Technical Note

Project Title:	Perenco - Dimlington Gas Terminal		
Project No.	794-ENV-EPC-22947		
Issue Date:	24/11/2025		
Document Ref:	0	**Rev:**	1
Subject:	Waste Classification Assessment – Surface Water		

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1 Introduction

A waste classification assessment of samples of surface water runoff collected from the Perenco Dimlington Gas Terminal site, located in Easington, Yorkshire, HU12 0SU has been carried out. The purpose of the assessment is to determine whether the surface water runoff is classified as hazardous or non-hazardous.

This technical note provides background to the assessment and is intended to be read in conjunction with the output of the assessment contained in Appendix A.

2 Background

Perenco are proposing to treat surface water run-off to remove the PFAS contamination, prior to discharging to a drainage ditch located on the site's south-western boundary, via two on-site filter beds. The drainage ditch ultimately drains into the Fosse Drain at a confluence point situated approximately 600m south-west of the site.

The waste classification assessment of the surface water will confirm whether the wastewater is classified as hazardous or non-hazardous, and this outcome will also assist in defining the regulated activity for the new filter beds under the Environmental Permitting Regulations.

3 Surface Water Sampling and Analysis

A total of fourteen surface water samples were collected from the inlet of the treatment plant between February 2024 and September 2025. Data has been provided for twelve of the samples that were collected. It is understood that a quality control issue at the laboratory resulted in a failure to repeat the analysis of 5th August 2025 and 2nd September 2025 due to insufficient volume of sample left after the initial analysis was conducted.

Each sample collected was submitted to an MCERTS accredited laboratory (ALS Environmental Limited) and scheduled for PFAS analysis only (PFAS Liquids Full Suite). This suite includes a wide range of PFAS compounds.

A summary of the laboratory data obtained from the samples is provided in **Appendix A** and associated laboratory certificates are provided in **Appendix B**.

4 HazWasteOnline™ Assessment

In order to inform the waste characterisation, the water data has been processed using web-based HazWasteOnline™ software, which allows users to classify waste as defined in the EWC (European Waste Catalogue 2002) based on the regulatory framework for the Classification Labelling and Packaging of Substances and mixtures Regulation, (EC) No 172/2008 and the latest Environment Agency guidance (Technical Guidance WM3).

In line with guidance in the Environment Agency guidance (Technical Guidance WM3) and the List of Waste Decision 200/532/EC the treated surface-runoff has been classified as Waste Code 16 10 01*/16 10 02 - Aqueous liquid wastes.

It is noted that only a selection of PFAS compounds are currently present within the HazWasteOnline database. These include the following:

- Perfluorooctane sulfonic acid / heptadecafluorooctane-1-sulfonic acid (PFOS);
- Perfluorooctanic acid (PFOA);
- Perfluorohexane sulfonic acid (PFHxS);
- Perfluoro-n-nonanoic acid (PFNA);
- Perfluoroheptanoic acid / tridecafluoroheptanoic acid (PFHpA); and
- Ammoniumpentadeca-fluorooctanoate / ammonium perfluorooctanoate (APFO).

A review of the laboratory data indicates that detectable concentrations of all of the above compounds have been recorded with the exception of APFO, which was not included within the laboratory test suite. Subsequently, an assessment on the basis of the above PFAS compounds has been undertaken.

Given the very low concentrations recorded, the result of the assessment has determined that all of the samples have been classified as non-hazardous (i.e. waste code 16 10 02).

The HazWasteOnline outputs generated for each of the samples are provided in **Appendix C**.

It should be noted that to initiate a hazardous classification, a concentration of >5,000,000,000 ng/l (>5,000 mg/l) would need to be recorded for all of the above compounds with the exception of APFO where a concentration of >3,000,000,000 ng/l (>3,000 mg/l) would be needed (albeit no data is currently available for this compound as it is not included within the test suite).

Concentrations of PFAS compounds detected in the samples (including those compounds that are not included in the HazWasteOnline database) are significantly lower than the most conservative threshold value of 3,000,000,000 ng/l, with a maximum individual concentration of 9,030 ng/l (6:2 FTS). As such, it is considered that the compounds that are not currently included within the HazWasteOnline database are also likely to be classified as non-hazardous.

Document Control

Document Ref.	Rev.	Date	Authored by	Checked by	Approved by
Perenco Waste Classification Technical Note	0	18th November 2025	SC	JS	JS

Appendix A

Laboratory Data Summary

C 2620245 Perenco UK: Dimlington Terminal

Laboratory Number			23754909	23789209	23858607	23858610	23916509	23916512	24093289	24093292
			Day 1	Day 10	Day 20	Day 30	Day 40	Day 50	Day 60	Day 70
Customer Sample Ref.			Inlet 1st filter	Inlet 1st filter	Inlet 1st filter	Inlet 1st filter	Inlet 1st Filter	Inlet 1st Filter	Inlet 1st Filter	Inlet 1st Filter
Sample Matrix			Not Specified	Surface Water	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Not Specified
Sample Date			18/02/2024 21:00:00	28/02/2024 21:00:00	08/03/2024 21:00:00	18/03/2024 21:00:00	28/03/2024 21:00:00	07/04/2024 21:00:00	17/04/2024 21:00:00	27/04/2024 21:00:00
Sample Time			21:00	21:00	21:00	21:00	21:00	21:00	21:00	21:00
Point Code										
Analyte	Method	Units								
3:3 FTCA (356-02-5)	SUBCON	ng/l	<2	<2	<2	<2	6.29	<2	<2	<2
4:2 FTSA (757124-72-4)	SUBCON	ng/l	1.2	1.05	1.24	1.25	1.22	1.31	1.21	1.3
5:3 FTCA (914637-49-3)	SUBCON	ng/l	78	27.2	17.9	66.1	13.7	44.1	60.4	21.2
6:2 Cl-PFESA (756426-58-1)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
6:2 FTSA (27619-97-2)	SUBCON	ng/l	3670	2590	3380	3790	2040	2130	4910	5560
7:3 FTCA (812-70-4)	SUBCON	ng/l	<5	<5	<5	<5	<5	<5	<5	<5
8:2 Cl-PFESA (763051-92-9)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
8:2 FTSA (39108-34-4)	SUBCON	ng/l	54.6	38	30.3	33.1	29	33.5	22.6	24.7
DONA (919005-14-4)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
EtFOSA (4151-50-2)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
EtFOSE (1691-99-2)	SUBCON	ng/l	<10	<10	<10	<10	<10	<10	<10	<10
FBSA (30334-69-1)	SUBCON	ng/l	12	7.78	10.7	13	9.86	13.1	22.3	20.9
FHxSA (41997-13-1)	SUBCON	ng/l	122	89	87.4	99.5	102	118	135	134
FOSA (754-91-6)	SUBCON	ng/l	6.94	4.88	6.97	7.29	7.67	8.79	6.76	7.05
HFPO-DA (Gen X) (13252-13-6)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
HFPO-TA (13252-14-7)	SUBCON	ng/l	<5	<5	<5	<5	<5	<5	<5	<5
MeFOSA (31506-32-8)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
MeFOSE (24448-09-7)	SUBCON	ng/l	<10	<10	<10	<10	<10	<10	<10	<10
NEtFOSAA (2991-50-6)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
NFDHA (151772-58-6)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
NMeFOSAA (2355-31-9)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
PFBA (375-22-4)	SUBCON	ng/l	117	100	95.7	122	170	196	267	318
PFBS (375-73-5)	SUBCON	ng/l	14.2	9.56	10.4	12	13.4	15.3	16.5	16.8
PFDA (335-76-2)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
PFDoA (307-55-1)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
PFDoS (79780-39-5)	SUBCON	ng/l	<2	<2	<2	<2	<2	3.96	<2	5.13
PFDS (335-77-3)	SUBCON	ng/l	<2	<2	<2	<2	<2	2.54	<2	<2
PFecHS (133201-07-7)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFEESA (113507-82-7)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFHpA (375-85-9)	SUBCON	ng/l	182	157	177	214	256	280	427	544
PFHpS (375-92-8)	SUBCON	ng/l	17.2	11.9	9.93	12.1	9.44	9.01	12.8	12.4
PFHxA (307-24-4)	SUBCON	ng/l	429	358	443	517	621	690	913	981
PFHxDA (67905-19-5)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFHxS (355-46-4)	SUBCON	ng/l	242	178	183	195	195	241	243	279
PFMOBA (863090-89-5)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFMOPrA (377-73-1)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFNA (375-95-1)	SUBCON	ng/l	3.21	2.64	2.78	2.58	2.64	2.83	4.19	4.09
PFNS (68259-12-1)	SUBCON	ng/l	1.48	1.41	1.34	1.5	<1	1.65	1.49	1.41
PFOA (335-67-1)	SUBCON	ng/l	28.6	20.4	20.7	23.9	25.9	29	35.6	37.1
PFODA (16517-11-6)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFPA (2706-90-3)	SUBCON	ng/l	509	510	599	730	807	935	1330	1450
PFPeS (2706-91-4)	SUBCON	ng/l	17.7	13.9	15.3	17.2	17.9	19.6	22.1	22
PFTeA (376-06-7)	SUBCON	ng/l	<1	<1	<1	<1	<1	<1	<1	<1
PFTrDA (72629-94-8)	SUBCON	ng/l	<3	<3	<3	<3	<3	<3	<3	<3
PFUnA (2058-94-8)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
PFUnDS (749786-16-1)	SUBCON	ng/l	<2	<2	<2	<2	<2	<2	<2	<2
Total PFOS (1763-23-1)	SUBCON	ng/l	1130	767	743	762	734	864	764	891
PFOA	GEO82	ug/l	0.0314	0.0229	0.0248	0.0275	0.869	0.858	0.0356	0.0325
PFOS	GEO82	ug/l	0.826	0.896	0.776	0.797			0.649	0.811
6:2 FTAB	SUBCON	ng/l	764	529	689	622	470	492	633	643

PFAS Compound included in HWOL and included in waste assessment

C 2857609 Perenco UK: Dimlington Terminal

Laboratory Number		25445191	25445194	25526197	25526200	25597263	25619497
Customer Sample Ref.		1 Inlet - 1	1 Inlet - 2	Filter 1 Inlet - 1	Filter 1 Inlet - 2	Filter 1 Inlet - 1	Filter 1 Inlet
Sample Matrix		Not Specified	Not Specified	Not Specified	Not Specified	Not Specified	Surface Water
Sample Date		15/06/2025 00:00:0(	05/07/2025 00:00:00	05/08/2025 00:00:00	06/08/2025 00:00:00	02/09/2025 00:00:0(	12/09/2025 11:00:00
Sample Time		00:00	00:00	00:00	00:00	00:00	11:00
Point Code							
Analyte	Units						
11Cl-PF3OUdS (763051-92-9)	ng/l	<100	<100	See A/C	I/S	SEE A/C	<50
3:3 FTCA (356-02-5)	ng/l	<100	<100	See A/C	<125	SEE A/C	<125
4:2 FTS (757124-72-4)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
5:3 FTCA (914637-49-3)	ng/l	<250	<250	See A/C	<125	SEE A/C	140
6:2 FTS (27619-97-2)	ng/l	8960	9030	See A/C	292	SEE A/C	Incomplete
7:3 FTCA (812-70-4)	ng/l	<250	<250	See A/C	<125	SEE A/C	<125
8:2 FTS (39108-34-4)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
9Cl-PF3ONS (756426-58-1)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
ADONA (919005-14-4)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
Branched PFOS	ng/l	384	364	See A/C	57	SEE A/C	282
EtFOSAA (2991-50-6)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
EtFOSE (1691-99-2)	ng/l	<500	<500	See A/C	I/S	SEE A/C	<250
FBSA (30334-69-1)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
FHxSA (41997-13-1)	ng/l	272	266	See A/C	<25	SEE A/C	166
HFPO-DA (13252-13-6)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
HFPO-TA (13252-14-7)	ng/l	<250	<250	See A/C	<125	SEE A/C	<125
Linear PFOS (1763-23-1)	ng/l	1020	934	See A/C	82.5	SEE A/C	678
MeFOSAA (2355-31-9)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
MeFOSE (24448-09-7)	ng/l	<500	<500	See A/C	<250	SEE A/C	<250
N-EtFOSA (4151-50-2)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
NFDHA (151772-58-6)	ng/l	<150	<150	See A/C	<75	SEE A/C	<75
N-MeFOSA (31506-32-8)	ng/l	<50	<50	See A/C	I/S	SEE A/C	<25
PFBA (375-22-4)	ng/l	524	420	See A/C	<50	SEE A/C	330
PFBS (375-73-5)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFDA (335-76-2)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
PFDoA (307-55-1)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
PFDoS (79780-39-5)	ng/l	137	<100	See A/C	<50	SEE A/C	<50
PFDS (335-77-3)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
PFecHS (133201-07-7)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFEESA (113507-82-7)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFHpA (375-85-9)	ng/l	521	312	See A/C	<25	SEE A/C	208
PFHpS (375-92-8)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFHxA (307-24-4)	ng/l	1490	1370	See A/C	28.7	SEE A/C	1010
PFHxDA (67905-19-5)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFHxS (355-46-4)	ng/l	461	444	See A/C	<25	SEE A/C	273
PFMOBA (863090-89-5)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFMOPrA (377-73-1)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFNA (375-95-1)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFNS (68259-12-1)	ng/l	<50	<50	See A/C	I/S	SEE A/C	<25
PFOA (335-67-1)	ng/l	66.2	80.4	See A/C	<16.3	SEE A/C	54.1
PFODA (16517-11-6)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFOSA (754-91-6)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
PFPA (2706-90-3)	ng/l	2190	1600	See A/C	37.6	SEE A/C	1090
PFPeS (2706-91-4)	ng/l	<50	52.6	See A/C	<25	SEE A/C	31.4
PFTeA (376-06-7)	ng/l	<50	<50	See A/C	<25	SEE A/C	<25
PFTrDA (72629-94-8)	ng/l	<150	<150	See A/C	I/S	SEE A/C	<75
PFTrDS (174675-49-1)	ng/l	63	<50	See A/C	<25	SEE A/C	<25
PFUnA (2058-94-8)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
PFUnDS (749786-16-1)	ng/l	<100	<100	See A/C	<50	SEE A/C	<50
Total PFOS (1763-23-1)	ng/l	1400	1300	See A/C	140	SEE A/C	960
PFOA	ug/l	0.0826	0.0815	0.0876	0.0868	0.0986	
PFOS	ug/l	1.89	1.53	2.09	1.76	To Follow	
6:2 FTAB	ng/l	1150	1100	See A/C	<250	SEE A/C	1270
Total PFAS DWI 47	ng/l	16000	14900		-		11500

PFAS Compound included in HWOL and included in waste assessment

Appendix B

Laboratory Certificates

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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	12 March 2024
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	240228-7
Your Reference:	2620245
Location:	2620245
Report No:	722775
Order Number:	848489

We received 3 samples on Wednesday February 28, 2024 and 3 of these samples were scheduled for analysis which was completed on Tuesday March 12, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

Approved By:

Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG: 240228-7 **Report Number:** 722775 **Superseded Report:**
Client Ref.: 2620245 **Location:** 2620245

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29422015	23754908			18/02/2024
29422018	23754909			18/02/2024
29422021	23754910			18/02/2024

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 240228-7 **Report Number:** 722775 **Superseded Report:**
Client Ref.: 2620245 **Location:** 2620245

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

		29422015	29422018	29422021
Lab Sample No(s)				
Customer Sample Reference		23754908	23754909	23754910
AGS Reference				
Depth (m)				
Container		STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al
Sample Type		UNL	UNL	UNL
PFAS Utility	All	NDPs: 0 Tests: 3	X	X	X

CERTIFICATE OF ANALYSIS

SDG: 240228-7 **Report Number:** 722775 **Superseded Report:**
Client Ref.: 2620245 **Location:** 2620245

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.	23754908	23754909	23754910			
			Depth (m)	.	.	.			
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
			Date Sampled	18/02/2024	18/02/2024	18/02/2024			
			Sample Time	.	.	.			
			Date Received	28/02/2024	28/02/2024	28/02/2024			
			SDG Ref	240228-7	240228-7	240228-7			
			Lab Sample No.(s)	29422015	29422018	29422021			
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		<2 @	117 @	<2 @			
PFMOPrA (377-73-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
3:3 FTCA (356-02-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
PFPA (2706-90-3)	<1 ng/l	TM434		<1 @	509 @	<1 @			
PFMOBA (863090-89-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
4:2 FTSA (757124-72-4)	<1 ng/l	TM434		<1 @	1.2 @	<1 @			
PFBS (375-73-5)	<1 ng/l	TM434		<1 @	14.2 @	<1 @			
NFDHA (151772-58-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFHxA (307-24-4)	<1 ng/l	TM434		<1 @	429 @	<1 @			
HFPO-DA (Gen X) (13252-13-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
PFEESA (113507-82-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFHpA (375-85-9)	<1 ng/l	TM434		<1 @	182 @	<1 @			
PFPeS (2706-91-4)	<1 ng/l	TM434		<1 @	17.7 @	<1 @			
DONA (919005-14-4)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
6:2 FTSA (27619-97-2)	<1 ng/l	TM434		<1 @	3670 @	<1 @			
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		<5 @	78 @	<5 @			
PFOA (335-67-1)	<1 ng/l	TM434		<1 @	28.6 @	<1 @			
FBSA (30334-69-1)	<1 ng/l	TM434		<1 @	12 @	<1 @			
PFHxS (355-46-4)	<1 ng/l	TM434		1.13 @	242 @	<1 @			
PFNA (375-95-1)	<1 ng/l	TM434		<1 @	3.21 @	<1 @			
PFecHS (133201-07-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFHpS (375-92-8)	<1 ng/l	TM434		<1 @	17.2 @	<1 @			
8:2 FTSA (39108-34-4)	<2 ng/l	TM434		<2 @	54.6 @	<2 @			
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<5 @	<5 @	<5 @			
PFDA (335-76-2)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
Total PFOS (1763-23-1)	<1 ng/l	TM434		1.2 @	1130 @	<1 @			
NMeFOSAA (2355-31-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<5 @	<5 @	<5 @			
PFUnA (2058-94-8)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
NEtFOSAA (2991-50-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
6:2 Cl-PFESA (756426-58-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFNS (68259-12-1)	<1 ng/l	TM434		<1 @	1.48 @	<1 @			
PFDoA (307-55-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @			

CERTIFICATE OF ANALYSIS

SDG: 240228-7 **Report Number:** 722775 **Superseded Report:**
Client Ref.: 2620245 **Location:** 2620245

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.	23754908	23754909	23754910			
			Depth (m)	.	.	.			
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
			Date Sampled	18/02/2024	18/02/2024	18/02/2024			
			Sample Time	.	.	.			
			Date Received	28/02/2024	28/02/2024	28/02/2024			
			SDG Ref	240228-7	240228-7	240228-7			
			Lab Sample No.(s)	29422015	29422018	29422021			
			AGS Reference						
FHxSA (41997-13-1)	<1 ng/l	TM434		<1 @	122 @	<1 @			
PFDS (335-77-3)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
PFTrDA (72629-94-8)	<3 ng/l	TM434		<3 @	<3 @	<3 @			
8:2 Cl-PFESA (763051-92-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
PFUnDS (749786-16-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
PFTeA (376-06-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFDoS (79780-39-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @			
FOSA (754-91-6)	<1 ng/l	TM434		<1 @	6.94 @	<1 @			
PFHxDA (67905-19-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
MeFOSE (24448-09-7)	<10 ng/l	TM434		<10 @	<10 @	<10 @			
MeFOSA (31506-32-8)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
PFODA (16517-11-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
EtFOSE (1691-99-2)	<10 ng/l	TM434		<10 @	<10 @	<10 @			
EtFOSA (4151-50-2)	<1 ng/l	TM434		<1 @	<1 @	<1 @			
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		<10 @	764 @	<10 @			

Table of Results - Appendix

Method No	Description
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: 240228-7 **Report Number:** 722775 **Superseded Report:**
Client Ref.: 2620245 **Location:** 2620245

Test Completion Dates

Lab Sample No(s)	29422015	29422018	29422021
Customer Sample Ref.	23754908	23754909	23754910
AGS Ref.			
Depth			
Type	Unspecified	Unspecified	Unspecified
PFAS Utility	08-Mar-2024	12-Mar-2024	08-Mar-2024

Appendix General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

19. **Sample Deviations**

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

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

20. **Asbestos**

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

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

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

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

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

ALS Environmental Limited
Torrington Avenue
Tilehill
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West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	19 April 2024
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	240328-12
Your Reference:	2635153
Location:	2635153
Report No:	726366
Order Number:	849875

We received 6 samples on Thursday March 28, 2024 and 6 of these samples were scheduled for analysis which was completed on Friday April 19, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.
Incorrect sampling dates and/or sample information will affect the validity of results.

Approved By:

Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG: 240328-12 **Report Number:** 726366 **Superseded Report:**
Client Ref.: 2635153 **Location:** 2635153

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29569065	23858607			08/03/2024
29569068	23858608			08/03/2024
29569071	23858609			08/03/2024
29569074	23858610			18/03/2024
29569077	23858611			18/03/2024
29569080	23858612			18/03/2024

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 240328-12 **Report Number:** 726366 **Superseded Report:**
Client Ref.: 2635153 **Location:** 2635153

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)	29569065	29569068	29569071	29569074	29569077	29569080
Customer Sample Reference	23858607	23858608	23858609	23858610	23858611	23858612
AGS Reference						
Depth (m)						
Container	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al
Sample Type	UNL	UNL	UNL	UNL	UNL	UNL
PFAS Utility / All / NDPs: 0 Tests: 6	X	X	X	X	X	X

Validated

CERTIFICATE OF ANALYSIS

SDG: 240328-12 **Report Number:** 726366 **Superseded Report:**
Client Ref.: 2635153 **Location:** 2635153

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.	23858607	23858608	23858609	23858610	23858611	23858612
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	08/03/2024	08/03/2024	08/03/2024	18/03/2024	18/03/2024	18/03/2024
			Sample Time	.	.	.	.	.	.
			Date Received	28/03/2024	28/03/2024	28/03/2024	28/03/2024	28/03/2024	28/03/2024
			SDG Ref	240328-12	240328-12	240328-12	240328-12	240328-12	240328-12
			Lab Sample No.(s)	29569065	29569068	29569071	29569074	29569077	29569080
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		95.7 @	2.14 @	<2 @	122 @	<2 @	<2 @
PFMOPrA (377-73-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
3:3 FTCA (356-02-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFPA (2706-90-3)	<1 ng/l	TM434		599 @	1.49 @	1.25 @	730 @	1.14 @	<1 @
PFMOBA (863090-89-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
4:2 FTSA (757124-72-4)	<1 ng/l	TM434		1.24 @	<1 @	<1 @	1.25 @	<1 @	<1 @
PFBS (375-73-5)	<1 ng/l	TM434		10.4 @	<1 @	1.13 @	12 @	<1 @	<1 @
NFDHA (151772-58-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHxA (307-24-4)	<1 ng/l	TM434		443 @	<1 @	<1 @	517 @	<1 @	<1 @
HFPO-DA (Gen X) (13252-13-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFEESA (113507-82-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHpA (375-85-9)	<1 ng/l	TM434		177 @	1.03 @	1.16 @	214 @	<1 @	<1 @
PFPeS (2706-91-4)	<1 ng/l	TM434		15.3 @	<1 @	<1 @	17.2 @	<1 @	<1 @
DONA (919005-14-4)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
6:2 FTSA (27619-97-2)	<1 ng/l	TM434		3380 @	2.26 @	1.41 @	3790 @	1.05 @	<1 @
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		17.9 @	<5 @	<5 @	66.1 @	<5 @	<5 @
PFOA (335-67-1)	<1 ng/l	TM434		20.7 @	<1 @	1.19 @	23.9 @	<1 @	<1 @
FBSA (30334-69-1)	<1 ng/l	TM434		10.7 @	<1 @	<1 @	13 @	<1 @	<1 @
PFHxS (355-46-4)	<1 ng/l	TM434		183 @	<1 @	1.05 @	195 @	<1 @	<1 @
PFNA (375-95-1)	<1 ng/l	TM434		2.78 @	<1 @	<1 @	2.58 @	<1 @	<1 @
PFecHS (133201-07-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHpS (375-92-8)	<1 ng/l	TM434		9.93 @	<1 @	<1 @	12.1 @	<1 @	<1 @
8:2 FTSA (39108-34-4)	<2 ng/l	TM434		30.3 @	<2 @	<2 @	33.1 @	<2 @	<2 @
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5 @	<5 @	<5 @
PFDA (335-76-2)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
Total PFOS (1763-23-1)	<1 ng/l	TM434		743 @	1.03 @	1.23 @	762 @	1.27 @	<1 @
NMeFOSAA (2355-31-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5 @	<5 @	<5 @
PFUnA (2058-94-8)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
NEtFOSAA (2991-50-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
6:2 Cl-PFESA (756426-58-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFNS (68259-12-1)	<1 ng/l	TM434		1.34 @	<1 @	<1 @	1.5 @	<1 @	<1 @
PFDoA (307-55-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @

Validated

CERTIFICATE OF ANALYSIS

SDG: 240328-12 **Report Number:** 726366 **Superseded Report:**
Client Ref.: 2635153 **Location:** 2635153

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.	23858607	23858608	23858609	23858610	23858611	23858612
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	08/03/2024	08/03/2024	08/03/2024	18/03/2024	18/03/2024	18/03/2024
			Sample Time	.	.	.	.	.	.
			Date Received	28/03/2024	28/03/2024	28/03/2024	28/03/2024	28/03/2024	28/03/2024
			SDG Ref	240328-12	240328-12	240328-12	240328-12	240328-12	240328-12
			Lab Sample No.(s)	29569065	29569068	29569071	29569074	29569077	29569080
			AGS Reference						
FHxSA (41997-13-1)	<1 ng/l	TM434		87.4 @	1.17 @	<1 @	99.5 @	<1 @	<1 @
PFDS (335-77-3)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFTrDA (72629-94-8)	<3 ng/l	TM434		<3 @	<3 @	<3 @	<3 @	<3 @	<3 @
8:2 Cl-PFESA (763051-92-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFUnDS (749786-16-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFTeA (376-06-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFDoS (79780-39-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
FOSA (754-91-6)	<1 ng/l	TM434		6.97 @	<1 @	<1 @	7.29 @	<1 @	<1 @
PFHxDA (67905-19-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
MeFOSE (24448-09-7)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
MeFOSA (31506-32-8)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFODA (16517-11-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
EtFOSE (1691-99-2)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
EtFOSA (4151-50-2)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		689 @	<10 @	<10 @	622 @	<10 @	<10 @

Table of Results - Appendix

Method No	Description
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: 240328-12 **Report Number:** 726366 **Superseded Report:**
Client Ref.: 2635153 **Location:** 2635153

Test Completion Dates

Lab Sample No(s)	29569065	29569068	29569071	29569074	29569077	29569080
Customer Sample Ref.	23858607	23858608	23858609	23858610	23858611	23858612
AGS Ref.						
Depth						
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
PFAS Utility	19-Apr-2024	08-Apr-2024	08-Apr-2024	19-Apr-2024	08-Apr-2024	08-Apr-2024

Appendix General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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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.

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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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	25 April 2024
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	240415-8
Your Reference:	2642968
Location:	2642968
Report No:	726911
Order Number:	850770

We received 6 samples on Monday April 15, 2024 and 6 of these samples were scheduled for analysis which was completed on Thursday April 25, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

Approved By:

Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG: 240415-8 **Report Number:** 726911 **Superseded Report:**
Client Ref.: 2642968 **Location:** 2642968

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29651356	23916509			28/03/2024
29651359	23916510			28/03/2024
29651362	23916511			28/03/2024
29651365	23916512			07/04/2024
29651368	23916513			07/04/2024
29651371	23916514			07/04/2024

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 240415-8 **Report Number:** 726911 **Superseded Report:**
Client Ref.: 2642968 **Location:** 2642968

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)	29651356	29651359	29651362	29651365	29651368	29651371
Customer Sample Reference	23916509	23916510	23916511	23916512	23916513	23916514
AGS Reference						
Depth (m)						
Container	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al
Sample Type	UNL	UNL	UNL	UNL	UNL	UNL
PFAS Utility / All / NDPs: 0 Tests: 6	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG: 240415-8 **Report Number:** 726911 **Superseded Report:**
Client Ref.: 2642968 **Location:** 2642968

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.	23916509	23916510	23916511	23916512	23916513	23916514
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	28/03/2024	28/03/2024	28/03/2024	07/04/2024	07/04/2024	07/04/2024
			Sample Time	.	.	.	.	.	.
			Date Received	15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
			SDG Ref	240415-8	240415-8	240415-8	240415-8	240415-8	240415-8
			Lab Sample No.(s)	29651356	29651359	29651362	29651365	29651368	29651371
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		170 @	<2 @	<2 @	196	5.25	<2
PFMOPrA (377-73-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
3:3 FTCA (356-02-5)	<2 ng/l	TM434		6.29 @	<2 @	<2 @	<2	<2	<2
PFPA (2706-90-3)	<1 ng/l	TM434		807 @	1 @	<1 @	935	16.4	<1
PFMOBA (863090-89-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
4:2 FTSA (757124-72-4)	<1 ng/l	TM434		1.22 @	<1 @	<1 @	1.31	<1	<1
PFBS (375-73-5)	<1 ng/l	TM434		13.4 @	<1 @	<1 @	15.3	<1	<1
NFDHA (151772-58-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFHxA (307-24-4)	<1 ng/l	TM434		621 @	<1 @	<1 @	690	13.2	<1
HFPO-DA (Gen X) (13252-13-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
PFEESA (113507-82-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFHpA (375-85-9)	<1 ng/l	TM434		256 @	<1 @	<1 @	280	5.25	<1
PFPeS (2706-91-4)	<1 ng/l	TM434		17.9 @	<1 @	<1 @	19.6	<1	<1
DONA (919005-14-4)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
6:2 FTSA (27619-97-2)	<1 ng/l	TM434		2040 @	1.9 @	<1 @	2130	60.1	1.23
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		13.7 @	<5 @	<5 @	44.1	<5	<5
PFOA (335-67-1)	<1 ng/l	TM434		25.9 @	<1 @	<1 @	29	1.1	<1
FBSA (30334-69-1)	<1 ng/l	TM434		9.86 @	<1 @	<1 @	13.1	<1	<1
PFHxS (355-46-4)	<1 ng/l	TM434		195 @	<1 @	<1 @	241	2	<1
PFNA (375-95-1)	<1 ng/l	TM434		2.64 @	<1 @	<1 @	2.83	<1	<1
PFecHS (133201-07-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFHpS (375-92-8)	<1 ng/l	TM434		9.44 @	<1 @	<1 @	9.01	<1	<1
8:2 FTSA (39108-34-4)	<2 ng/l	TM434		29 @	<2 @	<2 @	33.5	<2	<2
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5	<5	<5
PFDA (335-76-2)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
Total PFOS (1763-23-1)	<1 ng/l	TM434		734 @	10.2 @	<1 @	864	7.76	<1
NMeFOSAA (2355-31-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5	<5	<5
PFUnA (2058-94-8)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
NEtFOSAA (2991-50-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
6:2 Cl-PFESA (756426-58-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFNS (68259-12-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	1.65	<1	<1
PFDoA (307-55-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2

CERTIFICATE OF ANALYSIS

SDG: 240415-8 **Report Number:** 726911 **Superseded Report:**
Client Ref.: 2642968 **Location:** 2642968

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.
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- (F) Trigger breach confirmed
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	23916509	23916510	23916511	23916512	23916513	23916514
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	28/03/2024	28/03/2024	28/03/2024	07/04/2024	07/04/2024	07/04/2024
			Sample Time	.	.	.	.	.	.
			Date Received	15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024	15/04/2024
			SDG Ref	240415-8	240415-8	240415-8	240415-8	240415-8	240415-8
			Lab Sample No.(s)	29651356	29651359	29651362	29651365	29651368	29651371
			AGS Reference						
FHxSA (41997-13-1)	<1 ng/l	TM434		102 @	<1 @	<1 @	118	1.11	<1
PFDS (335-77-3)	<2 ng/l	TM434		<2 @	<2 @	<2 @	2.54	<2	<2
PFTrDA (72629-94-8)	<3 ng/l	TM434		<3 @	<3 @	<3 @	<3	<3	<3
8:2 Cl-PFESA (763051-92-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
PFUnDS (749786-16-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2	<2	<2
PFTeA (376-06-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFDoS (79780-39-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @	3.96	<2	<2
FOSA (754-91-6)	<1 ng/l	TM434		7.67 @	<1 @	<1 @	8.79	<1	<1
PFHxDA (67905-19-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
MeFOSE (24448-09-7)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10	<10	<10
MeFOSA (31506-32-8)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
PFODA (16517-11-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
EtFOSE (1691-99-2)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10	<10	<10
EtFOSA (4151-50-2)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1	<1	<1
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		470 @	<10 @	<10 @	492	<10	<10

Table of Results - Appendix

Method No	Description
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: 240415-8 **Report Number:** 726911 **Superseded Report:**
Client Ref.: 2642968 **Location:** 2642968

Test Completion Dates

Lab Sample No(s)	29651356	29651359	29651362	29651365	29651368	29651371
Customer Sample Ref.	23916509	23916510	23916511	23916512	23916513	23916514
AGS Ref.						
Depth						
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
PFAS Utility	25-Apr-2024	25-Apr-2024	25-Apr-2024	25-Apr-2024	25-Apr-2024	25-Apr-2024

Appendix General

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

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

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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.

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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	19 June 2024
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	240605-8
Your Reference:	2666870
Location:	2666870
Report No:	731959
Order Number:	853317

We received 6 samples on Wednesday June 05, 2024 and 6 of these samples were scheduled for analysis which was completed on Wednesday June 19, 2024. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

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

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

Approved By:

Sonia McWhan
Operations Manager

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29887485	24093289			17/04/2024
29887488	24093290			17/04/2024
29887491	24093291			17/04/2024
29887494	24093292			27/04/2024
29887497	24093293			27/04/2024
29887500	24093294			27/04/2024

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 240605-8 **Report Number:** 731959 **Superseded Report:**
Client Ref.: 2666870 **Location:** 2666870

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)	29887485	29887488	29887491	29887494	29887497	29887500
Customer Sample Reference	24093289	24093290	24093291	24093292	24093293	24093294
AGS Reference						
Depth (m)						
Container	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al	STL24 (125ml) Filt. React. Al
Sample Type	UNL	UNL	UNL	UNL	UNL	UNL
PFAS Utility / All / NDPs: 0 Tests: 6	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG: 240605-8 **Report Number:** 731959 **Superseded Report:**
Client Ref.: 2666870 **Location:** 2666870

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.	24093289	24093290	24093291	24093292	24093293	24093294
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	17/04/2024	17/04/2024	17/04/2024	27/04/2024	27/04/2024	27/04/2024
			Sample Time	.	.	.	.	.	.
			Date Received	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
			SDG Ref	240605-8	240605-8	240605-8	240605-8	240605-8	240605-8
			Lab Sample No.(s)	29887485	29887488	29887491	29887494	29887497	29887500
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		267 @	4.14 @	<2 @	318 @	5.29 @	<2 @
PFMOPrA (377-73-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
3:3 FTCA (356-02-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFPA (2706-90-3)	<1 ng/l	TM434		1330 @	8.79 @	<1 @	1450 @	7.28 @	<1 @
PFMOBA (863090-89-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
4:2 FTSA (757124-72-4)	<1 ng/l	TM434		1.21 @	<1 @	<1 @	1.3 @	<1 @	<1 @
PFBS (375-73-5)	<1 ng/l	TM434		16.5 @	<1 @	<1 @	16.8 @	<1 @	<1 @
NFDHA (151772-58-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHxA (307-24-4)	<1 ng/l	TM434		913 @	6.21 @	<1 @	981 @	4.8 @	<1 @
HFPO-DA (Gen X) (13252-13-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFEESA (113507-82-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHpA (375-85-9)	<1 ng/l	TM434		427 @	1.6 @	<1 @	544 @	1.37 @	<1 @
PFPeS (2706-91-4)	<1 ng/l	TM434		22.1 @	<1 @	<1 @	22 @	<1 @	<1 @
DONA (919005-14-4)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
6:2 FTSA (27619-97-2)	<1 ng/l	TM434		4910 @	<1 @	<1 @	5560 @	<1 @	<1 @
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		60.4 @	<5 @	<5 @	21.2 @	<5 @	<5 @
PFOA (335-67-1)	<1 ng/l	TM434		35.6 @	<1 @	<1 @	37.1 @	<1 @	<1 @
FBSA (30334-69-1)	<1 ng/l	TM434		22.3 @	<1 @	<1 @	20.9 @	<1 @	<1 @
PFHxS (355-46-4)	<1 ng/l	TM434		243 @	<1 @	<1 @	279 @	<1 @	<1 @
PFNA (375-95-1)	<1 ng/l	TM434		4.19 @	<1 @	<1 @	4.09 @	<1 @	<1 @
PFecHS (133201-07-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFHpS (375-92-8)	<1 ng/l	TM434		12.8 @	<1 @	<1 @	12.4 @	<1 @	<1 @
8:2 FTSA (39108-34-4)	<2 ng/l	TM434		22.6 @	<2 @	<2 @	24.7 @	<2 @	<2 @
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5 @	<5 @	<5 @
PFDA (335-76-2)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
Total PFOS (1763-23-1)	<1 ng/l	TM434		764 @	<1 @	<1 @	891 @	<1 @	<1 @
NMeFOSAA (2355-31-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<5 @	<5 @	<5 @	<5 @	<5 @	<5 @
PFUnA (2058-94-8)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
NEtFOSAA (2991-50-6)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
6:2 Cl-PFESA (756426-58-1)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFNS (68259-12-1)	<1 ng/l	TM434		1.49 @	<1 @	<1 @	1.41 @	<1 @	<1 @
PFDoA (307-55-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @

Validated

CERTIFICATE OF ANALYSIS

SDG: 240605-8 **Report Number:** 731959 **Superseded Report:**
Client Ref.: 2666870 **Location:** 2666870

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.	24093289	24093290	24093291	24093292	24093293	24093294
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	17/04/2024	17/04/2024	17/04/2024	27/04/2024	27/04/2024	27/04/2024
			Sample Time	.	.	.	.	.	.
			Date Received	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024	05/06/2024
			SDG Ref	240605-8	240605-8	240605-8	240605-8	240605-8	240605-8
			Lab Sample No.(s)	29887485	29887488	29887491	29887494	29887497	29887500
			AGS Reference						
FHxSA (41997-13-1)	<1 ng/l	TM434		135 @	<1 @	<1 @	134 @	<1 @	<1 @
PFDS (335-77-3)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFTrDA (72629-94-8)	<3 ng/l	TM434		<3 @	<3 @	<3 @	<3 @	<3 @	<3 @
8:2 Cl-PFESA (763051-92-9)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFUnDS (749786-16-1)	<2 ng/l	TM434		<2 @	<2 @	<2 @	<2 @	<2 @	<2 @
PFTeA (376-06-7)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFDoS (79780-39-5)	<2 ng/l	TM434		<2 @	<2 @	<2 @	5.13 @	<2 @	<2 @
FOSA (754-91-6)	<1 ng/l	TM434		6.76 @	<1 @	<1 @	7.05 @	<1 @	<1 @
PFHxDA (67905-19-5)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
MeFOSE (24448-09-7)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
MeFOSA (31506-32-8)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
PFODA (16517-11-6)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
EtFOSE (1691-99-2)	<10 ng/l	TM434		<10 @	<10 @	<10 @	<10 @	<10 @	<10 @
EtFOSA (4151-50-2)	<1 ng/l	TM434		<1 @	<1 @	<1 @	<1 @	<1 @	<1 @
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		633 @	<10 @	<10 @	643 @	<10 @	<10 @

Table of Results - Appendix

Method No	Description
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: 240605-8 **Report Number:** 731959 **Superseded Report:**
Client Ref.: 2666870 **Location:** 2666870

Test Completion Dates

Lab Sample No(s)	29887485	29887488	29887491	29887494	29887497	29887500
Customer Sample Ref.	24093289	24093290	24093291	24093292	24093293	24093294
AGS Ref.						
Depth						
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
PFAS Utility	19-Jun-2024	17-Jun-2024	17-Jun-2024	19-Jun-2024	17-Jun-2024	17-Jun-2024

Appendix General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

19. **Sample Deviations**

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

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

20. **Asbestos**

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

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

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

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

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ALS Environmental Limited
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West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	22 July 2025
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	250709-19
Your Reference:	2857609
Location:	2857609
Report No:	771976
Order Number:	915804

We received 6 samples on Wednesday July 09, 2025 and 6 of these samples were scheduled for analysis which was completed on Tuesday July 22, 2025. 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.

Approved By:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250709-19 **Report Number:** 771976 **Superseded Report:**
Client Ref.: 2857609 **Location:** 2857609

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31795981	25445191			15/06/2025
31795984	25445192			15/06/2025
31795987	25445193			15/06/2025
31795990	25445194			05/07/2025
31795993	25445195			05/07/2025
31795996	25445196			05/07/2025

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 250709-19 **Report Number:** 771976 **Superseded Report:**
Client Ref.: 2857609 **Location:** 2857609

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
			31795981	25445191			Digitube fo PFAS analysis.	UNL
			31795984	25445192			Digitube fo PFAS analysis.	UNL
			31795987	25445193			Digitube fo PFAS analysis.	UNL
			31795990	25445194			Digitube fo PFAS analysis.	UNL
			31795993	25445195			Digitube fo PFAS analysis.	UNL
			31795996	25445196			Digitube fo PFAS analysis.	UNL
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 6	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG: 250709-19 **Report Number:** 771976 **Superseded Report:**
Client Ref.: 2857609 **Location:** 2857609

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
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25445191	25445192	25445193	25445194	25445195	25445196
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	15/06/2025	15/06/2025	15/06/2025	05/07/2025	05/07/2025	05/07/2025
			Sample Time	.	.	.	.	.	.
			Date Received	09/07/2025	09/07/2025	09/07/2025	09/07/2025	09/07/2025	09/07/2025
			SDG Ref	250709-19	250709-19	250709-19	250709-19	250709-19	250709-19
			Lab Sample No.(s)	31795981	31795984	31795987	31795990	31795993	31795996
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		524 @	<2 @	<2 @	420	<2 4	<2
PFMOPrA (377-73-1)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
3:3 FTCA (356-02-5)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFPA (2706-90-3)	<1 ng/l	TM434		2190 @	<1 @	1.21 @	1600	1.59 4	1.59
PFMOBA (863090-89-5)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
4:2 FTS (757124-72-4)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
NFDHA (151772-58-6)	<3 ng/l	TM434		<150 @	<3 @	<3 @	<150	<3 4	<3
PFBS (375-73-5)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFHxA (307-24-4)	<1 ng/l	TM434		1490 @	<1 @	<1 @	1370	1.36 4	1.48
HFPO-DA (13252-13-6)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFEESA (113507-82-7)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFHpA (375-85-9)	<1 ng/l	TM434		521 @	<1 @	<1 @	312	<1 4	1.29
PFPeS (2706-91-4)	<1 ng/l	TM434		<50 @	<1 @	<1 @	52.6	<1 4	<1
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		<250 @	<5 @	<5 @	<250	<5 4	<5
ADONA (919005-14-4)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
6:2 FTS (27619-97-2)	<1 ng/l	TM434		8960 @	<1 @	<1 @	9030	5.81 4	12.4
FBSA (30334-69-1)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFOA (335-67-1)	<0.65 ng/l	TM434		66.2 @	<0.65 @	<0.65 @	80.4	<0.65 4	<0.65
PFHxS (355-46-4)	<1 ng/l	TM434		461 @	<1 @	<1 @	444	<1 4	<1
PFNA (375-95-1)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFecHS (133201-07-7)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFHpS (375-92-8)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
8:2 FTS (39108-34-4)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<250 @	<5 @	<5 @	<250	<5 4	<5
PFDA (335-76-2)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
MeFOSAA (2355-31-9)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100 @	<2 4 @	<2 @
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<250 @	<5 @	<5 @	<250	<5 4	<5
Linear PFOS (1763-23-1)	<0.65 ng/l	TM434		1020 @	<0.65 @	<0.65 @	934	1.27 4	<0.65
Branched PFOS	<0.65 ng/l	TM434		384 @	<0.65 @	<0.65 @	364	<0.65 4	<0.65
EtFOSAA (2991-50-6)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100 @	<2 4 @	<2 @
PFUnA (2058-94-8)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
9Cl-PF3ONS (756426-58-1)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFNS (68259-12-1)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1

Validated

CERTIFICATE OF ANALYSIS

SDG: 250709-19 **Report Number:** 771976 **Superseded Report:**
Client Ref.: 2857609 **Location:** 2857609

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
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25445191	25445192	25445193	25445194	25445195	25445196
			Depth (m)	.	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	15/06/2025	15/06/2025	15/06/2025	05/07/2025	05/07/2025	05/07/2025
			Sample Time	.	.	.	.	.	.
			Date Received	09/07/2025	09/07/2025	09/07/2025	09/07/2025	09/07/2025	09/07/2025
			SDG Ref	250709-19	250709-19	250709-19	250709-19	250709-19	250709-19
			Lab Sample No.(s)	31795981	31795984	31795987	31795990	31795993	31795996
			AGS Reference						
FHxSA (41997-13-1)	<1 ng/l	TM434		272 @	<1 @	<1 @	266	<1 4	<1
PFDoA (307-55-1)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFDS (335-77-3)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFTrDA (72629-94-8)	<3 ng/l	TM434		<150 @	<3 @	<3 @	<150	<3 4	<3
11Cl-PF3OUdS (763051-92-9)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFUnDS (749786-16-1)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFTeA (376-06-7)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
PFOSA (754-91-6)	<2 ng/l	TM434		<100 @	<2 @	<2 @	<100	<2 4	<2
PFDoS (79780-39-5)	<2 ng/l	TM434		137 @	<2 @	<2 @	<100	6.22 4	6.24
PFTrDS (174675-49-1)	<1 ng/l	TM434		63 @	<1 @	<1 @	<50	1.24 4	<1
PFHxDA (67905-19-5)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
MeFOSE (24448-09-7)	<10 ng/l	TM434		<500 @	<10 @	<10 @	<500 @	<10 4 @	<10 @
N-MeFOSA (31506-32-8)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
EtFOSE (1691-99-2)	<10 ng/l	TM434		<500 @	<10 @	<10 @	<500 @	<10 4 @	<10 @
PFODA (16517-11-6)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
N-EtFOSA (4151-50-2)	<1 ng/l	TM434		<50 @	<1 @	<1 @	<50	<1 4	<1
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		1150 @	<10 @	<10 @	1100	<10 4	<10
Total PFOS	<0.65 ng/l	TM434		1400 @	<0.65 @	<0.65 @	1300	1.27 4	<0.65
Total PFAS DWI 47	<90 ng/l	TM434		16000 @	<90 @	<90 @	14900	<90 4	<90

Table of Results - Appendix

Method No	Description
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: 250709-19 **Report Number:** 771976 **Superseded Report:**
Client Ref.: 2857609 **Location:** 2857609

Test Completion Dates

Lab Sample No(s)	31795981	31795984	31795987	31795990	31795993	31795996
Customer Sample Ref.	25445191	25445192	25445193	25445194	25445195	25445196
AGS Ref.						
Depth						
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
PFAS Liquids (Full Suite)	22-Jul-2025	19-Jul-2025	19-Jul-2025	22-Jul-2025	19-Jul-2025	19-Jul-2025

Appendix

General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

19. **Sample Deviations**

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

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

20. **Asbestos**

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

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and 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.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	20 August 2025
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	250812-2
Your Reference:	2871938
Location:	2871938
Report No:	774686
Order Number:	917462

We received 6 samples on Tuesday August 12, 2025 and 6 of these samples were scheduled for analysis which was completed on Wednesday August 20, 2025. 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:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250812-2 **Report Number:** 774686 **Superseded Report:**
Client Ref.: 2871938 **Location:** 2871938

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31973983	25526197			05/08/2025
31973986	25526198			05/08/2025
31973989	25526199			05/08/2025
31973992	25526200			06/08/2025
31973995	25526201			06/08/2025
31973998	25526202			06/08/2025

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 250812-2 **Report Number:** 774686 **Superseded Report:**
Client Ref.: 2871938 **Location:** 2871938

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
			31973983	25526197			Digitube fo PFAS analysis.	UNL
			31973986	25526198			Digitube fo PFAS analysis.	UNL
			31973989	25526199			Digitube fo PFAS analysis.	UNL
			31973992	25526200			Digitube fo PFAS analysis.	UNL
			31973995	25526201			Digitube fo PFAS analysis.	UNL
			31973998	25526202			Digitube fo PFAS analysis.	UNL
PFAS Liquids (Full Suite)	All	NDPs: 2 Tests: 5	N				N	
				X	X	X	X	X

Validated

CERTIFICATE OF ANALYSIS

SDG: 250812-2 **Report Number:** 774686 **Superseded Report:**
Client Ref.: 2871938 **Location:** 2871938

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
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25526198	25526199	25526200	25526201	25526202
			Depth (m)	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	05/08/2025	05/08/2025	06/08/2025	06/08/2025	06/08/2025
			Sample Time	.	.	.	.	.
			Date Received	12/08/2025	12/08/2025	12/08/2025	12/08/2025	12/08/2025
			SDG Ref	250812-2	250812-2	250812-2	250812-2	250812-2
			Lab Sample No.(s)	31973986	31973989	31973992	31973995	31973998
			AGS Reference					
PFBA (375-22-4)	<2 ng/l	TM434		5.04	2	<50	9.7	<2
PFMOPrA (377-73-1)	<1 ng/l	TM434		<1	<1	<25	<1	<1
3:3 FTCA (356-02-5)	<5 ng/l	TM434		<5	<5	<125	<5	<5
PFPA (2706-90-3)	<1 ng/l	TM434		2.6	5.77	37.6	26.6	2.04
PFMOBA (863090-89-5)	<1 ng/l	TM434		<1	<1	<25	<1	<1
4:2 FTS (757124-72-4)	<1 ng/l	TM434		<1	<1	<25	<1	<1
NFDHA (151772-58-6)	<3 ng/l	TM434		<3	<3	<75	<3	<3
PFBS (375-73-5)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFHxA (307-24-4)	<1 ng/l	TM434		1.95	6.28	28.7	20.9	1.29
HFPO-DA (13252-13-6)	<2 ng/l	TM434		<2	<2	<50	<2	<2
PFEESA (113507-82-7)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFHpA (375-85-9)	<1 ng/l	TM434		<1	1.83	<25	5.46	<1
PFPeS (2706-91-4)	<1 ng/l	TM434		<1	<1	<25	<1	<1
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		<5	<5	<125	<5	<5
ADONA (919005-14-4)	<1 ng/l	TM434		<1	<1	<25	<1	<1
6:2 FTS (27619-97-2)	<1 ng/l	TM434		3.46	155	292	266	2.92
FBSA (30334-69-1)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFOA (335-67-1)	<0.65 ng/l	TM434		<0.65	<0.65	<16.3	2.98	<0.65
PFHxS (355-46-4)	<1 ng/l	TM434		<1	4.58	<25	11.1	<1
PFNA (375-95-1)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFHpS (375-92-8)	<1 ng/l	TM434		<1	<1	<25	<1	<1
8:2 FTS (39108-34-4)	<2 ng/l	TM434		<2	6.78	<50	6.91	<2
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<5	<5	<125	<5	<5
PFDA (335-76-2)	<2 ng/l	TM434		<2	<2	<50	<2	<2
MeFOSAA (2355-31-9)	<2 ng/l	TM434		<2 @	<2 @	<50 @	<2 @	<2 @
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<5	<5	<125	<5	<5
Linear PFOS (1763-23-1)	<0.65 ng/l	TM434		<0.65	64.3	82.5	83.8	<0.65
Branched PFOS	<0.65 ng/l	TM434		<0.65	20.1	57	32.1	<0.65
EtFOSAA (2991-50-6)	<2 ng/l	TM434		<2 @	<2 @	<50 @	<2 @	<2 @
PFUnA (2058-94-8)	<2 ng/l	TM434		<2	<2	<50	<2	<2
9Cl-PF3ONS (756426-58-1)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFNS (68259-12-1)	<1 ng/l	TM434		<1	<1		<1	<1
FHxSA (41997-13-1)	<1 ng/l	TM434		<1	1.25	<25	5.39	<1

Validated

CERTIFICATE OF ANALYSIS

SDG: 250812-2 **Report Number:** 774686 **Superseded Report:**
Client Ref.: 2871938 **Location:** 2871938

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
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25526198	25526199	25526200	25526201	25526202
			Depth (m)	.	.	.	.	.
			Sample Type	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
			Date Sampled	05/08/2025	05/08/2025	06/08/2025	06/08/2025	06/08/2025
			Sample Time	.	.	.	.	.
			Date Received	12/08/2025	12/08/2025	12/08/2025	12/08/2025	12/08/2025
			SDG Ref	250812-2	250812-2	250812-2	250812-2	250812-2
			Lab Sample No.(s)	31973986	31973989	31973992	31973995	31973998
			AGS Reference					
PFDoA (307-55-1)	<2 ng/l	TM434		<2	<2	<50	<2	<2
PFDS (335-77-3)	<2 ng/l	TM434		<2	<2	<50	<2	<2
PFTrDA (72629-94-8)	<3 ng/l	TM434		<3	<3		<3	<3
11Cl-PF3OUdS (763051-92-9)	<2 ng/l	TM434		<2	<2		<2	<2
PFUnDS (749786-16-1)	<2 ng/l	TM434		<2 @	<2 @	<50 @	<2 @	<2 @
PFTeA (376-06-7)	<1 ng/l	TM434		<1	<1	<25	<1	<1
PFOSA (754-91-6)	<2 ng/l	TM434		<2	<2	<50	<2	<2
PFDoS (79780-39-5)	<2 ng/l	TM434		4.27	5.54	<50	5.76	5.25
PFHxDA (67905-19-5)	<1 ng/l	TM434		<1	<1	<25	<1	<1
MeFOSE (24448-09-7)	<10 ng/l	TM434		<10 @	<10 @	<250 @	<10 @	<10 @
N-MeFOSA (31506-32-8)	<1 ng/l	TM434		<1	<1		<1	<1
EtFOSE (1691-99-2)	<10 ng/l	TM434		<10 @	<10 @		<10 @	<10 @
PFODA (16517-11-6)	<1 ng/l	TM434		<1	<1	<25	<1	<1
N-EtFOSA (4151-50-2)	<1 ng/l	TM434		<1	<1	<25	<1	<1
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		<10	49.4	<250	62	<10
Total PFOS	<0.65 ng/l	TM434		<0.65	84.4	140	116	<0.65
Total PFAS DWI 47	<90 ng/l	TM434		<90	273			<90
PFecHS (133201-07-7)	<1 ng/l	TM434		<1	<1	<25 @	<1	<1
PFTrDS (174675-49-1)	<1 ng/l	TM434		<1 @	<1 @	<25 @	<1 @	<1 @

CERTIFICATE OF ANALYSIS

SDG: 250812-2 **Report Number:** 774686 **Superseded Report:**
Client Ref.: 2871938 **Location:** 2871938

Notification of NDPs (No determination possible)

Date Received : 13/08/2025 10:03:04

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
31973983	25526197		PFAS Liquids (Full Suite)	Insufficient Sample
31973992	25526200		PFAS Liquids (Full Suite)	Insufficient Sample

Table of Results - Appendix

Method No	Description
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: 250812-2 Report Number: 774686 Superseded Report:
Client Ref.: 2871938 Location: 2871938

Test Completion Dates

Lab Sample No(s)	31973986	31973989	31973992	31973995	31973998
Customer Sample Ref.	25526198	25526199	25526200	25526201	25526202
AGS Ref.					
Depth					
Type	Unspecified	Unspecified	Unspecified	Unspecified	Unspecified
PFAS Liquids (Full Suite)	15-Aug-2025	15-Aug-2025	20-Aug-2025	18-Aug-2025	15-Aug-2025

Appendix General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

19. **Sample Deviations**

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

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

20. **Asbestos**

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

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and 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.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

PRELIMINARY/INTERIM REPORT

Date of report Generation:	03 October 2025
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	250917-16
Your Reference:	2887735
Location:	2887735
Report No:	779278
Order Number:	919313

We received 3 samples on Wednesday September 17, 2025 and 3 of these samples were scheduled for analysis which was completed on Monday September 29, 2025. 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.

This is a preliminary report which has not had final authorisation

Approved By:

PRELIMINARY/INTERIM REPORT

SDG: 250917-16 **Report Number:** 779278 **Superseded Report:**
Client Ref.: 2887735 **Location:** 2887735

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32148335	25619497			12/09/2025
32148338	25619498			12/09/2025
32148341	25619499			12/09/2025

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

PRELIMINARY/INTERIM REPORT

SDG: 250917-16 **Report Number:** 779278 **Superseded Report:**
Client Ref.: 2887735 **Location:** 2887735

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)			32148335	32148338	32148341
Customer Sample Reference			25619497	25619498	25619499
AGS Reference					
Depth (m)					
Container			Digitube fo PFAS analysis.	Digitube fo PFAS analysis.	Digitube fo PFAS analysis.
Sample Type			SW	SW	SW
PFAS Liquids (Full Suite)	All	NDPs: 0 Tests: 3	X	X	X

PRELIMINARY/INTERIM REPORT

SDG: 250917-16 **Report Number:** 779278 **Superseded Report:**
Client Ref.: 2887735 **Location:** 2887735

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
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25619497	25619498	25619499			
			Depth (m)	.	.	.			
			Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)			
			Date Sampled	12/09/2025	12/09/2025	12/09/2025			
			Sample Time	.	.	.			
			Date Received	17/09/2025	17/09/2025	17/09/2025			
			SDG Ref	250917-16	250917-16	250917-16			
			Lab Sample No.(s)	32148335	32148338	32148341			
			AGS Reference						
PFBA (375-22-4)	<2 ng/l	TM434		330 #	22.3 #	<2 #			
PFMOPrA (377-73-1)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
3:3 FTCA (356-02-5)	<5 ng/l	TM434		<125 #	<5 #	<5 #			
PFPA (2706-90-3)	<1 ng/l	TM434		1090 #	11.9 #	<1 #			
PFMOBA (863090-89-5)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
4:2 FTS (757124-72-4)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
NFDHA (151772-58-6)	<3 ng/l	TM434		<75 #	<3 #	<3 #			
PFBS (375-73-5)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFHxA (307-24-4)	<1 ng/l	TM434		1010 #	1.7 #	<1 #			
HFPO-DA (13252-13-6)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
PFEESA (113507-82-7)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFHpA (375-85-9)	<1 ng/l	TM434		208 #	<1 #	<1 #			
PFPeS (2706-91-4)	<1 ng/l	TM434		31.4 #	<1 #	<1 #			
5:3 FTCA (914637-49-3)	<5 ng/l	TM434		140 #	<5 #	<5 #			
ADONA (919005-14-4)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
6:2 FTS (27619-97-2)	<1 ng/l	TM434		incomplete #	4.9 #	3.57 #			
FBSA (30334-69-1)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFOA (335-67-1)	<0.65 ng/l	TM434		54.1 #	<0.65 #	<0.65 #			
PFHxS (355-46-4)	<1 ng/l	TM434		273 #	<1 #	<1 #			
PFNA (375-95-1)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFHpS (375-92-8)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
8:2 FTS (39108-34-4)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
HFPO-TA (13252-14-7)	<5 ng/l	TM434		<125 #	<5 #	<5 #			
PFDA (335-76-2)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
MeFOSAA (2355-31-9)	<2 ng/l	TM434		<50 @ #	<2 @ #	<2 @ #			
7:3 FTCA (812-70-4)	<5 ng/l	TM434		<125 #	<5 #	<5 #			
Linear PFOS (1763-23-1)	<0.65 ng/l	TM434		678 #	1.51 #	0.918 #			
Branched PFOS	<0.65 ng/l	TM434		282 #	<0.65 #	<0.65 #			
EtFOSAA (2991-50-6)	<2 ng/l	TM434		<50 @ #	<2 @ #	<2 @ #			
PFUnA (2058-94-8)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
9Cl-PF3ONS (756426-58-1)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFNS (68259-12-1)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
FHxSA (41997-13-1)	<1 ng/l	TM434		166 #	<1 #	<1 #			

PRELIMINARY/INTERIM REPORT

SDG: 250917-16 **Report Number:** 779278 **Superseded Report:**
Client Ref.: 2887735 **Location:** 2887735

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
- *** 6:2 FTAB (see appendix)
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	25619497	25619498	25619499			
			Depth (m)	.	.	.			
			Sample Type	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)			
			Date Sampled	12/09/2025	12/09/2025	12/09/2025			
			Sample Time	.	.	.			
			Date Received	17/09/2025	17/09/2025	17/09/2025			
			SDG Ref	250917-16	250917-16	250917-16			
			Lab Sample No.(s)	32148335	32148338	32148341			
			AGS Reference						
PFDoA (307-55-1)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
PFDS (335-77-3)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
PFTrDA (72629-94-8)	<3 ng/l	TM434		<75 #	<3 #	<3 #			
11Cl-PF3OUdS (763051-92-9)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
PFUnDS (749786-16-1)	<2 ng/l	TM434		<50 @ #	<2 @ #	<2 @ #			
PFTeA (376-06-7)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
PFOSA (754-91-6)	<2 ng/l	TM434		<50 #	<2 #	<2 #			
PFDoS (79780-39-5)	<2 ng/l	TM434		<50 #	5.66 #	4.17 #			
PFHxDA (67905-19-5)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
MeFOSE (24448-09-7)	<10 ng/l	TM434		<250 @ #	<10 @ #	<10 @ #			
N-MeFOSA (31506-32-8)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
EtFOSE (1691-99-2)	<10 ng/l	TM434		<250 @ #	<10 @ #	<10 @ #			
PFODA (16517-11-6)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
N-EtFOSA (4151-50-2)	<1 ng/l	TM434		<25 #	<1 #	<1 #			
6:2 FTAB (34455-29-3)	<10 ng/l	TM434		1270	<10	<10			
Total PFOS	<0.65 ng/l	TM434		960 #	1.51 #	0.918 #			
Total PFAS DWI 47	<90 ng/l	TM434		11500	<90	<90			
PFecHS (646-83-3)	<1 ng/l	TM434		<25 @ #	<1 #	<1 #			
PFTrDS (791563-89-8)	<1 ng/l	TM434		<25 @ #	1.37 @ #	1.1 @ #			

Table of Results - Appendix

Method No	Description
TM434	Analysis of PFAS
TM434	Analysis of PFAS

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

PRELIMINARY/INTERIM REPORT

SDG: 250917-16 Report Number: 779278 Superseded Report:
Client Ref.: 2887735 Location: 2887735

Test Completion Dates

Lab Sample No(s)	32148338	32148341
Customer Sample Ref.	25619498	25619499
AGS Ref.		
Depth		
Type	Surface Water	Surface Water
PFAS Liquids (Full Suite)	29-Sep-2025	29-Sep-2025

Appendix General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

19. **Sample Deviations**

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

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

20. **Asbestos**

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

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and 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.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

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

ALS Environmental Limited
Torrington Avenue
Tilehill
Coventry
West Midlands
CV4 9GU

Attention: Subcon Coventry

CERTIFICATE OF ANALYSIS

Date of report Generation:	22 September 2025
Customer:	ALS Environmental Limited
Sample Delivery Group (SDG):	250908-2
Your Reference:	2883826
Location:	2883826
Report No:	778000
Order Number:	918863

We received 3 samples on Monday September 08, 2025 and 3 of these samples were scheduled for analysis which was completed on Friday September 19, 2025. 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:

Justin Keeton
Business Unit Leader - Land

CERTIFICATE OF ANALYSIS

SDG: 250908-2 **Report Number:** 778000 **Superseded Report:**
Client Ref.: 2883826 **Location:** 2883826

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32102028	25597263			02/09/2025
32102031	25597264			02/09/2025
32102034	25597265			02/09/2025

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

CERTIFICATE OF ANALYSIS

SDG: 250908-2 **Report Number:** 778000 **Superseded Report:**
Client Ref.: 2883826 **Location:** 2883826

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)			32102028	32102031	32102034
Customer Sample Reference			25597263	25597264	25597265
AGS Reference					
Depth (m)					
Container			Digitube fo PFAS analysis.	Digitube fo PFAS analysis.	Digitube fo PFAS analysis.
Sample Type			UNL	UNL	UNL
PFAS Liquids (Full Suite)	All	NDPs: 3 Tests: 1	N	N	N
				X	

CERTIFICATE OF ANALYSIS

SDG: 250908-2 **Report Number:** 778000 **Superseded Report:**
Client Ref.: 2883826 **Location:** 2883826

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
- *** 6:2 FTAB (see appendix)
- 1-4♦§@ Sample deviation (see appendix)

		Customer Sample Ref.	25597264					
		Depth (m)	.					
		Sample Type	Unspecified Liquid (UNL)					
		Date Sampled	02/09/2025					
		Sample Time	.					
		Date Received	08/09/2025					
		SDG Ref	250908-2					
		Lab Sample No.(s)	32102031					
		AGS Reference						
Component	**LOD/Units**	**Method**						
PFBA (375-22-4)	<2 ng/l	TM434	2.38					
PFMOPrA (377-73-1)	<1 ng/l	TM434	<1					
3:3 FTCA (356-02-5)	<5 ng/l	TM434	<5					
PFPA (2706-90-3)	<1 ng/l	TM434	<1					
PFMOBA (863090-89-5)	<1 ng/l	TM434	<1					
4:2 FTS (757124-72-4)	<1 ng/l	TM434	<1					
NFDHA (151772-58-6)	<3 ng/l	TM434	<3					
PFBS (375-73-5)	<1 ng/l	TM434	<1					
PFHxA (307-24-4)	<1 ng/l	TM434	<1					
HFPO-DA (13252-13-6)	<2 ng/l	TM434	<2					
PFEESA (113507-82-7)	<1 ng/l	TM434	<1					
PFHpA (375-85-9)	<1 ng/l	TM434	<1					
PFPeS (2706-91-4)	<1 ng/l	TM434	<1					
5:3 FTCA (914637-49-3)	<5 ng/l	TM434	<5					
ADONA (919005-14-4)	<1 ng/l	TM434	<1					
6:2 FTS (27619-97-2)	<1 ng/l	TM434	<1					
FBSA (30334-69-1)	<1 ng/l	TM434	<1					
PFOA (335-67-1)	<0.65 ng/l	TM434	<0.65					
PFHxS (355-46-4)	<1 ng/l	TM434	<1					
PFNA (375-95-1)	<1 ng/l	TM434	<1					
8:2 FTS (39108-34-4)	<2 ng/l	TM434	<2					
HFPO-TA (13252-14-7)	<5 ng/l	TM434	<5					
PFDA (335-76-2)	<2 ng/l	TM434	<2					
MeFOSAA (2355-31-9)	<2 ng/l	TM434	<2 @					
7:3 FTCA (812-70-4)	<5 ng/l	TM434	<5					
Linear PFOS (1763-23-1)	<0.65 ng/l	TM434	<0.65					
Branched PFOS	<0.65 ng/l	TM434	<0.65					
EtFOSAA (2991-50-6)	<2 ng/l	TM434	<2 @					
PFUnA (2058-94-8)	<2 ng/l	TM434	<2					
9Cl-PF3ONS (756426-58-1)	<1 ng/l	TM434	<1					
PFNS (68259-12-1)	<1 ng/l	TM434	<1					
FHxSA (41997-13-1)	<1 ng/l	TM434	<1					
PFDoA (307-55-1)	<2 ng/l	TM434	<2					

CERTIFICATE OF ANALYSIS

SDG: 250908-2 **Report Number:** 778000 **Superseded Report:**
Client Ref.: 2883826 **Location:** 2883826

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
***	6:2 FTAB (see appendix)
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	25597264
Depth (m)	.
Sample Type	Unspecified Liquid (UNL)
Date Sampled	02/09/2025
Sample Time	.
Date Received	08/09/2025
SDG Ref	250908-2
Lab Sample No.(s)	32102031
AGS Reference	

Component	LOD/Units	Method	
PFDS (335-77-3)	<2 ng/l	TM434	<2
11Cl-PF3OUdS (763051-92-9)	<2 ng/l	TM434	<2
PFUnDS (749786-16-1)	<2 ng/l	TM434	<2 @
PFTeA (376-06-7)	<1 ng/l	TM434	<1
PFOSA (754-91-6)	<2 ng/l	TM434	<2
PFDoS (79780-39-5)	<2 ng/l	TM434	2.79
PFHxDA (67905-19-5)	<1 ng/l	TM434	<1
MeFOSE (24448-09-7)	<10 ng/l	TM434	<10 @
N-MeFOSA (31506-32-8)	<1 ng/l	TM434	<1
EtFOSE (1691-99-2)	<10 ng/l	TM434	<10 @
PFODA (16517-11-6)	<1 ng/l	TM434	<1
N-EtFOSA (4151-50-2)	<1 ng/l	TM434	<1
6:2 FTAB (34455-29-3)	<10 ng/l	TM434	<10
Total PFOS	<0.65 ng/l	TM434	<0.65
PFTrDS (791563-89-8)	<1 ng/l	TM434	<1 @

CERTIFICATE OF ANALYSIS

SDG: 250908-2 **Report Number:** 778000 **Superseded Report:**
Client Ref.: 2883826 **Location:** 2883826

Notification of NDPs (No determination possible)

Date Received : 08/09/2025 10:55:42

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
32102034	25597265		PFAS Liquids (Full Suite)	Insufficient Sample
32102028	25597263		PFAS Liquids (Full Suite)	Insufficient Sample
32102031	25597264		PFAS Liquids (Full Suite)	Insufficient Sample

Table of Results - Appendix

Method No	Description
TM434	Analysis of PFAS

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

Test Completion Dates

Lab Sample No(s)	32102031	
Customer Sample Ref.	25597264	
AGS Ref.		
Depth		
Type	Unspecified	
PFAS Liquids (Full Suite)	19-Sep-2025	

Appendix

General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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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**
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♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to late arrival of instructions or samples**
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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.

If during the search of the two ‘pinch’ samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term ‘trace asbestos identified’ is reported.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials and 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.
Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Appendix C

HazWasteOnline Output

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

a) understand the origin of the waste
b) select the correct List of Waste code(s)
c) confirm that the list of determinands, results and sampling plan are fit for purpose
d) select and justify the chosen metal species (Appendix B)
e) correctly apply moisture correction and other available corrections
f) add the meta data for their user-defined substances (Appendix A)
g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

H2JLT-KXQ37-S0HCC

Report is invalid if pages are removed.

Job name

Perenco - PFAS Water Assessment

Description/Comments

Project

Perenco

Site

Dimlington Terminal

Classified by

Name:
Stuart Clarke
Date:
17 Nov 2025 15:37 GMT
Telephone:
01315 555 011

Company:
Tetra Tech Consulting Ltd (RPS)
Atholl Exchange, 1st Floor, 6 Canning Street
Edinburgh
EH3 8EG

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	04 Dec 2025 *

* training course booked

Purpose of classification

2 - Material Characterisation

Address of the waste

Dimlington Terminal, Dimlington Rd, Easington, Hull **Post Code** HU12 0TG

SIC for the process giving rise to the waste

20110 Manufacture of industrial gases

Description of industry/producer giving rise to the waste

Facility which manufactures hydrocarbon gases

Description of the specific process, sub-process and/or activity that created the waste

Surface water runoff / discharge

Description of the waste

Water

Job summary

Related documents

#	Name	Description
1	PFAS - WM3 v1.2.GB	waste stream template used to create this Job

Report

Created by: Stuart Clarke

Created date: 17 Nov 2025 15:37 GMT

Classification of sample: Day 1 - Inlet - 18th February 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 1 - Inlet - 18th February 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				1130 ng/l		0.0011 mg/kg	0.000000113 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]							
2		perfluorooctanoic acid				28.6 ng/l		2.86e-05 mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1							
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				182 ng/l		0.0001 mg/kg	0.000000018 %		
		607-761-00-3	206-798-9	375-85-9							
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				242 ng/l		0.0002 mg/kg	0.000000024 %		
			206-587-1	355-46-4							
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				3.21 ng/l		3.21e-06 mg/kg	3.21e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]							
								Total:	1.59e-07 %		

Key

User supplied data

• Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 10 - Inlet - 28th February 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 10 - Inlet - 28th February 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				767	ng/l		0.0007	mg/kg	0.000000076 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				20.4	ng/l		2.04e-05	mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				157	ng/l		0.0001	mg/kg	0.000000015 %		
		607-761-00-3	206-798-9	375-85-9									
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				178	ng/l		0.0001	mg/kg	0.000000017 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				2.64	ng/l		2.64e-06	mg/kg	2.64e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.13e-07 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 20 - Inlet - 8th March 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 20 - Inlet - 8th March 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				743 ng/l		0.0007 mg/kg	0.000000074 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]							
2		perfluorooctanoic acid				20.7 ng/l		2.07e-05 mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1							
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				177 ng/l		0.0001 mg/kg	0.000000017 %		
		607-761-00-3	206-798-9	375-85-9							
4	●	Perfluorohexane sulfonic acid (PFHxS) and its salts				183 ng/l		0.0001 mg/kg	0.000000018 %		
			206-587-1	355-46-4							
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				2.78 ng/l		2.78e-06 mg/kg	2.78e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]							
								Total:	1.13e-07 %		

Key

User supplied data

● Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 30 - Inlet - 18th March 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 30 - Inlet - 18th March 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				762	ng/l		0.0007	mg/kg	0.000000076 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				23.9	ng/l		2.39e-05	mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				214	ng/l		0.0002	mg/kg	0.000000021 %		
		607-761-00-3	206-798-9	375-85-9									
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				195	ng/l		0.0001	mg/kg	0.000000019 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				2.58	ng/l		2.58e-06	mg/kg	2.58e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.2e-07 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 40 - Inlet - 28th March 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 40 - Inlet - 28th March 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				734 ng/l		0.0007 mg/kg	0.000000073 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]							
2		perfluorooctanoic acid				25.9 ng/l		2.59e-05 mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1							
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				256 ng/l		0.0002 mg/kg	0.000000025 %		
		607-761-00-3	206-798-9	375-85-9							
4	●	Perfluorohexane sulfonic acid (PFHxS) and its salts				195 ng/l		0.0001 mg/kg	0.000000019 %		
			206-587-1	355-46-4							
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				2.64 ng/l		2.64e-06 mg/kg	2.64e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]							
								Total:	1.21e-07 %		

Key

User supplied data

● Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 50 - Inlet - 7th April 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 50 - Inlet - 7th April 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				864	ng/l		0.0008	mg/kg	0.000000086 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				29	ng/l		2.9e-05	mg/kg	0.000000002 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				280	ng/l		0.0002	mg/kg	0.000000028 %		
		607-761-00-3	206-798-9	375-85-9									
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				241	ng/l		0.0002	mg/kg	0.000000024 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				2.83	ng/l		2.83e-06	mg/kg	2.83e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.42e-07 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 60 - Inlet - 17th April 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 60 - Inlet - 17th April 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				764 ng/l		0.0007 mg/kg	0.000000076 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]							
2		perfluorooctanoic acid				35.6 ng/l		3.56e-05 mg/kg	0.000000003 %		
		607-704-00-2	206-397-9	335-67-1							
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				427 ng/l		0.0004 mg/kg	0.000000042 %		
		607-761-00-3	206-798-9	375-85-9							
4	●	Perfluorohexane sulfonic acid (PFHxS) and its salts				243 ng/l		0.0002 mg/kg	0.000000024 %		
			206-587-1	355-46-4							
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				4.19 ng/l		4.19e-06 mg/kg	4.19e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]							
									Total:	1.47e-07 %	

Key

User supplied data
● Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Day 70 - Inlet - 27th April 2024

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Day 70 - Inlet - 27th April 2024

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				891	ng/l		0.0008	mg/kg	0.000000089 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				37.1	ng/l		3.71e-05	mg/kg	0.000000003 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				544	ng/l		0.0005	mg/kg	0.000000054 %		
		607-761-00-3	206-798-9	375-85-9									
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				279	ng/l		0.0002	mg/kg	0.000000027 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				4.09	ng/l		4.09e-06	mg/kg	4.09e-10 %		
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.76e-07 %		

Key

	User supplied data
•	Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: Inlet - 15th June 2025

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Inlet - 15th June 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				1400	ng/l		0.0014	mg/kg	0.00000014 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				66.2	ng/l		6.62e-05	mg/kg	0.000000006 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				521	ng/l		0.0005	mg/kg	0.000000052 %		
		607-761-00-3	206-798-9	375-85-9									
4	●	Perfluorohexane sulfonic acid (PFHxS) and its salts				461	ng/l		0.0004	mg/kg	0.000000046 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				<50	ng/l		<5.0e-05	mg/kg	<0.000000005 %		<**LOD**
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	2.45e-07 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Classification of sample: Inlet - 5th July 2025

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Inlet - 5th July 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]	607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]		1300	ng/l		0.0013	mg/kg	0.00000013 %		
2		perfluorooctanoic acid	607-704-00-2	206-397-9	335-67-1		80.4	ng/l		8.04e-05	mg/kg	0.000000008 %		
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid	607-761-00-3	206-798-9	375-85-9		312	ng/l		0.0003	mg/kg	0.000000031 %		
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts		206-587-1	355-46-4		444	ng/l		0.0004	mg/kg	0.000000044 %		
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts	607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]		<50	ng/l		<5.0e-05	mg/kg	<0.000000005 %		<**LOD**
											Total:	2.14e-07 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Classification of sample: Inlet - 5th August 2025

Unknown. Chemistry data not provided.
Classified as **16 10 02** or **16 10 01 ***
in the List of Waste

Sample details

Sample name:
Inlet - 5th August 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
								Total:	0%		

Key

User supplied data

Classification of sample: Inlet 6th August 2025

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Inlet 6th August 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				140	ng/l		0.0001	mg/kg	0.000000014 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				<16.3	ng/l		<1.63e-05	mg/kg	<0.000000001 %		<**LOD**
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				<25	ng/l		<2.5e-05	mg/kg	<0.000000002 %		<**LOD**
		607-761-00-3	206-798-9	375-85-9									
4	•	Perfluorohexane sulfonic acid (PFHxS) and its salts				<25	ng/l		<2.5e-05	mg/kg	<0.000000002 %		<**LOD**
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				<25	ng/l		<2.5e-05	mg/kg	<0.000000002 %		<**LOD**
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.4e-08 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Classification of sample: Inlet 2nd September 2025

Unknown. Chemistry data not provided.
Classified as **16 10 02** or **16 10 01 ***
in the List of Waste

Sample details

Sample name:
Inlet 2nd September 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
								Total:	0%		

Key

User supplied data

Classification of sample: Inlet - 12th September 2025

Non Hazardous Waste
Classified as **16 10 02**
in the List of Waste

Sample details

Sample name:
Inlet - 12th September 2025

LoW Code:
Chapter: 16: Wastes not otherwise specified in the list
Entry: 16 10 02 (aqueous liquid wastes other than those mentioned in 16 10 01)

Hazard properties

None identified

Determinands

Moisture content: None

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid; [1] potassium perfluorooctanesulfonate; potassium heptadecafluorooctane-1-sulfonate; [2] diethanolamine perfluorooctane sulfonate; [3] ammonium perfluorooctane sulfonate; ammonium heptadecafluorooctanesulfonate; [4] lithium perfluorooctane sulfonate; lithium heptadecafluorooctanesulfonate [5]				960	ng/l		0.0009	mg/kg	0.000000096 %		
		607-624-00-8	217-179-8 [1] 220-527-1 [2] 274-460-8 [3] 249-415-0 [4] 249-644-6 [5]	1763-23-1 [1] 2795-39-3 [2] 70225-14-8 [3] 29081-56-9 [4] 29457-72-5 [5]									
2		perfluorooctanoic acid				54.1	ng/l		5.41e-05	mg/kg	0.000000005 %		
		607-704-00-2	206-397-9	335-67-1									
3		Perfluoroheptanoic acid; tridecafluoroheptanoic acid				208	ng/l		0.0002	mg/kg	0.00000002 %		
		607-761-00-3	206-798-9	375-85-9									
4	●	Perfluorohexane sulfonic acid (PFHxS) and its salts				273	ng/l		0.0002	mg/kg	0.000000027 %		
			206-587-1	355-46-4									
5		perfluorononan-1-oic acid [1] and its sodium [2] and ammonium [3] salts				<25	ng/l		<2.5e-05	mg/kg	<0.000000002 %		<**LOD**
		607-718-00-9	206-801-3 [1] [2] [3]	375-95-1 [1] 21049-39-8 [2] 4149-60-4 [3]									
										Total:	1.5e-07 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
<LOD	Below limit of detection

Appendix A: Classifier defined and non GB MCL determinands

Perfluorohexane sulfonic acid (PFHxS) and its salts (EC Number: 206-587-1, CAS Number: 355-46-4)

Description/Comments: Listed in Annex IV of the POPs Regulation 2019 (Regulation (EU) 2019/1021 of 20 June 2019)
Data source: POPs Regulation 2022 (Regulation (EU) 2022/2400 of 23 November 2022)
Data source date: 28 Oct 2024
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Acute Tox. 4; H332

Appendix B: Rationale for selection of metal species

None used in this classification

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.318.6867.12415 (15 Nov 2025)
HazWasteOnline Database: 2025.318.6867.12415 (15 Nov 2025)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

Appendix C

HazWasteOnline Output