.
		Sample Type	Ground Water (GW)
		Date Sampled	13/06/2023
		Sample Time	.
		Date Received	14/06/2023
		SDG Ref	230614-31
		Lab Sample No.(s)	28146572
		AGS Reference	
Component	**LOD/Units**	**Method**	
Tetrachloroethene	<0.001 mg/l	TM208	<0.001 #
Dibromochloromethane	<0.001 mg/l	TM208	<0.001 #
1,2-Dibromoethane	<0.001 mg/l	TM208	<0.001 #
Chlorobenzene	<0.001 mg/l	TM208	<0.001 #
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #
Ethylbenzene	<0.001 mg/l	TM208	<0.001 #
m,p-Xylene	<0.001 mg/l	TM208	<0.001 #
o-Xylene	<0.001 mg/l	TM208	<0.001 #
Styrene	<0.001 mg/l	TM208	<0.001 #
Bromoform	<0.001 mg/l	TM208	<0.001 #
Isopropylbenzene	<0.001 mg/l	TM208	<0.001 #
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208	<0.001 #
1,2,3-Trichloropropane	<0.001 mg/l	TM208	<0.001 #
Bromobenzene	<0.001 mg/l	TM208	<0.001 #
Propylbenzene	<0.001 mg/l	TM208	<0.001 #
2-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #
4-Chlorotoluene	<0.001 mg/l	TM208	<0.001 #
tert-Butylbenzene	<0.001 mg/l	TM208	<0.001 #
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208	<0.001 #
sec-Butylbenzene	<0.001 mg/l	TM208	<0.001 #
4-iso-Propyltoluene	<0.001 mg/l	TM208	<0.001 #
1,3-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #
1,4-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #
n-Butylbenzene	<0.001 mg/l	TM208	<0.001 #
1,2-Dichlorobenzene	<0.001 mg/l	TM208	<0.001 #
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208	<0.001
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #
Hexachlorobutadiene	<0.001 mg/l	TM208	<0.001 #
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208	<0.001 #
Naphthalene	<0.001 mg/l	TM208	<0.001 #
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208	<0.001 #
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208	<0.001

Validated

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793

Client Ref.: 326R **Location:** Victoria North

VOC MS (W)

Results Legend		Customer Sample Ref.	Showmans Guild
#	ISO17025 accredited.		
M	mCERTS accredited.		
aq	Aqueous / settled sample.		
diss.filt	Dissolved / filtered sample.	Depth (m)	.
tot.unfilt	Total / unfiltered sample.	Sample Type	Ground Water (GW)
*	Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	13/06/2023
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Sample Time	.
		Date Received	14/06/2023
		SDG Ref	230614-31
(F)	Trigger breach confirmed	Lab Sample No.(s)	28146572
1-4+§@	Sample deviation (see appendix)	AGS Reference	

Component	LOD/Units	Method	
Sum of detected Xylenes	<0.002 mg/l	TM208	<0.002
Sum of BTEX	<0.005 mg/l	TM208	<0.005

CERTIFICATE OF ANALYSIS

SDG: 230614-31 **Report Number:** 699699 **Superseded Report:** 695793
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28146572 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
SUB	Subcontracted Test
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM426	Determination of Specific Phenols and their Ethoxylates in Liquids by GC/MS/MS
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM328	
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM022	Determination of total suspended solids in waters
TM045	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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
TM176	Determination of SVOCs in Water by GCMS
TM337	Analysis of PFAS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM432	Pharmacuiticals and Personal Care Products

NA = not applicable.

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

Test Completion Dates

Lab Sample No(s)	28146572
Customer Sample Ref.	Showmans Guild
AGS Ref.	
Depth	
Type	Ground Water
Ammoniacal Nitrogen	17-Jun-2023
Anions by Kone (w)	15-Jun-2023
BOD True Total	20-Jun-2023
COD Unfiltered	21-Jun-2023
Cyanide Comp/Free/Total/Thiocyanate	19-Jun-2023
Determination of Dissolved Gases	16-Jun-2023
Dissolved Metals by ICP-MS	16-Jun-2023
EPH CWG (Aliphatic) Aqueous GC (W)	21-Jun-2023
EPH CWG (Aromatic) Aqueous GC (W)	21-Jun-2023
Faecal Coliforms (W)*	20-Jun-2023
Fats Oils and Greases.	16-Jun-2023
GRO by GC-FID (W)	15-Jun-2023
Mercury Dissolved	20-Jun-2023
Mercury Unfiltered	20-Jun-2023
Methylene blue active substances	16-Jun-2023
Neutralised Suspended Solids	20-Jun-2023
Organotins in Aqueous Samples	20-Jun-2023
PAH Spec MS - Aqueous (W)	19-Jun-2023
Pesticides (Suite I) by GCMS	16-Jun-2023
PFAS Liquids	19-Jun-2023
pH Value	15-Jun-2023
pH Value of Filtered Water	15-Jun-2023
Pharmaceuticals and Personal Care	29-Jun-2023
Phenols and ethoxylates in Liquids	11-Jul-2023
Settleable Solids	20-Jun-2023
Settleable Solids 5 Mins	20-Jun-2023
Sulphide	21-Jun-2023
Suspended Solids	20-Jun-2023
SVOC MS (W) - Aqueous	22-Jun-2023
Total Metals by ICP-MS	16-Jun-2023
Total Nitrogen	20-Jun-2023
Total Organic and Inorganic Carbon	15-Jun-2023
TPH CWG (W)	21-Jun-2023
Urea Herbicides (Suite 1)*	10-Jul-2023
VOC MS (W)	15-Jun-2023

ALS Laboratories (UK) Limited
Torrington Avenue
Coventry
CV4 9GU

T: +44 (0)24 7642 1213
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www.alsenvironmental.co.uk

F.A.O Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside CH5 3US

17 June 2023

Test Report: COV/2493303/2023

Dear F.A.O Quotes

Analysis of your sample(s) submitted on 14 June 2023 is now complete and we have pleasure in enclosing the appropriate test report(s).

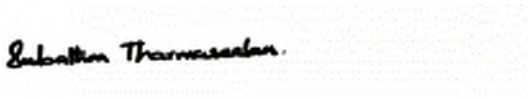
An invoice for the analysis carried out will be sent under separate cover.

Should you have any queries regarding this report(s) or any part of our service, please contact Customer Services on +44 (0)24 7642 1213 who will be happy to discuss your requirements.

If you would like to arrange any further analysis, please contact Customer Services. To arrange container delivery or sample collection, please call the Couriers Department directly on 024 7685 6562.

Thank you for using ALS Laboratories (UK) Limited and we look forward to receiving your next samples.

Yours Sincerely,

Signed: 

Name: S. Tharmaseelan

Title: Legionella Team Leader

UKAS TESTING 1314
bsi ISO 14001 Environmental Management CERTIFIED EMS675527 ISO 45001 Occupational Health and Safety Management CERTIFIED OHS 542058
///CERTS

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No.02391955.
Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.

Report Summary

ANALYSED BY

F.A.O Hawarden Quotes
ALS Laboratories (UK) Ltd
Units 7 & 8 Hawarden Business Park
Manor Road
Hawarden
Deeside
CH5 3US

Date of Issue: **17 June 2023**

Report Number: **COV/2493303/2023** Issue **1**

This issue replaces all previous issues

Job Description: Master Quote 2022 - 2023

Number of Samples included in this report **1**

Job Received: **14 June 2023**

Number of Test Results included in this report **2**

Analysis Commenced: **14 June 2023**

Signed: Sabarthan Tharmaseelan

Name: **S. Tharmaseelan** Date: **17 June 2023**

Title: **Legionella Team Leader**

ALS Laboratories (UK) Limited was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.
This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No. 02391955. Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU.
(c) ALS Laboratories (UK) Limited 2023. All rights reserved. We, ALS Laboratories (UK) Limited, are the owner of all copyright in this report. You must not copy, reproduce, amend or adapt this report, its contents or any format in which it is delivered without our prior written agreement. If you copy, reproduce, amend, or adapt this report in any way without our agreement you will be liable for any damage or loss to us. In the event of a dispute the copy of the report held by us shall be the reference copy.

Certificate of Analysis

ANALYSED BY

Report Number:	**COV/2493303/2023**	Issue	**1**
Laboratory Number:	**22890233**	Sample	**1** of **1**
Sample Source:	**ALS Laboratories (UK) Ltd**		
Sample Point Description:			
Sample Description:	**Showmans Guild**		
Sample Matrix:	**Not In Project**		
Sample Date/Time:	**13 June 2023**		
Sample Received:	**14 June 2023**		
Analysis Complete:	**17 June 2023**		

Test Description	Result	Units	Analysis Date	Accreditation		Method
Faecal coliforms presumptive	50	cfu/100ml	15/06/2023	N	Cov	W57
Faecal coliforms confirmed	50	cfu/100ml	15/06/2023	N	Cov	W57

Analyst Comments for 22890233: This sample has been analysed for Faecal coliforms presumptive, Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: S Tharmaseelan

Name: **S. Tharmaseelan** Date: **17 June 2023**

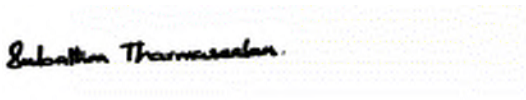
Title: **Legionella Team Leader**

ANALYST COMMENTS FOR REPORT COV/2493303/2023 Issue 1

This issue replaces all previous issues

Date of Issue: **17 June 2023**

Sample No	Analysis Comments
22890233	This sample has been analysed for Faecal coliforms presumptive, Faecal coliforms confirmed outside recommended stability times. It is therefore possible that the results provided may be compromised.

Signed: 

Name: **S. Tharmaseelan** Date: **17 June 2023**

Title: **Legionella Team Leader**

DETERMINAND COMMENTS FOR REPORT COV/2493303/2023

ISSUE 1

This issue replaces all previous issues

Date of Issue: 17 June 2023

Sample No	Description	Determinand	Comments

Signed: 

Name: **S. Tharmaseelan** Date: **17 June 2023**

Title: **Legionella Team Leader**

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Certificate of Analysis

Report No.:	**23-04249-1**
Issue No.:	**1**
Date of Issue	**06/07/2023**
Customer Details:	ALS Laboratories (UK) Ltd, Unit7-8, Hawarden Business Park, Manor Road, Hawarden, Deeside, Flintshire, CH5 3US, United Kingdom
Customer Contact:	Results mailbox
Customer Order No.:	230614-31
Customer Reference:	Not Supplied
Quotation Reference:	Q23-00645 (Issue: 7)
Description:	1 water sample
Date Received:	19/06/2023
Date Started:	22/06/2023
Date Completed:	05/07/2023
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None



Approved By: **Grace Lau, Study Manager**

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.
This certificate shall not be reproduced except in full without the prior written approval of the laboratory.
Observations and interpretations are outside of the scope of UKAS accreditation.
Results reported herein relate only to the items supplied to the laboratory for testing.
Results on an Interim Report are not dry-weight corrected.
Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.
The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 23-04249-1

Customer Reference: Not Supplied

Customer Order No: 230614-31

Customer Sample No	**28151419 SHOWMANS GUILD**
RPS Sample No	25411
Sample Type	**WATER**
Sample Matrix	GW
Sampling Date	13/06/2023

Determinand	CAS No	Codes	SOP	RL	Units	
chloroxuron	1982-47-4	N	L005	0.05	µg/L	< 0.05 (T)
chlorotoluron	15545-48-9	N	L005	0.05	µg/L	< 0.05 (T)
diflubenzuron	35367-38-5	N	L005	0.05	µg/L	< 0.05 (T)
dimefuron	34205-21-5	N	L005	0.05	µg/L	< 0.05 (T)
diuron	330-54-1	N	L005	0.05	µg/L	0.07 (T)
isoproturon	34123-59-6	N	L005	0.05	µg/L	< 0.05 (T)
linuron	330-55-2	N	L005	0.05	µg/L	< 0.05 (T)
methabenzthiazuron	18691-97-9	N	L005	0.05	µg/L	< 0.05 (T)
metoxuron	19937-59-8	N	L005	0.05	µg/L	< 0.05 (T)
monolinuron	1746-81-2	N	L005	0.05	µg/L	< 0.05 (T)
monuron	150-68-5	N	L005	0.05	µg/L	< 1.00 (T)
pencycuron	66063-05-6	N	L005	0.05	µg/L	< 0.05 (T)

Comments

Report No.: 23-04249-1

Customer Reference: Not Supplied

Customer Order No: 230614-31

RPS Sample Number	Customer Number	Sample Comments
25411	28151419 SHOWMANS GUILD	Reporting limit for Monuron has been raised where necessary due to matrix interference.

Deviating Samples

Report No.: 23-04249-1

Customer Reference: Not Supplied

Customer Order No: 230614-31

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
25411	28151419 SHOWMANS GUILD		13/06/2023	GAB500 500 mL amber glass bottle	**Yes**	No sampling time provided.

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	PACKAGING	Packaging material
Solid	PLANT	Plant (vegetation)
Solid	SWAB	Swab
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Water

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
L (in results)	Result is outside normal limits
DW (in units)	Results are expressed on a dry weight basis

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230621-51
Your Reference:	326R
Location:	Victoria North
Report No:	699705
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 694019 in its entirety.

We received 3 samples on Wednesday June 21, 2023 and 3 of these samples were scheduled for analysis which was completed on Tuesday June 27, 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.

CERTIFICATE OF ANALYSIS

SDG: 230621-51 **Report Number:** 699705 **Superseded Report:** 694019
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28186701	BH 306			20/06/2023
28186699	Showmans Guild			20/06/2023
28186700	SWS A			20/06/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230621-51 **Report Number:** 699705 **Superseded Report:** 694019
Client Ref.: 326R **Location:** Victoria North

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)							
			28186701			28186699				28186700
			Customer Sample Reference							
			BH 306			Showmans Guild				SWS A
			AGS Reference							
			Depth (m)							
			Container	1lplastic (ALE221)	1lplastic (ALE221)	500ml Plastic (ALE208)	HNO3 Filtered (ALE204)	HNO3 Unfiltered (ALE204)	Vial (ALE297)	ZnAc (ALE246)	1lplastic (ALE221)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 1				X					
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1							X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1					X				
PFAS Liquids	All	NDPs: 0 Tests: 3	X	X							X
pH Value	All	NDPs: 0 Tests: 1				X					
Sulphide	All	NDPs: 0 Tests: 1								X	
Suspended Solids	All	NDPs: 0 Tests: 1				X					
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1						X			

CERTIFICATE OF ANALYSIS

SDG: 230621-51 **Report Number:** 699705 **Superseded Report:** 694019
Client Ref.: 326R **Location:** Victoria North

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.	BH 306	Showmans Guild	SWS A			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	20/06/2023	20/06/2023	20/06/2023			
			Sample Time	.	.	.			
			Date Received	21/06/2023	21/06/2023	21/06/2023			
			SDG Ref	230621-51	230621-51	230621-51			
			Lab Sample No.(s)	28186701	28186699	28186700			
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022			58.6 #				
Sulphide	<0.01 mg/l	TM101			0.0945 #				
Manganese (diss.filt)	<0.003 mg/l	TM152			0.682 #				
Calcium (Dis.Filt)	<0.2 mg/l	TM152			212 #				
Iron (Tot. Unfilt.)	<0.024 mg/l	TM152			24.1 #				
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152			671				
Sulphate	<2 mg/l	TM184			10.8 #				
Methane, dissolved	<0.001 mg/l	TM223			3.1				
pH	<1 pH Units	TM256			7.28 #				
Alkalinity, Total as CaCO3	<3 mg/l	TM256			817 #				
PFBA (375-22-4)	<0.000002 mg/l	TM337		0.000036 #	<0.000018 #	<0.000011 #			
PFPA (2706-90-3)	<0.000001 mg/l	TM337		0.000015 #	<0.000005 #	<0.000009 #			
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.000019 #	<0.000005 #	0.000007 #			
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000038 #	0.000006 #	0.000004 #			
PFHpA (375-85-9)	<0.000001 mg/l	TM337		0.000014 #	<0.000005 #	0.000004 #			
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	0.000005 #			
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000028 #	0.000013 #	0.000008 #			
PFHxS (355-46-4)	<0.000001 mg/l	TM337		<0.00001 #	0.000006 #	0.000001 #			
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		<0.000007 #	0.000006 #	0.000003 #			
Branched PFOS	<0.000001 mg/l	TM337		<0.000007 #	0.000008 #	0.000002 #			
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.00002 #	<0.00001 #	<0.000002 #			
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.00001	<0.000005	<0.000001			
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.00001 #	<0.000005 #	<0.000001 #			
Total PFOS	<0.000001 mg/l	TM337		<0.000007 #	0.000014 #	0.000005 #			

CERTIFICATE OF ANALYSIS

SDG: 230621-51 **Report Number:** 699705 **Superseded Report:** 694019
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 28186699 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Sample ID Change	Showmons	Showmans

Sample No. : 28186702 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Client Request	No ID	removed from report

Table of Results - Appendix

Method No	Description
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM022	Determination of total suspended solids in waters
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM337	Analysis of PFAS
TM152	Analysis of Aqueous Samples by ICP-MS
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

CERTIFICATE OF ANALYSIS

SDG: 230621-51 **Report Number:** 699705 **Superseded Report:** 694019
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28186701	28186699	28186700
Customer Sample Ref.	BH 306	Showmans Guild	SWS A
AGS Ref.			
Depth			
Type	Ground Water	Ground Water	Ground Water
Anions by Kone (w)		27-Jun-2023	
Determination of Dissolved Gases		26-Jun-2023	
Dissolved Metals by ICP-MS		23-Jun-2023	
PFAS Liquids	27-Jun-2023	27-Jun-2023	27-Jun-2023
pH Value		27-Jun-2023	
Sulphide		27-Jun-2023	
Suspended Solids		26-Jun-2023	
Total Metals by ICP-MS		27-Jun-2023	

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230629-21
Your Reference:	326R
Location:	Victoria North
Report No:	699707
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 695678 in its entirety.

We received 1 sample on Thursday June 29, 2023 and 1 of these samples were scheduled for analysis which was completed on Tuesday July 11, 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

CERTIFICATE OF ANALYSIS

SDG: 230629-21 **Report Number:** 699707 **Superseded Report:** 695678
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28236254	SHOWMANS GUILD			27/06/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230629-21 **Report Number:** 699707 **Superseded Report:** 695678
Client Ref.: 326R **Location:** Victoria North

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
			28236254	SHOWMANS GUILD			1lplastic (ALE221)	GW
							500ml Plastic (ALE208)	GW
							HNO3 Filtered (ALE204)	GW
							HNO3 Unfiltered (ALE204)	GW
							Vial (ALE297)	GW
							ZnAc (ALE246)	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 1		X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1					X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1					X	
PFAS Liquids	All	NDPs: 0 Tests: 1	X					
pH Value	All	NDPs: 0 Tests: 1		X				
Sulphide	All	NDPs: 0 Tests: 1						X
Suspended Solids	All	NDPs: 0 Tests: 1		X				
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1					X	

Validated

CERTIFICATE OF ANALYSIS

SDG: 230629-21 **Report Number:** 699707 **Superseded Report:** 695678

Client Ref.: 326R **Location:** Victoria North

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.	SHOWMANS GUILD						
Depth (m)	.						
Sample Type	Ground Water (GW)						
Date Sampled	27/06/2023						
Sample Time	.						
Date Received	29/06/2023						
SDG Ref	230629-21						
Lab Sample No.(s)	28236254						
AGS Reference							
Component	**LOD/Units**	**Method**					
Suspended solids, Total	<2 mg/l	TM022	55.2 #				
Sulphide	<0.01 mg/l	TM101	0.145 #				
Manganese (tot.unfilt)	<0.001 mg/l	TM152	0.728 #				
Manganese (diss.filt)	<0.003 mg/l	TM152	0.695 #				
Calcium (Dis.Filt)	<0.2 mg/l	TM152	206 #				
Calcium (Tot. Unfilt.)	<0.057 mg/l	TM152	213 #				
Iron (Tot. Unfilt.)	<0.024 mg/l	TM152	25.2 #				
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152	666				
Sulphate	<2 mg/l	TM184	9.6 #				
Methane, dissolved	<0.001 mg/l	TM223	5.92				
pH	<1 pH Units	TM256	7.43 #				
Alkalinity, Total as CaCO3	<3 mg/l	TM256	842 #				
PFBA (375-22-4)	<0.000002 mg/l	TM337	<0.000014 #				
PFPA (2706-90-3)	<0.000001 mg/l	TM337	<0.000005 #				
PFHxA (307-24-4)	<0.000001 mg/l	TM337	<0.000005 #				
PFBS (375-73-5)	<0.000001 mg/l	TM337	0.000007 #				
PFHpA (375-85-9)	<0.000001 mg/l	TM337	<0.000005 #				
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	0.000008 #				
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.000009 #				
PFHxS (355-46-4)	<0.000001 mg/l	TM337	<0.000005 #				
PFNA (375-95-1)	<0.000001 mg/l	TM337	<0.000005 #				
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000005 #				
PFDA (335-76-2)	<0.000001 mg/l	TM337	<0.000005 #				
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	0.000005 #				
Branched PFOS	<0.000001 mg/l	TM337	0.000004 #				
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000005 #				
PFDoA (307-55-1)	<0.000001 mg/l	TM337	<0.000005 #				
PFOSA (754-91-6)	<0.000002 mg/l	TM337	<0.00001 #				
PFDS (335-77-3)	<0.000001 mg/l	TM337	<0.000005				
PFPeS (2706-91-4)	<0.000001 mg/l	TM337	<0.000005 #				
Total PFOS	<0.000001 mg/l	TM337	0.000009 #				

CERTIFICATE OF ANALYSIS

SDG: 230629-21 **Report Number:** 699707 **Superseded Report:** 695678
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28236254 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM152	Analysis of Aqueous Samples by ICP-MS
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM022	Determination of total suspended solids in waters
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM337	Analysis of PFAS

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

CERTIFICATE OF ANALYSIS

SDG: 230629-21 **Report Number:** 699707 **Superseded Report:** 695678
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28236254
Customer Sample Ref.	SHOWMANS GUILD
AGS Ref.	
Depth	
Type	Ground Water
Anions by Kone (w)	30-Jun-2023
Determination of Dissolved Gases	30-Jun-2023
Dissolved Metals by ICP-MS	06-Jul-2023
PFAS Liquids	11-Jul-2023
pH Value	06-Jul-2023
Sulphide	06-Jul-2023
Suspended Solids	03-Jul-2023
Total Metals by ICP-MS	06-Jul-2023

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 one month 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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BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230707-48
Your Reference:	326R
Location:	Victoria North
Report No:	699721
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 696226 in its entirety.

We received 1 sample on Friday July 07, 2023 and 1 of these samples were scheduled for analysis which was completed on Thursday July 13, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230707-48 **Report Number:** 699721 **Superseded Report:** 696226
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28289456	SHOWMANS GUILD			06/07/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230707-48 **Report Number:** 699721 **Superseded Report:** 696226
Client Ref.: 326R **Location:** Victoria North

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)			28289456					
Customer Sample Reference			SHOWMANS GUILD					
AGS Reference								
Depth (m)								
Container			500ml Plastic (ALE208)	Digitube fo PFAS analysis.	HNO3 Unfiltered (ALE204)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 1	X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1				X	
PFAS Liquids	All	NDPs: 0 Tests: 1		X			
pH Value	All	NDPs: 0 Tests: 1	X				
Sulphide	All	NDPs: 0 Tests: 1					X
Suspended Solids	All	NDPs: 0 Tests: 1	X				
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1			X		

Validated

CERTIFICATE OF ANALYSIS

SDG: 230707-48 **Report Number:** 699721 **Superseded Report:** 696226

Client Ref.: 326R **Location:** Victoria North

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.	
			Depth (m)	.
			Sample Type	Ground Water (GW)
			Date Sampled	06/07/2023
			Sample Time	.
			Date Received	07/07/2023
			SDG Ref	230707-48
			Lab Sample No.(s)	28289456
			AGS Reference	SHOWMANS GUILD
Suspended solids, Total	<2 mg/l	TM022	56.1 #	
Sulphide	<0.01 mg/l	TM101	0.164 #	
Manganese (tot.unfilt)	<0.001 mg/l	TM152	0.699 #	
Calcium (Tot. Unfilt.)	<0.057 mg/l	TM152	220 #	
Iron (Tot. Unfilt.)	<0.024 mg/l	TM152	24.7 #	
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152	686	
Sulphate (soluble) as S	<1 mg/l	TM184	3.7 #	
Methane, dissolved	<0.001 mg/l	TM223	7.47	
pH	<1 pH Units	TM256	6.95 #	
Alkalinity, Total as CaCO3	<3 mg/l	TM256	836 #	
PFBA (375-22-4)	<0.000002 mg/l	TM337	<0.00001 #	
PFPA (2706-90-3)	<0.000001 mg/l	TM337	<0.000005 #	
PFHxA (307-24-4)	<0.000001 mg/l	TM337	<0.000005 #	
PFBS (375-73-5)	<0.000001 mg/l	TM337	<0.000005 #	
PFHpA (375-85-9)	<0.000001 mg/l	TM337	<0.000005 #	
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	<0.000005 #	
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.000009 #	
PFHxS (355-46-4)	<0.000001 mg/l	TM337	0.000006 #	
PFNA (375-95-1)	<0.000001 mg/l	TM337	<0.000005 #	
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000005 #	
PFDA (335-76-2)	<0.000001 mg/l	TM337	<0.000005 #	
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	0.000004 #	
Branched PFOS	<0.000001 mg/l	TM337	0.000006 #	
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000005 #	
PFDoA (307-55-1)	<0.000001 mg/l	TM337	<0.000005 #	
PFOSA (754-91-6)	<0.000002 mg/l	TM337	<0.00001 #	
PFDS (335-77-3)	<0.000001 mg/l	TM337	<0.000005	
PFPeS (2706-91-4)	<0.000001 mg/l	TM337	<0.000005 #	
Total PFOS	<0.000001 mg/l	TM337	0.00001 #	

CERTIFICATE OF ANALYSIS

SDG: 230707-48 **Report Number:** 699721 **Superseded Report:** 696226
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28289456 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Landfill leachate	Groundwater

Table of Results - Appendix

Method No	Description
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM022	Determination of total suspended solids in waters
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM337	Analysis of PFAS
TM152	Analysis of Aqueous Samples by ICP-MS
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

CERTIFICATE OF ANALYSIS

SDG: 230707-48 **Report Number:** 699721 **Superseded Report:** 696226
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28289456
Customer Sample Ref.	SHOWMANS GUILD
AGS Ref.	
Depth	
Type	Ground Water
Anions by Kone (w)	10-Jul-2023
Determination of Dissolved Gases	11-Jul-2023
PFAS Liquids	11-Jul-2023
pH Value	12-Jul-2023
Sulphide	13-Jul-2023
Suspended Solids	10-Jul-2023
Total Metals by ICP-MS	12-Jul-2023

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 one month 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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BAM Ritchies
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Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230718-32
Your Reference:	326R
Location:	Victoria North
Report No:	699708
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 697664 in its entirety.

We received 1 sample on Tuesday July 18, 2023 and 1 of these samples were scheduled for analysis which was completed on Monday July 24, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230718-32 **Report Number:** 699708 **Superseded Report:** 697664
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28343064	SHOWMANS GUILD			17/07/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230718-32 **Report Number:** 699708 **Superseded Report:** 697664
Client Ref.: 326R **Location:** Victoria North

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)			28343064					
Customer Sample Reference			SHOWMANS GUILD					
AGS Reference								
Depth (m)								
Container			500ml Plastic (ALE208)	Digitube fo PFAS analysis.	HNO3 Unfiltered (ALE204)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 1	X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1				X	
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 1		X			
pH Value	All	NDPs: 0 Tests: 1	X				
Sulphide	All	NDPs: 0 Tests: 1					X
Suspended Solids	All	NDPs: 0 Tests: 1	X				
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1			X		

CERTIFICATE OF ANALYSIS

SDG: 230718-32 **Report Number:** 699708 **Superseded Report:** 697664
Client Ref.: 326R **Location:** Victoria North

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.				
			SHOWMANS GUILD				
			Depth (m)				
			Sample Type	Ground Water (GW)			
			Date Sampled	17/07/2023			
			Sample Time	12:30:00			
			Date Received	18/07/2023			
			SDG Ref	230718-32			
			Lab Sample No.(s)	28343064			
			AGS Reference				
Suspended solids, Total	<2 mg/l	TM022	54.8 #				
Sulphide	<0.01 mg/l	TM101	0.0868 #				
Manganese (tot.unfilt)	<0.001 mg/l	TM152	0.667 #				
Calcium (Tot. Unfilt.)	<0.057 mg/l	TM152	212 #				
Iron (Tot. Unfilt.)	<0.024 mg/l	TM152	23.6 #				
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152	662				
Sulphate (soluble) as S	<1 mg/l	TM184	4.7 #				
Methane, dissolved	<0.001 mg/l	TM223	7.77				
pH	<1 pH Units	TM256	7.33 #				
Alkalinity, Total as CaCO3	<3 mg/l	TM256	806 #				
PFBA (375-22-4)	<0.000002 mg/l	TM434	0.000012 #				
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434	<0.000001 #				
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434	<0.000002 #				
PFPA (2706-90-3)	<0.000001 mg/l	TM434	0.000003 #				
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434	<0.000001 #				
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434	<0.000001 #				
NFDHA (151772-58-6)	<0.000003 mg/l	TM434	<0.000003 #				
PFBS (375-73-5)	<0.000001 mg/l	TM434	0.000003 #				
PFHxA (307-24-4)	<0.000001 mg/l	TM434	0.000005 #				
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434	<0.000002 #				
PFEESA (113507-82-7)	<0.000001 mg/l	TM434	<0.000001 #				
PFHpA (375-85-9)	<0.000001 mg/l	TM434	0.000003 #				
PFPeS (2706-91-4)	<0.000001 mg/l	TM434	0.000002 #				
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434	<0.000005 #				
ADONA (919005-14-4)	<0.000001 mg/l	TM434	<0.000001 #				
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434	<0.000001 #				
FBSA (30334-69-1)	<0.000001 mg/l	TM434	0.000002 #				
PFOA (335-67-1)	<0.000001 mg/l	TM434	0.000009 #				
PFHxS (355-46-4)	<0.000001 mg/l	TM434	0.000004 #				
PFNA (375-95-1)	<0.000001 mg/l	TM434	<0.000001 #				
PFecHS (133201-07-7)	<0.000001 mg/l	TM434	<0.000001 #				
PFHpS (375-92-8)	<0.000001 mg/l	TM434	<0.000001 #				
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434	<0.000002 #				

CERTIFICATE OF ANALYSIS

SDG: 230718-32 **Report Number:** 699708 **Superseded Report:** 697664
Client Ref.: 326R **Location:** Victoria North

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.					
			SHOWMANS GUILD					
			Depth (m)					
			Sample Type	Ground Water (GW)				
			Date Sampled	17/07/2023				
			Sample Time	12:30:00				
			Date Received	18/07/2023				
			SDG Ref	230718-32				
			Lab Sample No.(s)	28343064				
			AGS Reference					
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434	<0.000005 #					
PFDA (335-76-2)	<0.000002 mg/l	TM434	<0.000002 #					
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434	<0.000002 #					
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434	<0.000005 #					
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434	0.000001 #					
Branched PFOS	<0.000001 mg/l	TM434	0.000002 #					
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434	<0.000002 #					
PFUnA (2058-94-8)	<0.000002 mg/l	TM434	<0.000002 #					
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434	<0.000001 #					
PFNS (68259-12-1)	<0.000001 mg/l	TM434	<0.000001 #					
FHxSA (41997-13-1)	<0.000001 mg/l	TM434	<0.000001 #					
PFDoA (307-55-1)	<0.000002 mg/l	TM434	<0.000002 #					
PFDS (335-77-3)	<0.000002 mg/l	TM434	<0.000002 #					
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434	<0.000003 #					
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434	<0.000002 #					
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434	<0.000002 #					
PFTeA (376-06-7)	<0.000001 mg/l	TM434	<0.000001 #					
PFOSA (754-91-6)	<0.000002 mg/l	TM434	<0.000002 #					
PFDoS (79780-39-5)	<0.000002 mg/l	TM434	<0.000002 #					
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434	<0.000001 #					
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434	<0.000001 #					
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434	<0.00001 #					
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434	<0.000001 #					
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434	<0.00001 #					
PFODA (16517-11-6)	<0.000001 mg/l	TM434	<0.000001 #					
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434	<0.000001 #					
Total PFOS	<0.000001 mg/l	TM434	0.000003 #					

CERTIFICATE OF ANALYSIS

SDG: 230718-32 **Report Number:** 699708 **Superseded Report:** 697664
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 28343064 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Table of Results - Appendix

Method No	Description
TM152	Analysis of Aqueous Samples by ICP-MS
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM434	Analysis of PFAS
TM022	Determination of total suspended solids in waters
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).

CERTIFICATE OF ANALYSIS

SDG: 230718-32 Report Number: 699708 Superseded Report: 697664
Client Ref.: 326R Location: Victoria North

Test Completion Dates

Lab Sample No(s)	28343064
Customer Sample Ref.	SHOWMANS GUILD
AGS Ref.	
Depth	
Type	Ground Water
Anions by Kone (w)	19-Jul-2023
Determination of Dissolved Gases	21-Jul-2023
PFAS Liquids (Full Suite)	24-Jul-2023
pH Value	24-Jul-2023
Sulphide	21-Jul-2023
Suspended Solids	24-Jul-2023
Total Metals by ICP-MS	24-Jul-2023

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230729-47
Your Reference:	326R
Location:	Victoria North
Report No:	699714
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 699665 in its entirety.

We received 8 samples on Saturday July 29, 2023 and 7 of these samples were scheduled for analysis which was completed on Wednesday August 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

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
28404382	BH102		2.30	27/07/2023
28404384	BH204		6.82	27/07/2023
28404385	BH207		12.50	27/07/2023
28404383	BH301		14.00	27/07/2023
28404386	BH309		2.80	27/07/2023
28404387	BH310		4.02	27/07/2023
28404388	BH311		7.20	27/07/2023
28404381	SHOWMANS GUILD			27/07/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

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)			28404382	28404384	28404385	28404386	28404387	28404388					28404381
Customer Sample Reference			BH102	BH204	BH207	BH309	BH310	BH311					SHOWMANS GUILD
AGS Reference													
Depth (m)			2.30	6.82	12.50	2.80	4.02	7.20					
Container			500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)	Digitube fo PFAS analysis.	HNO3 Unfiltered (ALE204)	Vial (ALE297)	ZnAc (ALE246)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 1							X				
Determination of Dissolved Gases	All	NDPs: 0 Tests: 1										X	
PFAS Liquids	All	NDPs: 0 Tests: 7	X	X	X	X	X	X		X			
pH Value	All	NDPs: 0 Tests: 1							X				
Sulphide	All	NDPs: 0 Tests: 1											X
Suspended Solids	All	NDPs: 0 Tests: 1							X				
Total Metals by ICP-MS	All	NDPs: 0 Tests: 1									X		

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

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.	BH102	BH204	BH207	BH309	BH310	BH311
			Depth (m)	2.30	6.82	12.50	2.80	4.02	7.20
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023	27/07/2023
			Sample Time	10:10:00	12:52:00	10:50:00	15:15:00	13:30:00	11:31:00
			Date Received	29/07/2023	29/07/2023	29/07/2023	29/07/2023	29/07/2023	29/07/2023
			SDG Ref	230729-47	230729-47	230729-47	230729-47	230729-47	230729-47
			Lab Sample No.(s)	28404382	28404384	28404385	28404386	28404387	28404388
			AGS Reference						
PFBA (375-22-4)	<0.000002 mg/l	TM337		0.000008 #	0.000026 #	0.000016 #	<0.000004 #	<0.000002 #	0.000024 #
PFPA (2706-90-3)	<0.000001 mg/l	TM337		<0.000002 #	0.000023 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFHxA (307-24-4)	<0.000001 mg/l	TM337		<0.000002 #	0.000025 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000036 #	<0.000005 #	0.000005 #	<0.000002 #	<0.000001 #	0.000007 #
PFHpA (375-85-9)	<0.000001 mg/l	TM337		<0.000002 #	0.000042 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000007 #	0.000048 #	0.000009 #	<0.000001 #	<0.000001 #	0.000009 #
PFHxS (355-46-4)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	0.000009 #	<0.000001 #	<0.000002 #
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000002 #	<0.000003 #	<0.000003 #	<0.000001 #	<0.000001 #	0.000005 #
Branched PFOS	<0.000001 mg/l	TM337		0.000002 #	<0.000003 #	<0.000003 #	0.000002 #	<0.000001 #	0.000003 #
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.000004 #	<0.00001 #	<0.00001 #	<0.000004 #	<0.000002 #	<0.000004 #
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000002	<0.000005	<0.000005	<0.000002	<0.000001	<0.000002
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000002 #	<0.000005 #	<0.000005 #	<0.000002 #	<0.000001 #	<0.000002 #
Total PFOS	<0.000001 mg/l	TM337		0.000004 #	<0.000003 #	<0.000003 #	0.000002 #	<0.000001 #	0.000008 #

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

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. / Depth (m) / Sample Type / Date Sampled / Sample Time / Date Received / SDG Ref / Lab Sample No.(s) / AGS Reference				
			SHOWMANS GUILD . Ground Water (GW) 27/07/2023 12:10:00 29/07/2023 230729-47 28404381				
Suspended solids, Total	<2 mg/l	TM022	47.9 #				
Sulphide	<0.01 mg/l	TM101	0.0323 #				
Manganese (tot.unfilt)	<0.001 mg/l	TM152	0.632 #				
Calcium (Tot. Unfilt.)	<0.057 mg/l	TM152	194 #				
Iron (Tot. Unfilt.)	<0.024 mg/l	TM152	20.6 #				
Hardness, Total as CaCO3 unfiltered	<0.35 mg/l	TM152	600				
Sulphate	<2 mg/l	TM184	18.3 #				
Methane, dissolved	<0.001 mg/l	TM223	7.14				
pH	<1 pH Units	TM256	7.29 #				
Alkalinity, Total as CaCO3	<3 mg/l	TM256	702 #				
PFBA (375-22-4)	<0.000002 mg/l	TM337	0.000012 #				
PFPA (2706-90-3)	<0.000001 mg/l	TM337	0.000005 #				
PFHxA (307-24-4)	<0.000001 mg/l	TM337	<0.000005 #				
PFBS (375-73-5)	<0.000001 mg/l	TM337	0.000005 #				
PFHpA (375-85-9)	<0.000001 mg/l	TM337	<0.000005 #				
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337	<0.000005 #				
PFOA (335-67-1)	<0.000001 mg/l	TM337	0.000008 #				
PFHxS (355-46-4)	<0.000001 mg/l	TM337	<0.000005 #				
PFNA (375-95-1)	<0.000001 mg/l	TM337	<0.000005 #				
PFHpS (375-92-8)	<0.000001 mg/l	TM337	<0.000005 #				
PFDA (335-76-2)	<0.000001 mg/l	TM337	<0.000005 #				
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337	<0.000003 #				
Branched PFOS	<0.000001 mg/l	TM337	0.000004 #				
PFUnA (2058-94-8)	<0.000001 mg/l	TM337	<0.000005 #				
PFDoA (307-55-1)	<0.000001 mg/l	TM337	<0.000005 #				
PFOSA (754-91-6)	<0.000002 mg/l	TM337	<0.00001 #				
PFDS (335-77-3)	<0.000001 mg/l	TM337	<0.000005				
PFPeS (2706-91-4)	<0.000001 mg/l	TM337	<0.000005 #				
Total PFOS	<0.000001 mg/l	TM337	0.000004 #				

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Land leachate	Ground water

Sample No. : 28404383 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Result Removal	PFAS result	no PFAS result

Table of Results - Appendix

Method No	Description
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM022	Determination of total suspended solids in waters
TM101	Determination of Sulphide in soil and water samples using the Kone Analyser
TM337	Analysis of PFAS
TM152	Analysis of Aqueous Samples by ICP-MS
TM223	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

CERTIFICATE OF ANALYSIS

SDG: 230729-47 **Report Number:** 699714 **Superseded Report:** 699665
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	28404382	28404384	28404385	28404383	28404386	28404387	28404388	28404381
Customer Sample Ref.	BH102	BH204	BH207	BH301	BH309	BH310	BH311	SHOWMANS GUILD
AGS Ref.								
Depth	2.30	6.82	12.50	14.00	2.80	4.02	7.20	
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)								01-Aug-2023
Determination of Dissolved Gases								02-Aug-2023
PFAS Liquids	01-Aug-2023	01-Aug-2023	01-Aug-2023	01-Aug-2023	01-Aug-2023	01-Aug-2023	01-Aug-2023	01-Aug-2023
pH Value								01-Aug-2023
Sulphide								01-Aug-2023
Suspended Solids								01-Aug-2023
Total Metals by ICP-MS								01-Aug-2023

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 one month 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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BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Andy Bird

CERTIFICATE OF ANALYSIS

Date of report Generation:	06 April 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230401-52
Your Reference:	326R
Location:	Victoria North
Report No:	684948
Order Number:	

We received 7 samples on Saturday April 01, 2023 and 2 of these samples were scheduled for analysis which was completed on Thursday April 06, 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: 06/04/2023

CERTIFICATE OF ANALYSIS

SDG: 230401-52 **Report Number:** 684948 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27778591	TP417		0.50	29/03/2023
27778592	TP417		1.00	29/03/2023
27778595	TP418		0.40	29/03/2023
27778596	TP418		1.00	29/03/2023
27778597	TP419		0.40	29/03/2023
27778599	TP419		1.00	29/03/2023
27778600	TP420		0.75	29/03/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230401-52 **Report Number:** 684948 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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)			27778592	27778600
Customer Sample Reference			TP417	TP420
AGS Reference				
Depth (m)			1.00	0.75
Container			1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
Sample Type			S	S
PFAS Solids	All	NDPs: 0 Tests: 2	X	X
Sample description	All	NDPs: 0 Tests: 2	X	X

CERTIFICATE OF ANALYSIS

SDG: 230401-52 **Report Number:** 684948 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27778592	TP417	1.00	Dark Brown	Sandy Clay Loam	None	None
27778600	TP420	0.75	Dark Brown	Loamy Sand	Stones	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230401-52 **Report Number:** 684948 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.	TP417	TP420				
			Depth (m)	1.00	0.75				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	29/03/2023	29/03/2023				
			Sample Time	-	-				
			Date Received	01/04/2023	01/04/2023				
			SDG Ref	230401-52	230401-52				
			Lab Sample No.(s)	27778592	27778600				
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		19	21				
4:2 FTS (757124-72-4)	<2 µg/kg	TM338		<2	<2				
8:2 FTS (39108-34-4)	<2 µg/kg	TM338		<2	<2				
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338		<20	<20				
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3				
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3				
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2				
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1				
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1				
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1				
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1				
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1				
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1				
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1				
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1				
Branched PFOS	<1 µg/kg	TM338		<1	<1				
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1				
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1				
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1				
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1				
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1				
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1				
Total PFOS	<1 µg/kg	TM338		<1	<1				

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230401-52 **Report Number:** 684948 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27778592	27778600
Customer Sample Ref.	TP417	TP420
AGS Ref.		
Depth	1.00	0.75
Type	Soil/Solid (S)	Soil/Solid (S)
PFAS Solids	06-Apr-2023	06-Apr-2023
Sample description	05-Apr-2023	05-Apr-2023

SDG:	230401-52	**Report Number:**	684948	**Superseded Report:**	
Client Ref:	326R	**Location:**	Victoria North		

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 one month 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.

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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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Website: www.alsenvironmental.co.uk

BAM Ritchies
Unit 5
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Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230401-54
Your Reference:	326R
Location:	Victoria North
Report No:	699666
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 697559 in its entirety.

We received 12 samples on Saturday April 01, 2023 and 12 of these samples were scheduled for analysis which was completed on Tuesday July 11, 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

1291

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27763405	Showmans Guild			28/03/2023
27763404	SW08 DOWN			28/03/2023
27763406	SW08 UPPER			28/03/2023
27778683	TP410		0.40	29/03/2023
27778686	TP411		0.40	29/03/2023
27778689	TP412		1.00	29/03/2023
27778691	TP413		0.50	29/03/2023
27778693	TP414		0.45	29/03/2023
27778695	TP415		0.50	29/03/2023
27778697	TP416		0.75	29/03/2023
27778698	TP403A		0.60	29/03/2023
27778700	TP405A		0.55	29/03/2023

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559

Client Ref.: 326R **Location:** Victoria North

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)	27763405				27763404				27763406				27778683	27778686	27778689	27778691	27778693	27778695	27778697
			Customer Sample Reference	Showmans Guild				SW08 DOWN				SW08 UPPER				TP410	TP411	TP412	TP413	TP414	TP415	TP416
			AGS Reference																			
			Depth (m)													0.40	0.40	1.00	0.50	0.45	0.50	0.75
			Container	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	S	S	S	S	S	S	S
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 3				X				X				X									
Anions by Kone (w)	All	NDPs: 2 Tests: 1			N			X					N										
COD Unfiltered	All	NDPs: 0 Tests: 3	X					X				X											
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 2 Tests: 1			N			X					N										
Determination of Dissolved Gases	All	NDPs: 3 Tests: 0				N				N					N								
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3	X					X					X										
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3			X			X					X										
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3			X			X					X										
Faecal Coliforms (W)*	All	NDPs: 2 Tests: 0			N								N										
Fats Oils and Greases.	All	NDPs: 1 Tests: 1			X				N														
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3				X					X				X								
Mercury Dissolved	All	NDPs: 2 Tests: 1			N			X					N										
Mercury Unfiltered	All	NDPs: 2 Tests: 1			N			X					N										
Methylene blue active substances	All	NDPs: 0 Tests: 3			X				X				X										
Neutralised Suspended Solids	All	NDPs: 1 Tests: 0							N														

27778700	TP405A		0.55	1kg TUB with Handle (ALE260)	S
27778698	TP403A		0.60	1kg TUB with Handle (ALE260)	S

Validated

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559

Client Ref.: 326R **Location:** Victoria North

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
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Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

			Lab Sample No(s)	27763405	27763404	27763406	27778683	27778686	27778689	27778691	27778693	27778695	27778697
			Customer Sample Reference	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412	TP413	TP414	TP415	TP416
			AGS Reference										
			Depth (m)				0.40	0.40	1.00	0.50	0.45	0.50	0.75
			Container	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	S	S	S	S	S	S	S	S
NRA Leachate	All	NDPs: 0 Tests: 2														X				X			
Organotins in Aqueous Samples	All	NDPs: 1 Tests: 0			N																		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1			X																		
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 1			X																		
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 5			X				X				X			X				X			
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 4														X				X			
PFAS Liquids	All	NDPs: 0 Tests: 5			X				X				X			X				X			
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 2							X				X										
PFAS solids	All	NDPs: 0 Tests: 9														X	X	X	X	X	X	X	
pH Value	All	NDPs: 2 Tests: 1			N			X					N										
Pharmaceuticals and Personal Care	All	NDPs: 1 Tests: 0			N																		
Phenols and ethoxylates in Liquids	All	NDPs: 1 Tests: 0			N																		
Sample description	All	NDPs: 0 Tests: 9														X	X	X	X	X	X	X	
Settleable Solids	All	NDPs: 2 Tests: 0			N				N														
Settleable Solids 5 Mins	All	NDPs: 2 Tests: 0			N				N														

27778698	TP403A		0.60	1kg TUB with Handle (ALE260)	S
27778700	TP405A		0.55	1kg TUB with Handle (ALE260)	S
X					X
X					X
X					X

Validated

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559

Client Ref.: 326R **Location:** Victoria North

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)	27763405	27763404	27763406	27778683	27778686	27778689	27778691	27778693	27778695	27778697
			Customer Sample Reference	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412	TP413	TP414	TP415	TP416
			AGS Reference										
			Depth (m)				0.40	0.40	1.00	0.50	0.45	0.50	0.75
			Container	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	Vial (ALE297)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	S	S	S	S	S	S	S
Sulphide	All	NDPs: 2 Tests: 1			N			X					N									
Suspended Solids	All	NDPs: 0 Tests: 3			X				X				X									
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1			X																	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 3			X			X					X									
Total Nitrogen	All	NDPs: 0 Tests: 2			X						X											
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 3				X				X				X								
TPH CWG (W)	All	NDPs: 2 Tests: 3			N								N									
					X				X				X									
Urea Herbicides (Suite 1)*	All	NDPs: 1 Tests: 0			N																	
VOC MS (W)	All	NDPs: 0 Tests: 3					X				X				X							

27778700	TP405A		0.55	1kg TUB with Handle (ALE260)	S									
27778698	TP403A		0.60	1kg TUB with Handle (ALE260)	S									

CERTIFICATE OF ANALYSIS

SDG: 230401-54 Report Number: 699666 Superseded Report: 697559
Client Ref.: 326R Location: Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27778683	TP410	0.40	Black	Loamy Sand	Stones	N/A
27778686	TP411	0.40	Black	Loamy Sand	Stones	N/A
27778689	TP412	1.00	Black	Sand	Stones	N/A
27778691	TP413	0.50	Grey	Sand	Stones	None
27778693	TP414	0.45	Dark Brown	Loamy Sand	Stones	None
27778695	TP415	0.50	Black	Loamy Sand	Stones	Vegetation
27778697	TP416	0.75	Black	Loamy Sand	Stones	None
27778698	TP403A	0.60	Black	Sand	Stones	N/A
27778700	TP405A	0.55	Black	Sand	Stones	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
Suspended solids, Total	<2 mg/l	TM022		55.3 @ #	38.9 @ #	14.6 @ #			
Organic Carbon, Total	<3 mg/l	TM090		6.57 @ #	6.73 @ #	6.05 @ #			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		30.3 #	28.3 #	0.583 #			
Sulphide	<0.01 mg/l	TM101			<0.01 2 #				
COD, unfiltered	<7 mg/l	TM107		15.1 @ #	33.7 @ #	20.2 @ #			
Arsenic (diss.filt)	<0.0005 mg/l	TM152		<0.0005 2 #	0.000503 2 #	0.000806 2 #			
Arsenic (tot.unfilt)	<0.002 mg/l	TM152		0.0028 2 #	0.00232 2 #	<0.002 2 #			
Cadmium (diss.filt)	<0.00008 mg/l	TM152		<0.00008 2 #	<0.00008 2 #	0.000255 2 #			
Cadmium (tot.unfilt)	<0.0005 mg/l	TM152		<0.0005 2 #	<0.0005 2 #	<0.0005 2 #			
Chromium (tot.unfilt)	<0.003 mg/l	TM152		<0.003 2 #	<0.003 2 #	<0.003 2 #			
Chromium (diss.filt)	<0.001 mg/l	TM152		<0.001 2 #	<0.001 2 #	<0.001 2 #			
Copper (tot.unfilt)	<0.001 mg/l	TM152		0.00115 2 #	0.00383 2 #	0.00818 2 #			
Lead (tot.unfilt)	<0.001 mg/l	TM152		<0.001 2 #	0.00498 2 #	0.00457 2 #			
Copper (diss.filt)	<0.0003 mg/l	TM152		<0.0003 2 #	0.00111 2 #	0.00429 2 #			
Lead (diss.filt)	<0.0002 mg/l	TM152		<0.0002 2 #	<0.0002 2 #	<0.0002 2 #			
Nickel (tot.unfilt)	<0.001 mg/l	TM152		0.002 2 #	<0.001 2 #	0.00358 2 #			
Selenium (tot.unfilt)	<0.001 mg/l	TM152		<0.001 2 #	<0.001 2 #	0.00105 2 #			
Nickel (diss.filt)	<0.0004 mg/l	TM152		<0.0004 2 #	<0.0004 2 #	0.0029 2 #			
Selenium (diss.filt)	<0.001 mg/l	TM152		<0.001 2 #	<0.001 2 #	<0.001 2 #			
Zinc (tot.unfilt)	<0.005 mg/l	TM152		0.011 2 #	0.0372 2 #	0.0938 2 #			
Zinc (diss.filt)	<0.001 mg/l	TM152		0.00689 2 #	0.0189 2 #	0.0591 2 #			
Mercury (diss.filt)	<0.00001 mg/l	TM183			<0.00001 2 #				
Mercury (tot.unfilt)	<0.00002 mg/l	TM183			<0.00002 2 #				
Sulphate (soluble) as S	<1 mg/l	TM184			11.9 @ #				
Nitrogen, Total	<1 mg/l	TM212		28.9 @ #	27.3 @ #				
Cyanide, Total	<0.05 mg/l	TM227			<0.05 2 #				
Surfactants, Anionic (MBAS)	<0.05 mg/l	TM249		<0.05	<0.05	0.05			
pH	<1 pH Units	TM256			7.18 @ #				
PFBA (375-22-4)	<0.000002 mg/l	TM337		<0.00003 #	<0.000017 #	<0.00001 #			
PFPA (2706-90-3)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFHxA (307-24-4)	<0.000001 mg/l	TM337		0.000007 #	0.000005 #	0.000003 #			
PFBS (375-73-5)	<0.000001 mg/l	TM337		0.000005 #	0.000005 #	0.000001 #			
PFHpA (375-85-9)	<0.000001 mg/l	TM337		<0.000005 #	0.000004 #	0.000003 #			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFOA (335-67-1)	<0.000001 mg/l	TM337		0.000012 #	0.00001 #	0.000011 #			
PFHxS (355-46-4)	<0.000001 mg/l	TM337		0.000005 #	0.000004 #	0.000002 #			
PFNA (375-95-1)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFHpS (375-92-8)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFDA (335-76-2)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM337		0.000007 #	0.000004 #	0.000012 #			
Branched PFOS	<0.000001 mg/l	TM337		0.000009 #	0.000005 #	0.000006 #			
PFUnA (2058-94-8)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFDoA (307-55-1)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
PFOSA (754-91-6)	<0.000002 mg/l	TM337		<0.00001 #	<0.000004 #	<0.000002 #			
PFDS (335-77-3)	<0.000001 mg/l	TM337		<0.000005	<0.000002	<0.000001			
PFPeS (2706-91-4)	<0.000001 mg/l	TM337		<0.000005 #	<0.000002 #	<0.000001 #			
Total PFOS	<0.000001 mg/l	TM337		0.000016 #	0.00001 #	0.000018 #			
Trifluralin	<0.00001 mg/l	TM343		<0.00001					
alpha-HCH	<0.00001 mg/l	TM343		<0.00001					
gamma-HCH (Lindane)	<0.00001 mg/l	TM343		<0.00001					
Heptachlor	<0.00001 mg/l	TM343		<0.00001					
Aldrin	<0.00001 mg/l	TM343		<0.00001					
beta-HCH	<0.00001 mg/l	TM343		<0.00001					
Isodrin	<0.00001 mg/l	TM343		<0.00001					
delta-HCH	<0.00001 mg/l	TM343		<0.00001					
Heptachlor epoxide	<0.00001 mg/l	TM343		<0.00001					
o,p'-DDE	<0.00001 mg/l	TM343		<0.00001					
Endosulphan I	<0.00001 mg/l	TM343		<0.00001					
trans-Chlordane	<0.00001 mg/l	TM343		<0.00001					
cis-Chlordane	<0.00001 mg/l	TM343		<0.00001					
p,p'-DDE	<0.00001 mg/l	TM343		<0.00001					
Dieldrin	<0.00001 mg/l	TM343		<0.00001					
o,p'-DDD (TDE)	<0.00001 mg/l	TM343		<0.00001					
Endrin	<0.00001 mg/l	TM343		<0.00001					
o,p'-DDT	<0.00001 mg/l	TM343		<0.00002					
p,p'-DDD (TDE)	<0.00001 mg/l	TM343		<0.00001					

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
Endosulphan II	<0.00002 mg/l	TM343		<0.00002					
p,p'-DDT	<0.00001 mg/l	TM343		<0.0001					
o,p'-Methoxychlor	<0.00001 mg/l	TM343		<0.00002					
p,p'-Methoxychlor	<0.00001 mg/l	TM343		<0.00003					
Endosulphan Sulphate	<0.00002 mg/l	TM343		<0.00002					
Permethrin I	<0.00001 mg/l	TM343		<0.00001					
Permethrin II	<0.00001 mg/l	TM343		<0.00001					
Fats, Oils, Greases	<1 mg/l	TM383		1					
PFBA (Post Ox.) (375-22-4)	<0.000004 mg/l	TM405		0.00005	0.000026	0.000021			
PFPA (Post Ox.) (2706-90-3)	<0.000002 mg/l	TM405		0.000038	0.000019	0.00001			
PFHxA (Post Ox.) (307-24-4)	<0.000002 mg/l	TM405		0.000045	0.000014	0.000023			
PFBS (Post Ox.) (375-73-5)	<0.000002 mg/l	TM405		0.000008	0.000006	0.000003			
PFHpA (Post Ox.) (375-85-9)	<0.000002 mg/l	TM405		<0.000005	0.000003	0.000005			
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002 mg/l	TM405		<0.000005	<0.000002	0.000003			
PFOA (Post Ox.) (335-67-1)	<0.000002 mg/l	TM405		0.000012	0.000009	0.000013			
PFHxS (Post Ox.) (355-46-4)	<0.000002 mg/l	TM405		<0.000005	0.000004	0.000003			
PFNA (Post Ox.) (375-95-1)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
PFHpS (Post Ox.) (375-92-8)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
PFDA (Post Ox.) (335-76-2)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002 mg/l	TM405		0.000008	0.000004	0.000012			
Branched PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000011	0.000005	0.000006			
PFUnA (Post Ox.) (2058-94-8)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
PFDoA (Post Ox.) (307-55-1)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
PFOSA (Post Ox.) (754-91-6)	<0.000004 mg/l	TM405		<0.00001	<0.000004	<0.000004			
PFDS (Post Ox.) (335-77-3)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
PFPeS (Post Ox.) (2706-91-4)	<0.000002 mg/l	TM405		<0.000005	<0.000002	<0.000002			
Total PFOS (Post Ox.)	<0.000002 mg/l	TM405		0.000018	0.000009	0.000018			
PFBA (375-22-4)	<0.000002 mg/l	TM434			<0.00001 @ #	0.000007 @ #			
PFMOPrA (377-73-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
3:3 FTCA (356-02-5)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFPA (2706-90-3)	<0.000001 mg/l	TM434			0.000007 @ #	0.000003 @ #			
PFMOBA (863090-89-5)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
4:2 FTS (757124-72-4)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
NFDHA (151772-58-6)	<0.000003 mg/l	TM434			<0.000015 @ #	<0.000003 @ #			
PFBS (375-73-5)	<0.000001 mg/l	TM434			0.000007 @ #	0.000003 @ #			
PFHxA (307-24-4)	<0.000001 mg/l	TM434			0.000007 @ #	0.000003 @ #			
HFPO-DA (13252-13-6)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFEESA (113507-82-7)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFHpA (375-85-9)	<0.000001 mg/l	TM434			<0.000005 @ #	0.000002 @ #			
PFPeS (2706-91-4)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
5:3 FTCA (914637-49-3)	<0.000005 mg/l	TM434			<0.000025 @ #	<0.000005 @ #			
ADONA (919005-14-4)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
6:2 FTS (27619-97-2)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
FBSA (30334-69-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFOA (335-67-1)	<0.000001 mg/l	TM434			0.000011 @ #	0.000011 @ #			
PFHxS (355-46-4)	<0.000001 mg/l	TM434			0.000007 @ #	0.000003 @ #			
PFNA (375-95-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFecHS (133201-07-7)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFHpS (375-92-8)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
8:2 FTS (39108-34-4)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
HFPO-TA (13252-14-7)	<0.000005 mg/l	TM434			<0.000025 @ #	<0.000005 @ #			
PFDA (335-76-2)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
MeFOSAA (2355-31-9)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
7:3 FTCA (812-70-4)	<0.000005 mg/l	TM434			<0.000025 @ #	<0.000005 @ #			
Linear PFOS (1763-23-1)	<0.000001 mg/l	TM434			0.000004 @ #	0.000005 @ #			
Branched PFOS	<0.000001 mg/l	TM434			<0.000003 @ #	0.00001 @ #			
EtFOSAA (2991-50-6)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFUnA (2058-94-8)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
9Cl-PF3ONS (756426-58-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFNS (68259-12-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
FHxSA (41997-13-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFDoA (307-55-1)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFDS (335-77-3)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFTrDA (72629-94-8)	<0.000003 mg/l	TM434			<0.000015 @ #	<0.000003 @ #			
11Cl-PF3OUdS (763051-92-9)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFUnDS (749786-16-1)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
PFTeA (376-06-7)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFOSA (754-91-6)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFDoS (79780-39-5)	<0.000002 mg/l	TM434			<0.00001 @ #	<0.000002 @ #			
PFTrDS (174675-49-1)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
PFHxDA (67905-19-5)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
MeFOSE (24448-09-7)	<0.00001 mg/l	TM434			<0.00005 @ #	<0.00001 @ #			
N-MeFOSA (31506-32-8)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
EtFOSE (1691-99-2)	<0.00001 mg/l	TM434			<0.00005 @ #	<0.00001 @ #			
PFODA (16517-11-6)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
N-EtFOSA (4151-50-2)	<0.000001 mg/l	TM434			<0.000005 @ #	<0.000001 @ #			
Total PFOS	<0.000001 mg/l	TM434			0.000004 @ #	0.000016 @ #			
Moisture Content Ratio (% of as received sample)	%	PM024					19	27	22
PFBA (375-22-4) NRA leach	<0.000002 mg/l	TM337					<0.000015		
PFPA (2706-90-3) NRA leach	<0.000001 mg/l	TM337					0.000003		
PFHxA (307-24-4) NRA leach	<0.000001 mg/l	TM337					0.000006		
PFBS (375-73-5) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFHpA (375-85-9) NRA leach	<0.000001 mg/l	TM337					0.000005		
6:2 FTS (27619-97-2) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFOA (335-67-1) NRA leach	<0.000001 mg/l	TM337					0.000026		
PFHxS (355-46-4) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFNA (375-95-1) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFHpS (375-92-8) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFDA (335-76-2) NRA leach	<0.000001 mg/l	TM337					<0.000001		
Linear PFOS (1763-23-1) NRA leach	<0.000001 mg/l	TM337					0.000002		
Branched PFOS NRA leach	<0.000001 mg/l	TM337					0.000002		
PFUnA (2058-94-8) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFDoA (307-55-1) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFOSA (754-91-6) NRA leach	<0.000002 mg/l	TM337					<0.000002		
PFDS (335-77-3) NRA leach	<0.000001 mg/l	TM337					<0.000001		
PFPeS (2706-91-4) NRA leach	<0.000001 mg/l	TM337					<0.000001		
Total PFOS NRA leach	<0.000001 mg/l	TM337					0.000003		
4:2 FTS (757124-72-4)	<2 µg/kg	TM338					<2	<2	<2
8:2 FTS (39108-34-4)	<2 µg/kg	TM338					<2	<2	<2

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338					<20	<20	<20
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338					<3	<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338					<3	<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338					<2	<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338					<1	<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338					<1	<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338					<1	<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338					<1	<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338					<1	<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338					<1	<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338					<1	<1	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338					<1	2.13	<1
Branched PFOS	<1 µg/kg	TM338					<1	<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338					<1	<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338					<1	<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338					<1	<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338					<1	<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338					<1	<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338					<1	<1	<1
Total PFOS	<1 µg/kg	TM338					<1	2.13	<1
PFBA (Post Ox.) (375-22-4) NRA leach	<0.000004 mg/l	TM405					0.000023		
PFPA (Post Ox.) (2706-90-3) NRA leach	<0.000002 mg/l	TM405					0.000021		
PFHxA (Post Ox.) (307-24-4) NRA leach	<0.000002 mg/l	TM405					0.000015		
PFBS (Post Ox.) (375-73-5) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFHpA (Post Ox.) (375-85-9) NRA leach	<0.000002 mg/l	TM405					0.000008		
6:2 FTS (Post Ox.) (27619-97-2) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFOA (Post Ox.) (335-67-1) NRA leach	<0.000002 mg/l	TM405					0.000033		
PFHxS (Post Ox.) (355-46-4) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFNA (Post Ox.) (375-95-1) NRA leach	<0.000002 mg/l	TM405					0.000003		
PFHpS (Post Ox.) (375-92-8) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFDA (Post Ox.) (335-76-2) NRA leach	<0.000002 mg/l	TM405					<0.000002		
Linear PFOS (Post Ox.) (1763-23-1) NRA leach	<0.000002 mg/l	TM405					0.000002		
Branched PFOS (Post Ox.) NRA leach	<0.000002 mg/l	TM405					0.000002		

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412
			Depth (m)	.	.	.	0.40	0.40	1.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	28/03/2023	28/03/2023	28/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27763405	27763404	27763406	27778683	27778686	27778689
			AGS Reference						
PFUnA (Post Ox.) (2058-94-8) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFDoA (Post Ox.) (307-55-1) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFOSA (Post Ox.) (754-91-6) NRA leach	<0.000004 mg/l	TM405					<0.000004		
PFDS (Post Ox.) (335-77-3) NRA leach	<0.000002 mg/l	TM405					<0.000002		
PFPeS (Post Ox.) (2706-91-4) NRA leach	<0.000002 mg/l	TM405					<0.000002		
Total PFOS (Post Ox.) NRA leach	<0.000002 mg/l	TM405					0.000004		
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428					<3		
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428					<3		
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428					<2		
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428					<1		
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428					<1		
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428					<1		
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428					<1		
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428					<1		
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428					<1		
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428					<1		
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428					<1		
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428					<1		
Branched PFOS (Post Ox.)	<1 µg/kg	TM428					<1		
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428					<1		
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428					<1		
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428					<1		
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428					<1		
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428					<1		
Total PFOS (Post Ox.)	<2 µg/kg	TM428					<2		

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	TP413	TP414	TP415	TP416	TP403A	TP405A
			Depth (m)	0.50	0.45	0.50	0.75	0.60	0.55
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27778691	27778693	27778695	27778697	27778698	27778700
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		7.1	24	21	20	20	15
PFBA (375-22-4) NRA leach	<0.000002 mg/l	TM337			<0.00001				
PFPA (2706-90-3) NRA leach	<0.000001 mg/l	TM337			0.000005				
PFHxA (307-24-4) NRA leach	<0.000001 mg/l	TM337			0.000008				
PFBS (375-73-5) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFHpA (375-85-9) NRA leach	<0.000001 mg/l	TM337			<0.000005				
6:2 FTS (27619-97-2) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFOA (335-67-1) NRA leach	<0.000001 mg/l	TM337			0.00002				
PFHxS (355-46-4) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFNA (375-95-1) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFHpS (375-92-8) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFDA (335-76-2) NRA leach	<0.000001 mg/l	TM337			<0.000005				
Linear PFOS (1763-23-1) NRA leach	<0.000001 mg/l	TM337			0.000004				
Branched PFOS NRA leach	<0.000001 mg/l	TM337			<0.000003				
PFUnA (2058-94-8) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFDoA (307-55-1) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFOSA (754-91-6) NRA leach	<0.000002 mg/l	TM337			<0.00001				
PFDS (335-77-3) NRA leach	<0.000001 mg/l	TM337			<0.000005				
PFPeS (2706-91-4) NRA leach	<0.000001 mg/l	TM337			<0.000005				
Total PFOS NRA leach	<0.000001 mg/l	TM337			0.000004				
4:2 FTS (757124-72-4)	<2 µg/kg	TM338		<2	<2	<2	<2		
8:2 FTS (39108-34-4)	<2 µg/kg	TM338		<2	<2	<2	<2		
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338		<20	<20	<20	<20		
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2	<2	<2	<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1

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.	TP413	TP414	TP415	TP416	TP403A	TP405A
			Depth (m)	0.50	0.45	0.50	0.75	0.60	0.55
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27778691	27778693	27778695	27778697	27778698	27778700
			AGS Reference						
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
Branched PFOS	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
Total PFOS	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFBA (Post Ox.) (375-22-4) NRA leach	<0.000004 mg/l	TM405			<0.00001				
PFPA (Post Ox.) (2706-90-3) NRA leach	<0.000002 mg/l	TM405			0.000023				
PFHxA (Post Ox.) (307-24-4) NRA leach	<0.000002 mg/l	TM405			0.000025				
PFBS (Post Ox.) (375-73-5) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFHpA (Post Ox.) (375-85-9) NRA leach	<0.000002 mg/l	TM405			0.00001				
6:2 FTS (Post Ox.) (27619-97-2) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFOA (Post Ox.) (335-67-1) NRA leach	<0.000002 mg/l	TM405			0.000023				
PFHxS (Post Ox.) (355-46-4) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFNA (Post Ox.) (375-95-1) NRA leach	<0.000002 mg/l	TM405			0.000006				
PFHpS (Post Ox.) (375-92-8) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFDA (Post Ox.) (335-76-2) NRA leach	<0.000002 mg/l	TM405			<0.000005				
Linear PFOS (Post Ox.) (1763-23-1) NRA leach	<0.000002 mg/l	TM405			<0.000005				
Branched PFOS (Post Ox.) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFUnA (Post Ox.) (2058-94-8) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFDoA (Post Ox.) (307-55-1) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFOSA (Post Ox.) (754-91-6) NRA leach	<0.000004 mg/l	TM405			<0.00001				
PFDS (Post Ox.) (335-77-3) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFPeS (Post Ox.) (2706-91-4) NRA leach	<0.000002 mg/l	TM405			<0.000005				
Total PFOS (Post Ox.) NRA leach	<0.000002 mg/l	TM405			<0.000005				
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428			<3			<3	<3
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428			<3			<3	<3
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428			<2			<2	<2
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428			<1			<1	<1
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428			<1			<1	<1

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	TP413	TP414	TP415	TP416	TP403A	TP405A
			Depth (m)	0.50	0.45	0.50	0.75	0.60	0.55
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023	29/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-54	230401-54	230401-54	230401-54	230401-54	230401-54
			Lab Sample No.(s)	27778691	27778693	27778695	27778697	27778698	27778700
			AGS Reference						
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428			<1			<1	<1
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428			<1			<1	<1
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428			<1			<1	<1
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428			<1			<1	<1
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428			<1			<1	<1
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428			<1			<1	<1
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428			<1			<1	<1
Branched PFOS (Post Ox.)	<1 µg/kg	TM428			<1			<1	<1
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428			<1			<1	<1
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428			<1			<1	<1
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428			<1			<1	<1
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428			<1			<1	<1
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428			<1			<1	<1
Total PFOS (Post Ox.)	<2 µg/kg	TM428			<2			<2	<2

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild
			Depth (m)	.
			Sample Type	Ground Water (GW)
			Date Sampled	28/03/2023
			Sample Time	.
			Date Received	01/04/2023
			SDG Ref	230401-54
			Lab Sample No.(s)	27763405
			AGS Reference	
Naphthalene (aq)	<0.00001 mg/l	TM178		<0.00002 @ #
Acenaphthene (aq)	<0.000005 mg/l	TM178		0.000031 @ #
Acenaphthylene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Phenanthrene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Fluorene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Chrysene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Pyrene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Benzo(a)anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Benzo(b)fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Benzo(k)fluoranthene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Benzo(a)pyrene (aq)	<0.000002 mg/l	TM178		<0.000004 @ #
Dibenzo(a,h)anthracene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Benzo(g,h,i)perylene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
Indeno(1,2,3-cd)pyrene (aq)	<0.000005 mg/l	TM178		<0.00001 @ #
PAH, Total Detected USEPA 16 (aq)	<0.000082 mg/l	TM178		<0.000164 @ #

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.				
			Showmans Guild				
Depth (m)			.				
Sample Type			Ground Water (GW)				
Date Sampled			28/03/2023				
Sample Time			.				
Date Received			01/04/2023				
SDG Ref			230401-54				
Lab Sample No.(s)			27763405				
AGS Reference							
1,2,4-Trichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
1,2-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
1,3-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
1,4-Dichlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,4,5-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,4,6-Trichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,4-Dichlorophenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,4-Dimethylphenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,4-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2,6-Dinitrotoluene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Chloronaphthalene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Chlorophenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Methylnaphthalene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 @ #				
2-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
3-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002				
4-Bromophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 @ #				
4-Chloro-3-methylphenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
4-Chloroaniline (aq)	<0.001 mg/l	TM176	<0.002				
4-Chlorophenylphenylether (aq)	<0.001 mg/l	TM176	<0.002 @ #				
4-Methylphenol (aq)	<0.001 mg/l	TM176	<0.002 @ #				
4-Nitroaniline (aq)	<0.001 mg/l	TM176	<0.002 @ #				
4-Nitrophenol (aq)	<0.001 mg/l	TM176	<0.002				
Azobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
Acenaphthylene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
Acenaphthene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
Anthracene (aq)	<0.001 mg/l	TM176	<0.002 @ #				
bis(2-Chloroethyl)ether (aq)	<0.001 mg/l	TM176	<0.002 @ #				
bis(2-Chloroethoxy)methane (aq)	<0.001 mg/l	TM176	<0.002 @ #				
bis(2-Ethylhexyl) phthalate (aq)	<0.002 mg/l	TM176	<0.004 @ #				
Butylbenzyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 @ #				
Benzo(a)anthracene (aq)	<0.001 mg/l	TM176	<0.002 @ #				

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

SVOC MS (W) - Aqueous

Results Legend	Customer Sample Ref.	Showmans Guild
# 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)
	Date Sampled	28/03/2023
	Sample Time	.
	Date Received	01/04/2023
	SDG Ref	230401-54
	Lab Sample No.(s)	27763405
	AGS Reference	

Component	LOD/Units	Method	
Benzo(b)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Benzo(k)fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Benzo(a)pyrene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Benzo(g,h,i)perylene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Carbazole (aq)	<0.001 mg/l	TM176	<0.002 @ #
Chrysene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Dibenzofuran (aq)	<0.001 mg/l	TM176	<0.002 @ #
n-Dibutyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 @ #
Diethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 @ #
Dibenzo(a,h)anthracene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Dimethyl phthalate (aq)	<0.001 mg/l	TM176	<0.002 @ #
n-Dioctyl phthalate (aq)	<0.005 mg/l	TM176	<0.01 @ #
Fluoranthene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Fluorene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Hexachlorobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Hexachlorobutadiene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Pentachlorophenol (aq)	<0.001 mg/l	TM176	<0.002
Phenol (aq)	<0.001 mg/l	TM176	<0.002
n-Nitroso-n-dipropylamine (aq)	<0.001 mg/l	TM176	<0.002 @ #
Hexachloroethane (aq)	<0.001 mg/l	TM176	<0.002 @ #
Nitrobenzene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Naphthalene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Isophorone (aq)	<0.001 mg/l	TM176	<0.002 @ #
Hexachlorocyclopentadiene (aq)	<0.001 mg/l	TM176	<0.002
Phenanthrene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Indeno(1,2,3-cd)pyrene (aq)	<0.001 mg/l	TM176	<0.002 @ #
Pyrene (aq)	<0.001 mg/l	TM176	<0.002 @ #

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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.	Showmans Guild	SW08 DOWN	SW08 UPPER			
Depth (m)	.	.	.			
Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
Date Sampled	28/03/2023	28/03/2023	28/03/2023			
Sample Time	.	.	.			
Date Received	01/04/2023	01/04/2023	01/04/2023			
SDG Ref	230401-54	230401-54	230401-54			
Lab Sample No.(s)	27763405	27763404	27763406			
AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	80 @	92 @	97 @			
GRO >C5-C12	<0.05 mg/l	TM245	<0.05 @ #	<0.05 @ #	<0.05 @ #			
Aliphatics >C5-C6	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aliphatics >C6-C8	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aliphatics >C8-C10	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aliphatics >C10-C12	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aliphatics >C12-C16 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Aliphatics >C16-C21 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Aliphatics >C21-C35 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Total Aliphatics >C12-C35 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Aromatics >EC5-EC7	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aromatics >EC7-EC8	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aromatics >EC8-EC10	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aromatics >EC10-EC12	<0.01 mg/l	TM245	<0.01 @	<0.01 @	<0.01 @			
Aromatics >EC12-EC16 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Aromatics >EC16-EC21 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Aromatics >EC21-EC35 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Total Aromatics >EC12-EC35 (aq)	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			
Total Aliphatics & Aromatics >C5-35 (aq)	<0.01 mg/l	TM174	<0.02	<0.01	<0.01			
Aliphatics >C16-C35 Aqueous	<0.01 mg/l	TM174	<0.02	<0.05	<0.01			

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)

Component	LOD/Units	Method	Customer Sample Ref.	Showmans Guild	SW08 DOWN	SW08 UPPER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	28/03/2023	28/03/2023	28/03/2023			
			Sample Time	.	.	.			
			Date Received	01/04/2023	01/04/2023	01/04/2023			
			SDG Ref	230401-54	230401-54	230401-54			
			Lab Sample No.(s)	27763405	27763404	27763406			
			AGS Reference						
Dibromofluoromethane**	%	TM208		108	109	105			
Toluene-d8**	%	TM208		99.6	99.2	100			
4-Bromofluorobenzene**	%	TM208		99.2	103	99.4			
Dichlorodifluoromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Chloromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Vinyl chloride	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Bromomethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Chloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Trichlorofluoromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1-Dichloroethene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Carbon disulphide	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Dichloromethane	<0.003 mg/l	TM208		<0.0045 @ #	<0.004 @ #	<0.004 @ #			
Methyl tertiary butyl ether (MTBE)	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
trans-1,2-Dichloroethene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1-Dichloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
cis-1,2-Dichloroethene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
2,2-Dichloropropane	<0.001 mg/l	TM208		<0.001	<0.001	<0.001			
Bromochloromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Chloroform	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1,1-Trichloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1-Dichloropropene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Carbontetrachloride	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2-Dichloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Benzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Trichloroethene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2-Dichloropropane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Dibromomethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Bromodichloromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
cis-1,3-Dichloropropene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Toluene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
trans-1,3-Dichloropropene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1,2-Trichloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,3-Dichloropropane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	Showmans Guild	SW08 DOWN	SW08 UPPER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	28/03/2023	28/03/2023	28/03/2023			
			Sample Time	.	.	.			
			Date Received	01/04/2023	01/04/2023	01/04/2023			
			SDG Ref	230401-54	230401-54	230401-54			
			Lab Sample No.(s)	27763405	27763404	27763406			
			AGS Reference						
Tetrachloroethene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Dibromochloromethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2-Dibromoethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Chlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1,1,2-Tetrachloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Ethylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
m,p-Xylene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
o-Xylene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Styrene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Bromoform	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Isopropylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,1,2,2-Tetrachloroethane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2,3-Trichloropropane	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Bromobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Propylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
2-Chlorotoluene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,3,5-Trimethylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
4-Chlorotoluene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
tert-Butylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2,4-Trimethylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
sec-Butylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
4-iso-Propyltoluene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,3-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,4-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
n-Butylbenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2-Dichlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2-Dibromo-3-chloropropane	<0.001 mg/l	TM208		<0.001	<0.001	<0.001			
1,2,4-Trichlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Hexachlorobutadiene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
tert-Amyl methyl ether (TAME)	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
Naphthalene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,2,3-Trichlorobenzene	<0.001 mg/l	TM208		<0.001 @ #	<0.001 @ #	<0.001 @ #			
1,3,5-Trichlorobenzene	<0.001 mg/l	TM208		<0.001	<0.001	<0.001			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

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)

Component	LOD/Units	Method	Customer Sample Ref.	Showmans Guild	SW08 DOWN	SW08 UPPER			
			Depth (m)	.	.	.			
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	28/03/2023	28/03/2023	28/03/2023			
			Sample Time	.	.	.			
			Date Received	01/04/2023	01/04/2023	01/04/2023			
			SDG Ref	230401-54	230401-54	230401-54			
			Lab Sample No.(s)	27763405	27763404	27763406			
			AGS Reference						
Sum of detected Xylenes	<0.002 mg/l	TM208		<0.002 @	<0.002 @	<0.002 @			
Sum of BTEX	<0.005 mg/l	TM208		<0.005 @	<0.005 @	<0.005 @			

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

Notification of NDPs (No determination possible)

Date Received : 01/04/2023 10:04:22

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
27763404	SW08 DOWN		Fats Oils and Greases.	Insufficient sample supplied
27763404	SW08 DOWN		Neutralised Suspended Solids	Insufficient sample supplied
27763404	SW08 DOWN		Settleable Solids	Insufficient sample supplied
27763404	SW08 DOWN		Settleable Solids 5 Mins	Insufficient sample supplied
27763404	SW08 DOWN		Determination of Dissolved Gases	Insufficient Sample
27763405	Showmans Guild		Organotins in Aqueous Samples	Insufficient sample supplied
27763405	Showmans Guild		Phenols and ethoxylates in Liquids	Insufficient sample supplied
27763405	Showmans Guild		Pharmaceuticals and Personal Care	Insufficient sample supplied
27763405	Showmans Guild		Urea Herbicides (Suite 1)*	Insufficient Sample
27763405	Showmans Guild		Faecal Coliforms (W)*	Insufficient Sample
27763405	Showmans Guild		Settleable Solids	Insufficient sample supplied
27763405	Showmans Guild		Settleable Solids 5 Mins	Insufficient sample supplied
27763405	Showmans Guild		TPH CWG (W)	Insufficient Sample
27763405	Showmans Guild		Determination of Dissolved Gases	Insufficient Sample
27763406	SW08 UPPER		Faecal Coliforms (W)*	Insufficient Sample
27763406	SW08 UPPER		TPH CWG (W)	Insufficient Sample
27763406	SW08 UPPER		Determination of Dissolved Gases	Insufficient Sample
27763405	Showmans Guild		Mercury Unfiltered	Insufficient Sample
27763406	SW08 UPPER		Mercury Unfiltered	Insufficient Sample
27763406	SW08 UPPER		Mercury Dissolved	Insufficient Sample
27763405	Showmans Guild		Mercury Dissolved	Insufficient Sample
27763406	SW08 UPPER		Anions by Kone (w)	Insufficient Sample
27763405	Showmans Guild		Anions by Kone (w)	Insufficient Sample
27763406	SW08 UPPER		Sulphide	Insufficient Sample
27763405	Showmans Guild		Sulphide	Insufficient Sample
27763405	Showmans Guild		pH Value	Insufficient Sample
27763406	SW08 UPPER		pH Value	Insufficient Sample
27763405	Showmans Guild		Cyanide Comp/Free/Total/Thiocyanate	Insufficient Sample
27763406	SW08 UPPER		Cyanide Comp/Free/Total/Thiocyanate	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : 27763404 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 27763405 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 27763406 **Date of Amendment :** 09/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	Unspecified Liquid	Groundwater

Sample No. : 27763404 **Date of Amendment :** 06/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
SW08 DOWN	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	9.55	< 3.25
SW08 DOWN	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	9.29	4.42
SW08 DOWN	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	18.84	4.42

Sample No. : 27763406 **Date of Amendment :** 06/07/2023 **Authorised:** Geraint Pumford

Sample Ref.	Reason	Test Name	Result Name	Units	Previous	Amended
SW08 UPPER	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Branched PFOS	ng/l	16.6	10.2
SW08 UPPER	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Linear PFOS (1763-23-1)	ng/l	15.6	5.23
SW08 UPPER	Analytical/Quality Issue	PFAS Liquids (Full Suite)	Total PFOS	ng/l	32.2	15.5

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM107	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
PM023	Leaching Procedure for NRA Leachates
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
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
TM022	Determination of total suspended solids in waters
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
TM176	Determination of SVOCs in Water by GCMS
TM337	Analysis of PFAS
TM343	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
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
TM212	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection
TM245	Determination of GRO by Headspace in waters
TM249	The Determination of Methylene Blue Active Substances in Waters
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM383	Gravimetric Determination of Fats, Oils and Greases in Liquids by Cyclohexane Extraction
TM434	Analysis of PFAS

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

CERTIFICATE OF ANALYSIS

SDG: 230401-54 **Report Number:** 699666 **Superseded Report:** 697559
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27763405	27763404	27763406	27778683	27778686	27778689	27778691	27778693	27778695	27778697
Customer Sample Ref.	Showmans Guild	SW08 DOWN	SW08 UPPER	TP410	TP411	TP412	TP413	TP414	TP415	TP416
AGS Ref.										
Depth				0.40	0.40	1.00	0.50	0.45	0.50	0.75
Type	Ground Water	Ground Water	Ground Water	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammoniacal Nitrogen	27-Apr-2023	27-Apr-2023	27-Apr-2023							
Anions by Kone (w)		02-May-2023								
COD Unfiltered	03-May-2023	03-May-2023	03-May-2023							
Cyanide Comp/Free/Total/Thiocyanate		04-May-2023								
Dissolved Metals by ICP-MS	02-May-2023	02-May-2023	03-May-2023							
EPH CWG (Aliphatic) Aqueous GC (W)	04-May-2023	03-May-2023	04-May-2023							
EPH CWG (Aromatic) Aqueous GC (W)	04-May-2023	03-May-2023	04-May-2023							
Fats Oils and Greases.	04-May-2023									
GRO by GC-FID (W)	26-Apr-2023	26-Apr-2023	26-Apr-2023							
Mercury Dissolved		02-May-2023								
Mercury Unfiltered		02-May-2023								
Methylene blue active substances	03-May-2023	03-May-2023	03-May-2023							
NRA Leachate				12-Apr-2023				12-Apr-2023		
PAH Spec MS - Aqueous (W)	04-May-2023									
Pesticides (Suite I) by GCMS	03-May-2023									
PFAS (Post Ox.) Liquids	21-Apr-2023	21-Apr-2023	21-Apr-2023	25-Apr-2023				25-Apr-2023		
PFAS (Post Ox.) Solids				14-Apr-2023				14-Apr-2023		
PFAS Liquids	21-Apr-2023	21-Apr-2023	21-Apr-2023	21-Apr-2023				21-Apr-2023		
PFAS Liquids (Full Suite)		11-Jul-2023	11-Jul-2023							
PFAS Solids				14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023	14-Apr-2023
pH Value		02-May-2023								
Sample description				05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023
Sulphide		02-May-2023								
Suspended Solids	04-May-2023	02-May-2023	04-May-2023							
SVOC MS (W) - Aqueous	03-May-2023									
Total Metals by ICP-MS	03-May-2023	02-May-2023	03-May-2023							
Total Nitrogen	22-May-2023	25-May-2023								
Total Organic and Inorganic Carbon	27-Apr-2023	27-Apr-2023	27-Apr-2023							
TPH CWG (W)	04-May-2023	03-May-2023	04-May-2023							
VOC MS (W)	27-Apr-2023	27-Apr-2023	27-Apr-2023							

Lab Sample No(s)	27778698	27778700
Customer Sample Ref.	TP403A	TP405A
AGS Ref.		
Depth	0.60	0.55
Type	Soil/Solid (S)	Soil/Solid (S)
PFAS (Post Ox.) Solids	14-Apr-2023	14-Apr-2023
PFAS Solids	14-Apr-2023	14-Apr-2023
Sample description	05-Apr-2023	05-Apr-2023

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Andy Bird

CERTIFICATE OF ANALYSIS

Date of report Generation:	26 April 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230401-74
Your Reference:	326R
Location:	Victoria North
Report No:	687078
Order Number:	

We received 6 samples on Friday March 31, 2023 and 2 of these samples were scheduled for analysis which was completed on Wednesday April 26, 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

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27779956	TP EW01		0.50	31/03/2023
27779957	TP EW01		1.50	31/03/2023
27779959	TP EW01		3.00	31/03/2023
27779953	TP EW03		0.50	31/03/2023
27779954	TP EW03		1.50	31/03/2023
27779955	TP EW03		3.00	31/03/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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)	27779957	27779953
			Customer Sample Reference	TP EW01	TP EW03
			AGS Reference		
			Depth (m)	1.50	0.50
			Container	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	S	S
CEN Readings	All	NDPs: 0 Tests: 1			X
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 1			X
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 1			X
PFAS Liquids	All	NDPs: 0 Tests: 1			X
PFAS Solids	All	NDPs: 0 Tests: 2		X	X
pH Value of Filtered Water	All	NDPs: 0 Tests: 1			X
Sample description	All	NDPs: 0 Tests: 2		X	X

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27779957	TP EW01	1.50	Light Brown	Sandy Clay	Stones	None
27779953	TP EW03	0.50	Dark Brown	Sandy Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.	TP EW01	TP EW03				
			Depth (m)	1.50	0.50				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	31/03/2023	31/03/2023				
			Sample Time	-	-				
			Date Received	31/03/2023	31/03/2023				
			SDG Ref	230401-74	230401-74				
			Lab Sample No.(s)	27779957	27779953				
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		6.5	28				
4:2 FTS (757124-72-4)	<2 µg/kg	TM338		<2					
8:2 FTS (39108-34-4)	<2 µg/kg	TM338		<2					
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338		<20					
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3				
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3				
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2				
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1				
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1				
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1				
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1				
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1				
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1				
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1				
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1				
Branched PFOS	<1 µg/kg	TM338		<1	<1				
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1				
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1				
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1				
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1				
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1				
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1				
Total PFOS	<1 µg/kg	TM338		<1	<1				
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428			<3				
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428			<3				
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428			<2				
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428			<1				
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428			<1				
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428			<1				
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428			<1				
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428			<1				
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428			<1				
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428			<1				

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

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.	TP EW01	TP EW03				
			Depth (m)	1.50	0.50				
			Sample Type	Soil/Solid (S)	Soil/Solid (S)				
			Date Sampled	31/03/2023	31/03/2023				
			Sample Time	.	.				
			Date Received	31/03/2023	31/03/2023				
			SDG Ref	230401-74	230401-74				
			Lab Sample No.(s)	27779957	27779953				
			AGS Reference						
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428			<1				
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428			<1				
Branched PFOS (Post Ox.)	<1 µg/kg	TM428			<1				
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428			<1				
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428			<1				
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428			<1				
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428			<1				
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428			<1				
Total PFOS (Post Ox.)	<2 µg/kg	TM428			<2				

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.110	**Natural Moisture Content (%)**	21.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	82.4
Particle Size <4mm	>95%		

Case	
SDG	230401-74
Lab Sample Number(s)	27779953
Sampled Date	31-Mar-2023
Customer Sample Ref.	TP EW03
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Branched PFOS	0.000000779	<0.00000065	0.00000779	<0.0000065	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Linear PFOS (1763-23-1)	0.00000124	<0.00000065	0.0000124	<0.0000065	-	-	-
PFBA (375-22-4)	<0.0000075	<0.000002	<0.000075	<0.00002	-	-	-
PFDS (335-77-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDA (335-76-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxA (307-24-4)	0.00000169	<0.000001	0.0000169	<0.00001	-	-	-
PFNA (375-95-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOA (335-67-1)	0.00000229	<0.00000065	0.0000229	<0.0000065	-	-	-
PFPA (2706-90-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-

Leach Test Information

Date Prepared	05-Apr-2023
pH (pH Units)	8.33
Conductivity (µS/cm)	219
Volume Leachant (Litres)	0.880

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

26/04/2023 15:07:07

15:06:34 26/04/2023

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.110	**Natural Moisture Content (%)**	21.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	82.4
Particle Size <4mm	>95%		

Case	
SDG	230401-74
Lab Sample Number(s)	27779953
Sampled Date	31-Mar-2023
Customer Sample Ref.	TP EW03
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Total PFOS	0.00000201	<0.00000065	0.0000201	<0.0000065	-	-	-
Total PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-

Leach Test Information

Date Prepared	05-Apr-2023
pH (pH Units)	8.33
Conductivity (µS/cm)	219
Volume Leachant (Litres)	0.880

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

26/04/2023 15:07:07

15:06:34 26/04/2023

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM337	Analysis of PFAS
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG: 230401-74 **Report Number:** 687078 **Superseded Report:**
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27779957	27779953
Customer Sample Ref.	TP EW01	TP EW03
AGS Ref.		
Depth	1.50	0.50
Type	Soil/Solid (S)	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)		06-Apr-2023
CEN Readings		21-Apr-2023
Moisture at 105C		05-Apr-2023
PFAS (Post Ox.) Liquids		26-Apr-2023
PFAS (Post Ox.) Solids		14-Apr-2023
PFAS Liquids		24-Apr-2023
PFAS Solids	14-Apr-2023	14-Apr-2023
pH Value of Filtered Water		21-Apr-2023
Sample description	05-Apr-2023	05-Apr-2023

SDG:	230401-74	**Report Number:**	687078	**Superseded Report:**	
Client Ref:	326R	**Location:**	Victoria North		

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 one month 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

BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230401-106
Your Reference:	326R
Location:	Victoria North
Report No:	699726
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 685729 in its entirety.

We received 8 samples on Saturday April 01, 2023 and 6 of these samples were scheduled for analysis which was completed on Friday April 14, 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

CERTIFICATE OF ANALYSIS

SDG: 230401-106 Report Number: 699726 Superseded Report: 685729
Client Ref.: 326R Location: Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27781254	TO.EW06		2.50 - 2.50	30/03/2023
27781247	TP421		0.40 - 0.40	30/03/2023
27781248	TP422		1.00 - 1.00	30/03/2023
27781249	TP423		0.50 - 0.50	30/03/2023
27781250	TP424		0.50 - 0.50	30/03/2023
27781251	TP424		1.00 - 1.00	30/03/2023
27781252	TP.EW06		0.75 - 0.75	30/03/2023
27781253	TP.EW06		1.25 - 1.25	30/03/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

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)	27781247	27781248	27781249	27781250	27781251	27781252
			Customer Sample Reference	TP421	TP422	TP423	TP424	TP424	TP.EW06
			AGS Reference						
			Depth (m)	0.40 - 0.40	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.75 - 0.75
			Container	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	S	S	S	S	S	S
CEN Readings	All	NDPs: 0 Tests: 1				X			
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 1				X			
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 1				X			
PFAS Liquids	All	NDPs: 0 Tests: 1				X			
PFAS solids	All	NDPs: 0 Tests: 6	X	X	X	X	X	X	
pH Value of Filtered Water	All	NDPs: 0 Tests: 1				X			
Sample description	All	NDPs: 0 Tests: 6	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27781247	TP421	0.40 - 0.40	Dark Brown	Loamy Sand	Glass & Stones	Vegetation
27781248	TP422	1.00 - 1.00	Black	Sand	Stones	N/A
27781249	TP423	0.50 - 0.50	Black	Sandy Loam	Stones	Vegetation
27781250	TP424	0.50 - 0.50	Dark Brown	Sandy Loam	Stones	Brick
27781251	TP424	1.00 - 1.00	Light Brown	Sandy Clay	Stones	None
27781252	TP.EW06	0.75 - 0.75	Dark Brown	Loamy Sand	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

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.	TP421	TP422	TP423	TP424	TP424	TP.EW06
			Depth (m)	0.40 - 0.40	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.75 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	30/03/2023	30/03/2023	30/03/2023	30/03/2023	30/03/2023	30/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-106	230401-106	230401-106	230401-106	230401-106	230401-106
			Lab Sample No.(s)	27781247	27781248	27781249	27781250	27781251	27781252
			AGS Reference						
Moisture Content Ratio (% of as received sample)	%	PM024		15	13	20	12	9.9	23
4:2 FTS (757124-72-4)	<2 µg/kg	TM338		<2	<2		<2	<2	<2
8:2 FTS (39108-34-4)	<2 µg/kg	TM338		<2	<2		<2	<2	<2
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338		<20	<20		<20	<20	<20
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	<3
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3	<3	<3	<3	<3
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2	<2	<2	<2	<2
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	4.39	<1	<1	<1	<1
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	5.42	<1	<1	<1	<1
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	7.46	<1	<1	<1	<1
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	6.28	<1	<1	<1	<1
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1	11.7	<1	<1	<1
Branched PFOS	<1 µg/kg	TM338		<1	<1	2.51	<1	<1	<1
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	22.1	<1	<1	<1	<1
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		1.03	1.48	<1	<1	<1	<1
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1	<1	<1	<1	<1
Total PFOS	<1 µg/kg	TM338		<1	<1	14.2	<1	<1	<1
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428				<3			
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428				<3			
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428				<2			
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428				<1			
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428				<1			
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428				<1			
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428				<1			
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428				<1			
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428				<1			
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428				<1			

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

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.	TP421	TP422	TP423	TP424	TP424	TP.EW06
			Depth (m)	0.40 - 0.40	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.75 - 0.75
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	30/03/2023	30/03/2023	30/03/2023	30/03/2023	30/03/2023	30/03/2023
			Sample Time	.	.	.	.	.	.
			Date Received	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023	01/04/2023
			SDG Ref	230401-106	230401-106	230401-106	230401-106	230401-106	230401-106
			Lab Sample No.(s)	27781247	27781248	27781249	27781250	27781251	27781252
			AGS Reference						
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428				<1			
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428				17			
Branched PFOS (Post Ox.)	<1 µg/kg	TM428				3.04			
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428				<1			
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428				<1			
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428				<1			
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428				<1			
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428				<1			
Total PFOS (Post Ox.)	<2 µg/kg	TM428				20			

CERTIFICATE OF ANALYSIS

SDG: 230401-106 Report Number: 699726 Superseded Report: 685729
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	16.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	85.9
Particle Size <4mm	>95%		

Case	
SDG	230401-106
Lab Sample Number(s)	27781249
Sampled Date	30-Mar-2023
Customer Sample Ref.	TP423
Depth (m)	0.50 - 0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Branched PFOS	0.0000143	<0.00000065	0.000143	<0.0000065	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Linear PFOS (1763-23-1)	0.0000615	<0.00000065	0.000615	<0.0000065	-	-	-
PFBA (375-22-4)	<0.000009	<0.000002	<0.00009	<0.00002	-	-	-
PFDS (335-77-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDA (335-76-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000673	<0.000001	0.0000673	<0.00001	-	-	-
PFHxA (307-24-4)	0.00000753	<0.000001	0.0000753	<0.00001	-	-	-
PFNA (375-95-1)	0.00000134	<0.000001	0.0000134	<0.00001	-	-	-
PFOA (335-67-1)	0.0000209	<0.00000065	0.000209	<0.0000065	-	-	-
PFPA (2706-90-3)	0.0000053	<0.000001	0.000053	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS (Post Ox.)	0.0000178	<0.000002	0.000178	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	0.0000787	<0.000002	0.000787	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.0000509	<0.000004	0.000509	<0.00004	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.0000116	<0.000002	0.000116	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	0.000017	<0.000002	0.00017	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.000028	<0.000002	0.00028	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.0000129	<0.000002	0.000129	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-

Leach Test Information

Date Prepared	05-Apr-2023
pH (pH Units)	8.22
Conductivity (µS/cm)	155
Volume Leachant (Litres)	0.885

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 14:33:06

14:32:48 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230401-106 Report Number: 699726 Superseded Report: 685729
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.105	**Natural Moisture Content (%)**	16.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	85.9
Particle Size <4mm	>95%		

Case	
SDG	230401-106
Lab Sample Number(s)	27781249
Sampled Date	30-Mar-2023
Customer Sample Ref.	TP423
Depth (m)	0.50 - 0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Total PFOS	0.0000758	<0.00000065	0.000758	<0.0000065	-	-	-
Total PFOS (Post Ox.)	0.0000965	<0.000002	0.000965	<0.00002	-	-	-

Leach Test Information

Date Prepared	05-Apr-2023
pH (pH Units)	8.22
Conductivity (µS/cm)	155
Volume Leachant (Litres)	0.885

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 14:33:06

14:32:48 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	UNS solid	Soil

Table of Results - Appendix

Method No	Description
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM337	Analysis of PFAS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material

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

CERTIFICATE OF ANALYSIS

SDG: 230401-106 **Report Number:** 699726 **Superseded Report:** 685729
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27781247	27781248	27781249	27781250	27781251	27781252
Customer Sample Ref.	TP421	TP422	TP423	TP424	TP424	TP.EW06
AGS Ref.						
Depth	0.40 - 0.40	1.00 - 1.00	0.50 - 0.50	0.50 - 0.50	1.00 - 1.00	0.75 - 0.75
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)			06-Apr-2023			
CEN Readings			14-Apr-2023			
Moisture at 105C			05-Apr-2023			
PFAS (Post Ox.) Liquids			14-Apr-2023			
PFAS (Post Ox.) Solids			14-Apr-2023			
PFAS Liquids			14-Apr-2023			
PFAS Solids	14-Apr-2023	14-Apr-2023	11-Apr-2023	13-Apr-2023	13-Apr-2023	13-Apr-2023
pH Value of Filtered Water			14-Apr-2023			
Sample description	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023	05-Apr-2023

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 one month 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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Deeside
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BAM Ritchies
Unit 5
Taurus Park
Europa Boulevard
Gemini Business Park
Warrington
WA5 7ZT

Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230405-47
Your Reference:	326R
Location:	Victoria North
Report No:	699719
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 685609 in its entirety.

We received 3 samples on Wednesday April 05, 2023 and 1 of these samples were scheduled for analysis which was completed on Friday April 14, 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

CERTIFICATE OF ANALYSIS

SDG: 230405-47 **Report Number:** 699719 **Superseded Report:** 685609
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27796961	TP-EW10	ES1	0.50	03/04/2023
27796962	TP-EW10	ES2	1.50	03/04/2023
27796963	TP-EW10	ES3	3.00	03/04/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230405-47 **Report Number:** 699719 **Superseded Report:** 685609
Client Ref.: 326R **Location:** Victoria North

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
			27796963	TP-EW10	ES3	3.00	1kg TUB with Handle (ALE260)	S
PFAS solids	All	NDPs: 0 Tests: 1					X	
Sample description	All	NDPs: 0 Tests: 1					X	

CERTIFICATE OF ANALYSIS

SDG: 230405-47 **Report Number:** 699719 **Superseded Report:** 685609
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	**fine**	0.063mm - 0.1mm	**medium**	0.1mm - 2mm	**coarse**	2mm - 10mm	**very coarse**	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27796963	TP-EW10	3.00	Dark Brown	Sandy Loam	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230405-47 **Report Number:** 699719 **Superseded Report:** 685609
Client Ref.: 326R **Location:** Victoria North

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. TP-EW10					
			Depth (m) 3.00					
			Sample Type Soil/Solid (S)					
			Date Sampled 03/04/2023					
			Sample Time .					
			Date Received 05/04/2023					
			SDG Ref 230405-47					
			Lab Sample No.(s) 27796963					
			AGS Reference ES3					
Moisture Content Ratio (% of as received sample)	%	PM024	6.8					
4:2 FTS (757124-72-4)	<2 µg/kg	TM338	<2					
8:2 FTS (39108-34-4)	<2 µg/kg	TM338	<2					
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338	<20					
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338	<3					
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338	<3					
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338	<2					
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338	<1					
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338	<1					
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338	<1					
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338	<1					
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338	<1					
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338	<1					
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338	<1					
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338	<1					
Branched PFOS	<1 µg/kg	TM338	<1					
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338	<1					
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338	<1					
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338	<1					
6:2-FTS (27619-97-2)	<1 µg/kg	TM338	<1					
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338	<1					
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338	<1					
Total PFOS	<1 µg/kg	TM338	<1					

CERTIFICATE OF ANALYSIS

SDG: 230405-47 **Report Number:** 699719 **Superseded Report:** 685609
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	uns solid	Soil

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids

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

Test Completion Dates

Lab Sample No(s)	27796963	
Customer Sample Ref.	TP-EW10	
AGS Ref.	ES3	
Depth	3.00	
Type	Soil/Solid (S)	
PFAS Solids	14-Apr-2023	
Sample description	06-Apr-2023	

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 one month 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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Unit 5
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Attention: Seb Morrell

CERTIFICATE OF ANALYSIS

Date of report Generation:	10 August 2023
Customer:	BAM Ritchies
Sample Delivery Group (SDG):	230405-48
Your Reference:	326R
Location:	Victoria North
Report No:	699713
Order Number:	RIT 298 665 896

This report has been revised and directly supersedes 685709 in its entirety.

We received 10 samples on Wednesday April 05, 2023 and 3 of these samples were scheduled for analysis which was completed on Friday April 14, 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

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
27797029	TP-EW07	ES1	0.50	03/04/2023
27797030	TP-EW07	ES2	1.50	03/04/2023
27797031	TP-EW07	ES3	3.00	03/04/2023
27797032	TP-EW08	ES1	0.50	03/04/2023
27797033	TP-EW08	ES2	1.50	03/04/2023
27797035	TP-EW08	ES4	2.30	03/04/2023
27797034	TP-EW08	ES3	3.00	03/04/2023
27797036	TP-EW09	ES1	0.50	03/04/2023
27797037	TP-EW09	ES2	1.50	03/04/2023
27797038	TP-EW09	ES3	3.00	03/04/2023

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

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

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)	27797029	27797032	27797037
			Customer Sample Reference	TP-EW07	TP-EW08	TP-EW09
			AGS Reference	ES1	ES1	ES2
			Depth (m)	0.50	0.50	1.50
			Container	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)	1kg TUB with Handle (ALE260)
			Sample Type	S	S	S
CEN Readings	All	NDPs: 0 Tests: 1		X		
PFAS (Post Ox.) Liquids	All	NDPs: 0 Tests: 1		X		
PFAS (Post Ox.) Solids	All	NDPs: 0 Tests: 1		X		
PFAS Liquids	All	NDPs: 0 Tests: 1		X		
PFAS Solids	All	NDPs: 0 Tests: 3		X	X	X
pH Value of Filtered Water	All	NDPs: 0 Tests: 1		X		
Sample description	All	NDPs: 0 Tests: 3		X	X	X

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27797029	TP-EW07	0.50	Dark Brown	Stone/Soil	Stones	Stones
27797032	TP-EW08	0.50	Dark Brown	Sand	Stones	N/A
27797037	TP-EW09	1.50	Dark Brown	Loamy Sand	Stones	Vegetation

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW07	TP-EW08	TP-EW09			
			Depth (m)	0.50	0.50	1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	03/04/2023	03/04/2023	03/04/2023			
			Sample Time	.	.	.			
			Date Received	05/04/2023	05/04/2023	05/04/2023			
			SDG Ref	230405-48	230405-48	230405-48			
			Lab Sample No.(s)	27797029	27797032	27797037			
			AGS Reference	ES1	ES1	ES2			
Moisture Content Ratio (% of as received sample)	%	PM024		22	27	19			
4:2 FTS (757124-72-4)	<2 µg/kg	TM338			<2	<2			
8:2 FTS (39108-34-4)	<2 µg/kg	TM338			<2	<2			
5:3 FTCA (914637-49-3)	<20 µg/kg	TM338			<20	<20			
PFBA (375-22-4) Perfluoro-n-butanoic acid	<3 µg/kg	TM338		<3	<3	<3			
PFPA (2706-90-3) Perfluoro-n-pentanoic acid	<3 µg/kg	TM338		<3	<3	<3			
PFHxA (307-24-4) Perfluoro-n-hexanoic acid	<2 µg/kg	TM338		<2	<2	<2			
PFBS (375-73-5) Perfluoro-1-butanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
PFHpA (375-85-9) Perfluoro-n-heptanoic acid	<1 µg/kg	TM338		<1	<1	<1			
PFOA (335-67-1) Perfluoro-n-octanoic acid	<1 µg/kg	TM338		<1	<1	<1			
PFHxS (355-46-4) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
PFNA (375-95-1) Perfluoro-n-nonanoic acid	<1 µg/kg	TM338		<1	<1	<1			
PFHpS (375-92-8) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
PFDA (335-76-2) Perfluoro-n-decanoic acid	<1 µg/kg	TM338		<1	<1	<1			
Linear PFOS(1763-23-1) Perfluoro-1-octanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
Branched PFOS	<1 µg/kg	TM338		<1	<1	<1			
PFUnA (2058-94-8) Perfluoro-n-undecanoic acid	<1 µg/kg	TM338		<1	<1	<1			
PFDoA (307-55-1) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM338		<1	<1	<1			
PFOSA (754-91-6) Perfluoro-octanesulfonamide	<1 µg/kg	TM338		<1	<1	<1			
6:2-FTS (27619-97-2)	<1 µg/kg	TM338		<1	<1	<1			
PFDS (335-73-3) Perfluoro-1-decanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
PFPeS (2706-91-4) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM338		<1	<1	<1			
Total PFOS	<1 µg/kg	TM338		<1	<1	<1			
PFBA (Post Ox.) Perfluoro-n-butanoic acid	<3 µg/kg	TM428		<3					
PFPA (Post Ox.) Perfluoro-n-pentanoic acid	<3 µg/kg	TM428		<3					
PFHxA (Post Ox.) Perfluoro-n-hexanoic acid	<2 µg/kg	TM428		<2					
PFBS (Post Ox.) Perfluoro-1-butanesulfonate	<1 µg/kg	TM428		<1					
PFHpA (Post Ox.) Perfluoro-n-heptanoic acid	<1 µg/kg	TM428		<1					
6:2 PTS (Post Ox.) Perfluoro-octane sulfonate 6:2	<1 µg/kg	TM428		<1					
PFOA (Post Ox.) Perfluoro-n-octanoic acid	<1 µg/kg	TM428		<1					
PFHxS (Post Ox.) Perfluoro-1-hexanesulfonate	<1 µg/kg	TM428		<1					
PFNA (Post Ox.) Perfluoro-n-nonanoic acid	<1 µg/kg	TM428		<1					
PFHpS (Post Ox.) Perfluoro-1-heptanesulfonate	<1 µg/kg	TM428		<1					

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

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.	TP-EW07	TP-EW08	TP-EW09			
			Depth (m)	0.50	0.50	1.50			
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
			Date Sampled	03/04/2023	03/04/2023	03/04/2023			
			Sample Time	.	.	.			
			Date Received	05/04/2023	05/04/2023	05/04/2023			
			SDG Ref	230405-48	230405-48	230405-48			
			Lab Sample No.(s)	27797029	27797032	27797037			
			AGS Reference	ES1	ES1	ES2			
PFDA (Post Ox.) Perfluoro-n-decanoic acid	<1 µg/kg	TM428		<1					
Linear PFOS (Post Ox.) Perfluoro-1-octanesulfonate	<1 µg/kg	TM428		<1					
Branched PFOS (Post Ox.)	<1 µg/kg	TM428		<1					
PFUnA (Post Ox.) Perfluoro-n-undecanoic acid	<1 µg/kg	TM428		<1					
PFDoA (Post Ox.) Perfluoro-n-dodecanoic acid	<1 µg/kg	TM428		<1					
PFOSA (Post Ox.) Perfluoro-octanesulfonamide	<1 µg/kg	TM428		<1					
PFDS (Post Ox.) Perfluoro-1-decanesulfonate	<1 µg/kg	TM428		<1					
PFPeS (Post Ox.) Perfluoro-1-pentanesulfonate	<1 µg/kg	TM428		<1					
Total PFOS (Post Ox.)	<2 µg/kg	TM428		<2					

CERTIFICATE OF ANALYSIS

SDG: 230405-48 Report Number: 699713 Superseded Report: 685709
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.113	**Natural Moisture Content (%)**	25.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	79.9
Particle Size <4mm	>95%		

Case	
SDG	230405-48
Lab Sample Number(s)	27797029
Sampled Date	03-Apr-2023
Customer Sample Ref.	TP-EW07 ES1
Depth (m)	0.50

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Branched PFOS	0.0000007	<0.00000065	0.000007	<0.0000065	-	-	-
PFBS (375-73-5)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpS (375-92-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHxS (355-46-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Linear PFOS (1763-23-1)	0.0000019	<0.00000065	0.000019	<0.0000065	-	-	-
PFBA (375-22-4)	<0.000006	<0.000002	<0.00006	<0.00002	-	-	-
PFDS (335-77-3)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFDA (335-76-2)	0.00000103	<0.000001	0.0000103	<0.00001	-	-	-
PFDoA (307-55-1)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFHpA (375-85-9)	0.00000218	<0.000001	0.0000218	<0.00001	-	-	-
PFHxA (307-24-4)	0.00000219	<0.000001	0.0000219	<0.00001	-	-	-
PFNA (375-95-1)	0.00000174	<0.000001	0.0000174	<0.00001	-	-	-
PFOA (335-67-1)	0.00000457	<0.00000065	0.0000457	<0.0000065	-	-	-
PFPA (2706-90-3)	0.00000123	<0.000001	0.0000123	<0.00001	-	-	-
PFUnA (2058-94-8)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
6:2 FTS (27619-97-2)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
PFOSA (754-91-6)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Branched PFOS (Post Ox.)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFBS (Post Ox.) (375-73-5)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpS (Post Ox.) (375-92-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHxS (Post Ox.) (355-46-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
Linear PFOS (Post Ox.) (1763-23-1)	0.00000279	<0.000002	0.0000279	<0.00002	-	-	-
PFBA (Post Ox.) (375-22-4)	0.0000145	<0.000004	0.000145	<0.00004	-	-	-
PFDS (Post Ox.) (335-77-3)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDA (Post Ox.) (335-76-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFDoA (Post Ox.) (307-55-1)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFHpA (Post Ox.) (375-85-9)	0.00000486	<0.000002	0.0000486	<0.00002	-	-	-
PFHxA (Post Ox.) (307-24-4)	0.00000787	<0.000002	0.0000787	<0.00002	-	-	-
PFNA (Post Ox.) (375-95-1)	0.0000028	<0.000002	0.000028	<0.00002	-	-	-
PFOA (Post Ox.) (335-67-1)	0.0000056	<0.000002	0.000056	<0.00002	-	-	-
PFPeS (Post Ox.) (2706-91-4)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFPA (Post Ox.) (2706-90-3)	0.00000743	<0.000002	0.0000743	<0.00002	-	-	-
PFUnA (Post Ox.) (2058-94-8)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
6:2 FTS (Post Ox.) (27619-97-2)	<0.000002	<0.000002	<0.00002	<0.00002	-	-	-
PFOSA (Post Ox.) (754-91-6)	<0.000004	<0.000004	<0.00004	<0.00004	-	-	-

Leach Test Information

Date Prepared	06-Apr-2023
pH (pH Units)	8.07
Conductivity (µS/cm)	197
Volume Leachant (Litres)	0.878

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 14:07:21

14:07:04 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230405-48 Report Number: 699713 Superseded Report: 685709
Client Ref.: 326R Location: Victoria North

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Victoria North
Mass Sample taken (kg)	0.113	**Natural Moisture Content (%)**	25.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	79.9
Particle Size <4mm	>95%		

Case	
SDG	230405-48
Lab Sample Number(s)	27797029
Sampled Date	03-Apr-2023
Customer Sample Ref.	TP-EW07 ES1
Depth (m)	0.50

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**				
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PFPeS (2706-91-4)	<0.000001	<0.000001	<0.00001	<0.00001	-	-	-
Total PFOS	0.0000026	<0.00000065	0.000026	<0.0000065	-	-	-
Total PFOS (Post Ox.)	0.00000279	<0.000002	0.0000279	<0.00002	-	-	-

Leach Test Information

Date Prepared	06-Apr-2023
pH (pH Units)	8.07
Conductivity (µS/cm)	197
Volume Leachant (Litres)	0.878

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

10/08/2023 14:07:21

14:07:04 10/08/2023

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

Data Amendment

Sample No. : All **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	UNS solid	Soil

Sample No. : 27797035 **Date of Amendment :** 10/08/2023

Sample Ref.	Reason	Previous	Amended
All	Matrix Change	unspecified liquied	ground water

Table of Results - Appendix

Method No	Description
PM024	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM338	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids in Solids
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM428	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM337	Analysis of PFAS
TM405	Analysis of perfluoroalkylsulfonates and perfluorocarboxylic acids - Total Oxidizable Precursor Assay

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

CERTIFICATE OF ANALYSIS

SDG: 230405-48 **Report Number:** 699713 **Superseded Report:** 685709
Client Ref.: 326R **Location:** Victoria North

Test Completion Dates

Lab Sample No(s)	27797029	27797032	27797037
Customer Sample Ref.	TP-EW07	TP-EW08	TP-EW09
AGS Ref.	ES1	ES1	ES2
Depth	0.50	0.50	1.50
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
CEN 10:1 Leachate (1 Stage)	11-Apr-2023		
CEN Readings	13-Apr-2023		
Moisture at 105C	06-Apr-2023		
PFAS (Post Ox.) Liquids	14-Apr-2023		
PFAS (Post Ox.) Solids	14-Apr-2023		
PFAS Liquids	14-Apr-2023		
PFAS Solids	14-Apr-2023	14-Apr-2023	14-Apr-2023
pH Value of Filtered Water	13-Apr-2023		
Sample description	06-Apr-2023	06-Apr-2023	06-Apr-2023

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 one month 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.