



Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528700

Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Robert Hester

CERTIFICATE OF ANALYSIS

Date of report Generation: 10 October 2019
Customer: Newport City Council
Sample Delivery Group (SDG): 190927-122
Your Reference: Phase 1 GW & Leachate Sept
Location: Docks Way
Report No: 524884

We received 5 samples on Friday September 27, 2019 and 5 of these samples were scheduled for analysis which was completed on Thursday October 10, 2019. 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 Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).

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

Validated

SDG: 190927-122 **Client Reference:** Phase 1 GW & Leach **Report Number:** 524884
Location: Docks Way **Order Number:** 700142918 **Superseded Report:**

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
20822386	GP07_05		0.00 - 0.00	27/09/2019
20822357	GW03_02		0.00 - 0.00	27/09/2019
20822366	GW03_05		0.00 - 0.00	27/09/2019
20822376	GW07_07		0.00 - 0.00	27/09/2019
20822402	LF11_05		0.00 - 0.00	27/09/2019

Maximum Sample/Coolbox Temperature (°C) : 12.6

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122 **Client Reference:** Phase 1 GW & amp; Leach **Report Number:** 524884
Location: Docks Way **Order Number:** 700142918 **Superseded Report:**

Results Legend <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center;">X Test</div> <div style="display: flex; align-items: center;">N No Determination Possible</div> </div> 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	
		20822386	GP07_05		0.00 - 0.00	500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	LE
		20822357	GW03_02		0.00 - 0.00	NaOH (ALE245) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
		20822366	GW03_05		0.00 - 0.00	NaOH (ALE245) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
		20822376	GW07_07		0.00 - 0.00	500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
						NaOH (ALE245) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
						NaOH (ALE245) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE112) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5				X X X X	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 3				X X	
VOC MS (W)	All	NDPs: 0 Tests: 5				X X X	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Results Legend			Customer Sample Ref.				
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1.3x5@ Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	GP07_05 0.00 - 0.00 Land Leachate (LE) 27/09/2019 27/09/2019 190927-122 20822386	GW03_02 0.00 - 0.00 Ground Water (GW) 27/09/2019 27/09/2019 190927-122 20822357	GW03_05 0.00 - 0.00 Ground Water (GW) 27/09/2019 27/09/2019 190927-122 20822366	GW07_07 0.00 - 0.00 Ground Water (GW) 27/09/2019 27/09/2019 190927-122 20822376	LF11_05 0.00 - 0.00 Land Leachate (LE) 27/09/2019 27/09/2019 190927-122 20822402	
Component	LOD/Units	Method					
Alkalinity, Total as CaCO3	<2 mg/l	TM043		991 #	1110 #	950 #	
Organic Carbon, Total	<3 mg/l	TM090		9.32 #	21.5 #	21.7 #	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	1.35	61.2 #	50.3 #	12.2 #	1730
COD, unfiltered	<7 mg/l	TM107		37.5 #	60.6 #	100 #	
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		1.94 #	2.27 #	3.53 #	
Arsenic (diss.filt)	<0.5 µg/l	TM152	8.82 #	1.37 2 #	1.77 2 #	8.98 2 #	81.3 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 2 #	<0.08 2 #	<0.08 2 #	
Chromium (diss.filt)	<1 µg/l	TM152		<1 2 #	<1 2 #	<1 2 #	
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3 2 #	<0.3 2 #	<0.3 2 #	
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 2 #	<0.2 2 #	<0.2 2 #	
Manganese (diss.filt)	<3 µg/l	TM152		276 2 #	436 2 #	817 2 #	
Nickel (diss.filt)	<0.4 µg/l	TM152	10.3 #	3.26 2 #	2.62 2 #	5.37 2 #	571 #
Zinc (diss.filt)	<1 µg/l	TM152		3.97 2 #	12.2 2 #	2.3 2 #	
Sodium (Dis.Filt)	<0.076 mg/l	TM152		112 2 #	154 2 #	431 2 #	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		90.6 2 #	74.2 2 #	86.6 2 #	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	27.4 #	56.5 2 #	44 2 #	35.5 2 #	760 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		105 2 #	205 2 #	136 2 #	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	673	119	163	142	137000
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 2 #	<0.01 2 #	<0.01 2 #	<0.1 #
Sulphate	<2 mg/l	TM184		<2 #	<2 #	181 #	
Chloride	<2 mg/l	TM184		118 #	194 #	657 #	
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	0.09 #
Cyanide, Free	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256		7.87 #	7.56 #	7.73 #	
Phenols, Total Detected monohydric	<0.016 mg/l	TM259	<0.016 #	<0.016 #	<0.016 #	<0.016 #	0.5 #
Dibutyl tin	<5 ng/l	TM328		<5	<5	<5	
Tributyl tin	<1 ng/l	TM328		<1	<1	<1	
Tetrabutyl tin	<2 ng/l	TM328		<2	<2	<2	
Triphenyl tin	<1 ng/l	TM328		<1	<1	<1	
Surrogate	%	TM328		91	72.9	86.9	
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01	<0.01	<0.01	<0.05



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
#	ISO17025 accredited.							
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted - refer to subcontractor report for accreditation status.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-3*5@	Sample deviation (see appendix)							
Component	LOD/Units	Method	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref
alpha-HCH	<0.01 µg/l	TM343	0.00 - 0.00	Land Leachate (LE)	27/09/2019		27/09/2019	190927-122 20822386
gamma-HCH (Lindane)	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822357
Heptachlor	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822366
Aldrin	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
beta-HCH	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Isodrin	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
delta-HCH	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Heptachlor epoxide	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
o,p'-DDE	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Endosulphan I	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
trans-Chlordane	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
cis-Chlordane	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
p,p'-DDE	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Dieldrin	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
o,p'-DDD (TDE)	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Endrin	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
o,p'-DDT	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
p,p'-DDD (TDE)	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Endosulphan II	<0.02 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
p,p'-DDT	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
o,p'-Methoxychlor	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
p,p'-Methoxychlor	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Endosulphan Sulphate	<0.02 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Permethrin I	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Permethrin II	<0.01 µg/l	TM343	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Hexachlorobutadiene	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Dichlorvos	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Dichlobenil	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019	0.0649	27/09/2019	190927-122 20822376
Mevinphos	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
#	ISO17025 accredited.							
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted - refer to subcontractor report for accreditation status.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-3*5@	Sample deviation (see appendix)							
Component	LOD/Units	Method	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref
Tecnazene	<0.01 µg/l	TM344	0.00 - 0.00	Land Leachate (LE)	27/09/2019		27/09/2019	190927-122 20822386
Hexachlorobenzene	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822357
Demeton-S-methyl	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822366
Phorate	<0.01 µg/l	TM344	0.00 - 0.00	Ground Water (GW)	27/09/2019		27/09/2019	190927-122 20822376
Diazinon	<0.01 µg/l	TM344	0.00 - 0.00	Land Leachate (LE)	27/09/2019		27/09/2019	190927-122 20822402
Triallate	<0.01 µg/l	TM344	<0.01					
Atrazine	<0.01 µg/l	TM344	<0.01					
Simazine	<0.01 µg/l	TM344	<0.01					
Disulfoton	<0.01 µg/l	TM344	<0.01					
Propetamphos	<0.01 µg/l	TM344	<0.01					
Chlorpyrifos-methyl	<0.01 µg/l	TM344	<0.01					
Dimethoate	<0.01 µg/l	TM344	<0.01					
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01					
Chlorpyrifos	<0.01 µg/l	TM344	<0.01					
Methyl Parathion	<0.01 µg/l	TM344	<0.01					
Malathion	<0.01 µg/l	TM344	<0.01					
Fenthion	<0.01 µg/l	TM344	<0.01					
Fenitrothion	<0.01 µg/l	TM344	<0.01					
Triadimefon	<0.01 µg/l	TM344	<0.01					
Pendimethalin	<0.01 µg/l	TM344	<0.01					
Parathion	<0.01 µg/l	TM344	<0.01					
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01					
trans-Chlordane	<0.01 µg/l	TM344	<0.01					
cis-Chlordane	<0.01 µg/l	TM344	<0.01					
Ethion	<0.01 µg/l	TM344	<0.01					
Carbophenothion	<0.01 µg/l	TM344	<0.01					
Triazophos	<0.01 µg/l	TM344	<0.01					
Phosalone	<0.01 µg/l	TM344	<0.01					
Azinphos methyl	<0.02 µg/l	TM344	<0.04					
Azinphos ethyl	<0.02 µg/l	TM344	<0.02					
Etridiazole	<0.01 µg/l	TM345	<0.01					
Propachlor	<0.01 µg/l	TM345	<0.01					



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
#	ISO17025 accredited.							
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
**	Subcontracted - refer to subcontractor report for accreditation status.							
	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1.3*5@	Sample deviation (see appendix)							
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Land Leachate (LE)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Land Leachate (LE)
			Date Sampled	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
			Sampled Time
			Date Received	27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
			SDG Ref	190927-122	190927-122	190927-122	190927-122	190927-122
			Lab Sample No.(s)	20822386	20822357	20822366	20822376	20822402
			AGS Reference					
Component	LOD/Units	Method						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	27.1	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Chlorophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Methylphenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Nitroaniline (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
2-Nitrophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
3-Nitroaniline (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Chloroaniline (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Methylphenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Nitroaniline (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
4-Nitrophenol (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
Azobenzene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
Acenaphthylene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
Acenaphthene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
Anthracene (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<20	<8	<4	<2	1830	
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<10	<4	<2	<1	<20	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Land Leachate (LE)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Land Leachate (LE)
aq	Aqueous / settled sample.			27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted - refer to subcontractor report for accreditation status.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-3*5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Carbazole (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Chrysene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Dibenzofuran (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Diethyl phthalate (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<50	<20 #	<10 #	<5 #	<100	
Fluoranthene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Fluorene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Pentachlorophenol (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Phenol (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Hexachloroethane (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Nitrobenzene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Naphthalene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Isophorone (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Phenanthrene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
Pyrene (aq)	<1 µg/l	TM176	<10	<4 #	<2 #	<1 #	<20	
SVOC TIC (aq)		TM176	Detected	Not Detected	Not Detected	Detected	Detected	
Total SVOC TIC	<10 µg/l	TM176	116	<40	<20	75.5	7410	
Bismethylethylidene Phenol	µg/l	TM176					899	
Diterbutylhydroxyphenylpropionic acid	µg/l	TM176					827	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1.3x5@ Sample deviation (see appendix)	Depth (m)	Sample Type						
	Date Sampled	Sampled Time						
	Date Received	SDG Ref						
	Lab Sample No.(s)	AGS Reference						
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	106	112	112	112	104	
Toluene-d8**	%	TM208	93.8	100	99.9	99.8	88.4	
4-Bromofluorobenzene**	%	TM208	75	99.7	98	98	74.8	
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	1.11	
2,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	11.2	
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	12.5	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.			Land Leachate (LE)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Land Leachate (LE)	
aq	Aqueous / settled sample.			27/09/2019	27/09/2019	27/09/2019	27/09/2019	27/09/2019	
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	Subcontracted - refer to subcontractor report for accreditation status.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1-3*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.2 #	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	31.3 #	
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	45.4 #	
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	27 #	
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	4.88 #	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	2.88 #	
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	6.62 #	
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	21.6 #	
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	18.3 #	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	8.07 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122 **Client Reference:** Phase 1 GW & Leach **Report Number:** 524884
Location: Docks Way **Order Number:** 700142918 **Superseded Report:**

Table of Results - Appendix

Method No	Reference	Description
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM183	BS EN 23506:2002. (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM328		
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122 **Client Reference:** Phase 1 GW & Leach **Report Number:** 524884
Location: Docks Way **Order Number:** 700142918 **Superseded Report:**

Test Completion Dates

Lab Sample No(s)	20822386	20822357	20822366	20822376	20822402
Customer Sample Ref.	GP07_05	GW03_02	GW03_05	GW07_07	LF11_05
AGS Ref.					
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Land Leachate	Ground Water	Ground Water	Ground Water	Land Leachate

Alkalinity as CaCO3		07-Oct-2019	07-Oct-2019	07-Oct-2019	
Ammoniacal Nitrogen	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019
Anions by Kone (w)		04-Oct-2019	04-Oct-2019	04-Oct-2019	
COD Unfiltered		03-Oct-2019	03-Oct-2019	03-Oct-2019	
Conductivity (at 20 deg.C)		04-Oct-2019	04-Oct-2019	04-Oct-2019	
Cyanide Comp/Free/Total/Thiocyanate	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019
Dissolved Metals by ICP-MS	08-Oct-2019	08-Oct-2019	08-Oct-2019	08-Oct-2019	10-Oct-2019
EPH (DRO) (C10-C40) Aqueous (W)	07-Oct-2019	05-Oct-2019	07-Oct-2019	05-Oct-2019	07-Oct-2019
Mercury Dissolved	03-Oct-2019	02-Oct-2019	02-Oct-2019	02-Oct-2019	03-Oct-2019
Organotins in Aqueous Samples		07-Oct-2019	04-Oct-2019	04-Oct-2019	
Pesticides (Suite I) by GCMS	07-Oct-2019	07-Oct-2019	07-Oct-2019	07-Oct-2019	07-Oct-2019
Pesticides (Suite II) by GCMS	04-Oct-2019	03-Oct-2019	04-Oct-2019	03-Oct-2019	03-Oct-2019
Pesticides (Suite III) by GCMS	04-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
pH Value		07-Oct-2019	07-Oct-2019	07-Oct-2019	
Phenols by HPLC (W)	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019
SVOC MS (W) - Aqueous	02-Oct-2019	02-Oct-2019	02-Oct-2019	02-Oct-2019	02-Oct-2019
Total Organic and Inorganic Carbon		02-Oct-2019	02-Oct-2019	02-Oct-2019	
VOC MS (W)	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019	03-Oct-2019



CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Chromatogram

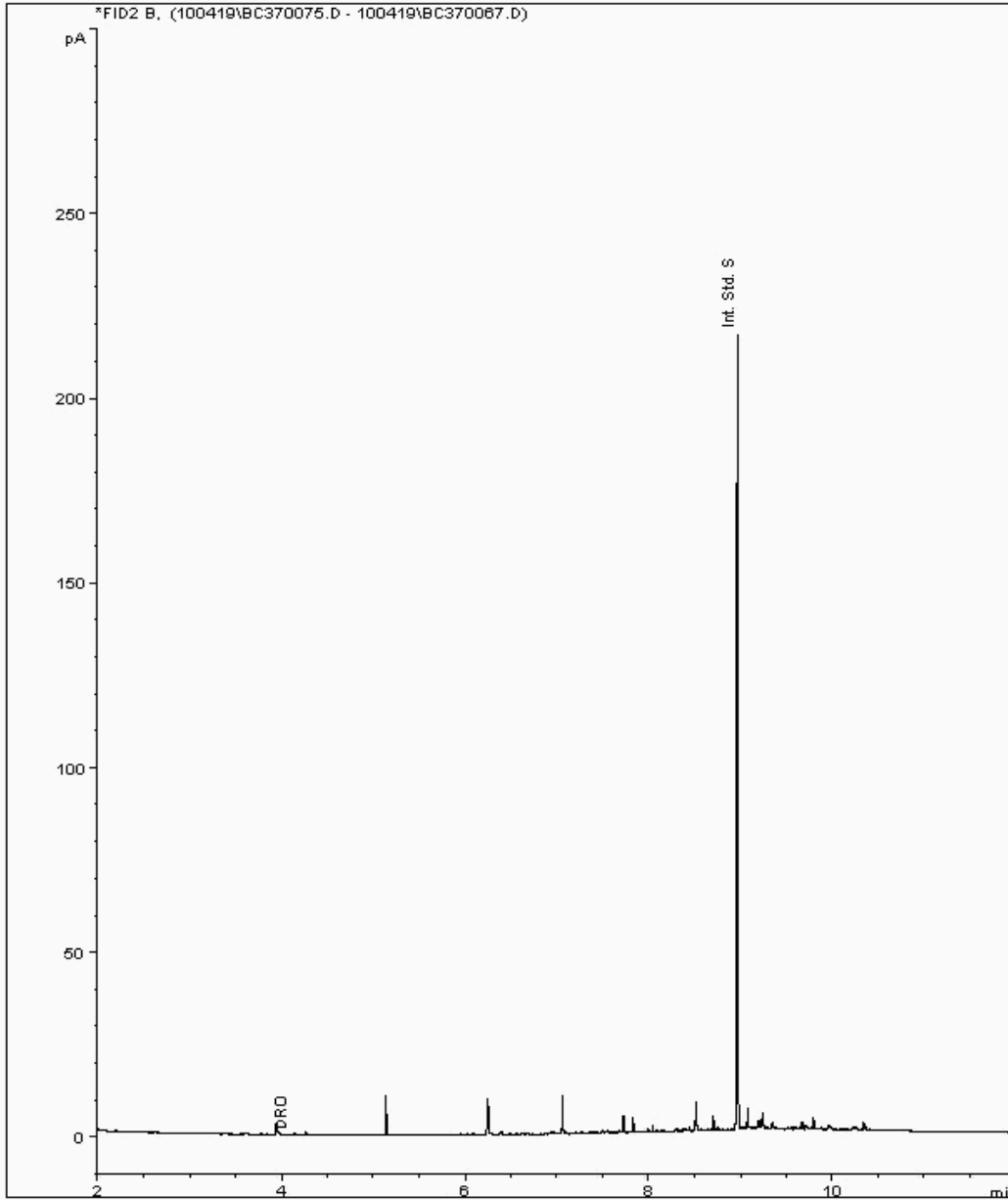
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 20840513
Sample ID : GP07_05

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 19563998-
Date Acquired : 05/10/2019 16:06:15 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Chromatogram

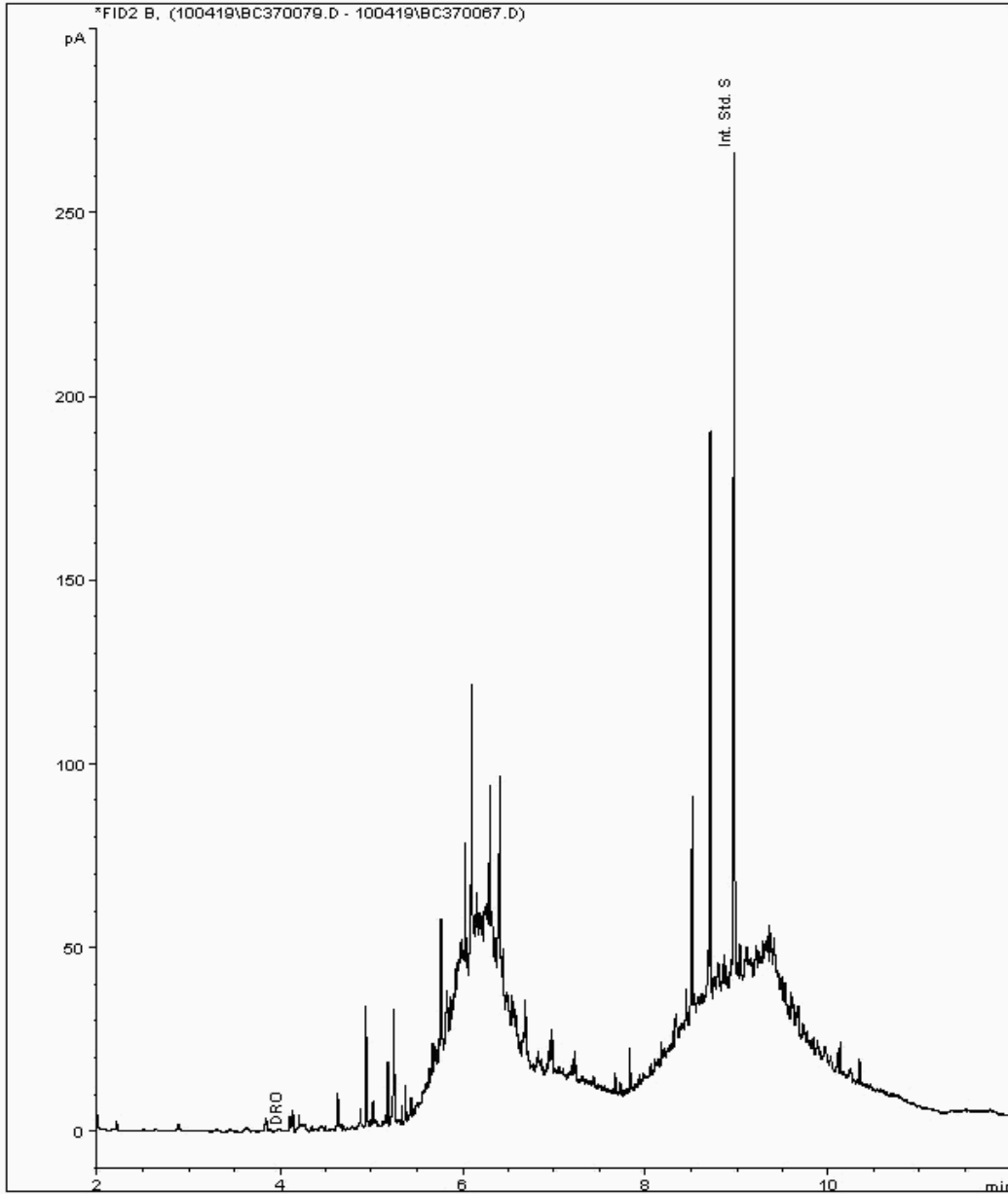
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 20840523
Sample ID : LF11_05

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 19564013-
Date Acquired : 05/10/2019 17:40:15 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Chromatogram

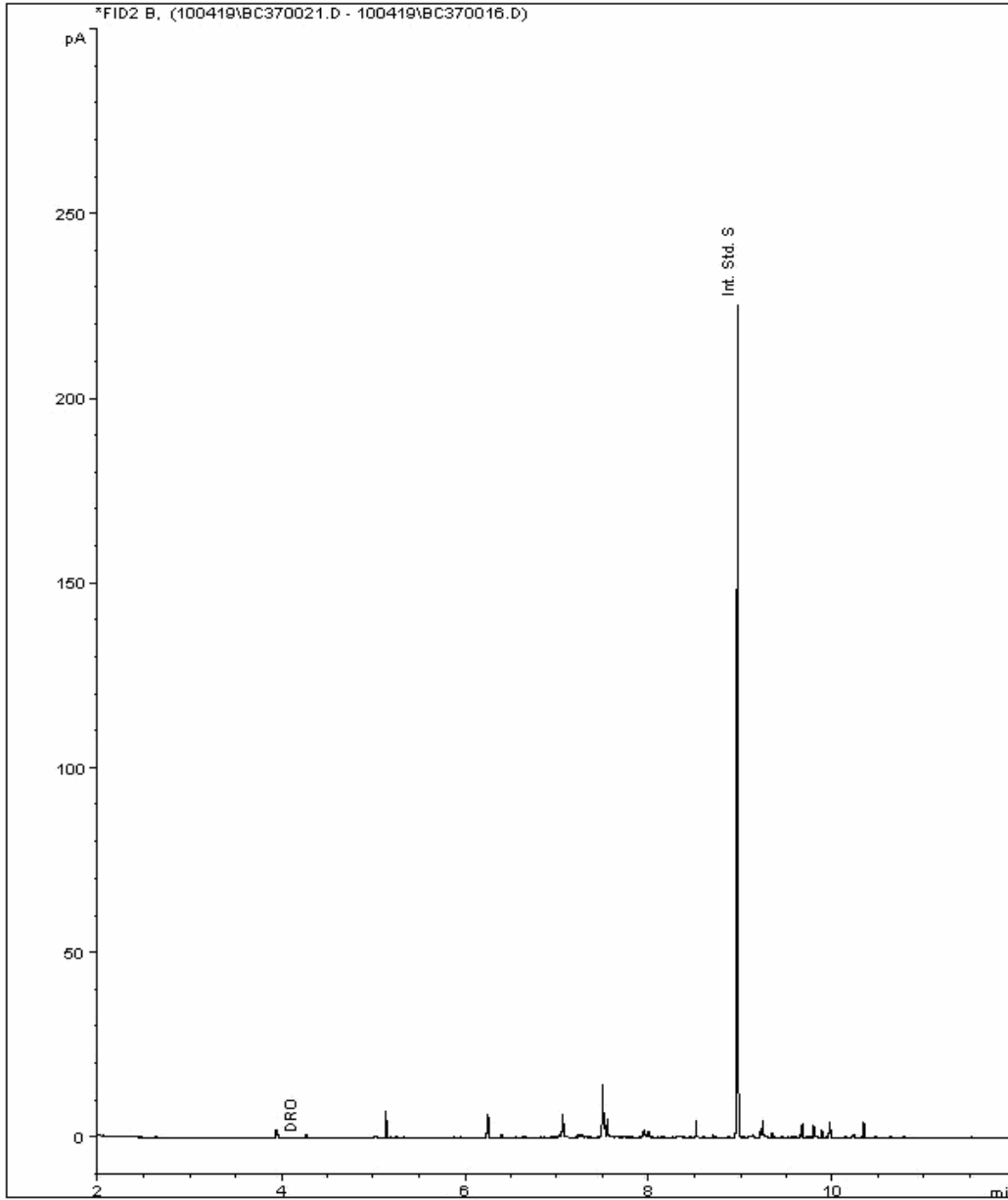
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 20840545
Sample ID : GW07_07

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 19563957-
Date Acquired : 04/10/2019 19:08:27 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Chromatogram

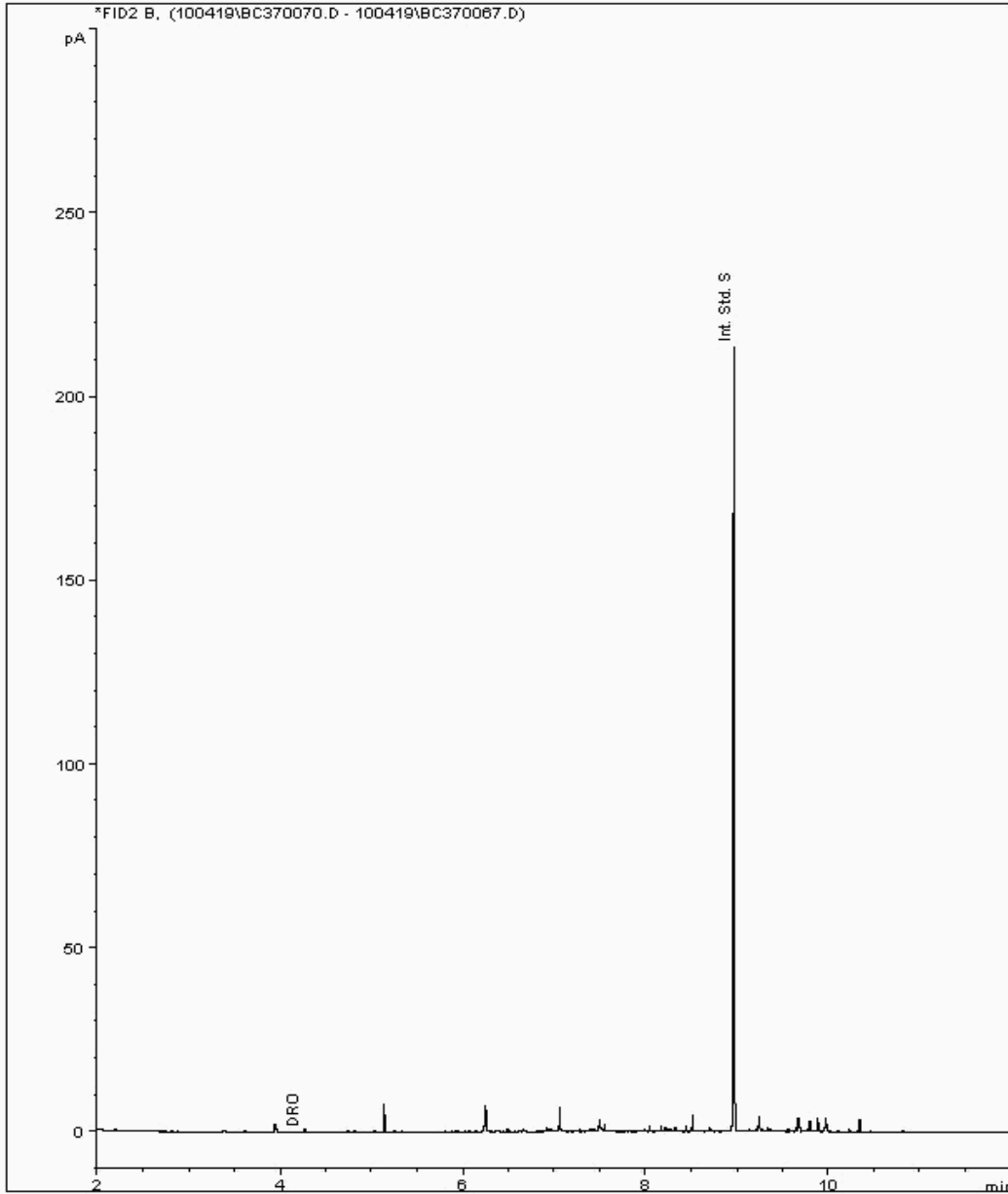
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 20841835
Sample ID : GW03_05

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 19563932-
Date Acquired : 05/10/2019 14:08:26 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 190927-122
Location: Docks Way

Client Reference: Phase 1 GW & Leach
Order Number: 700142918

Report Number: 524884
Superseded Report:

Chromatogram

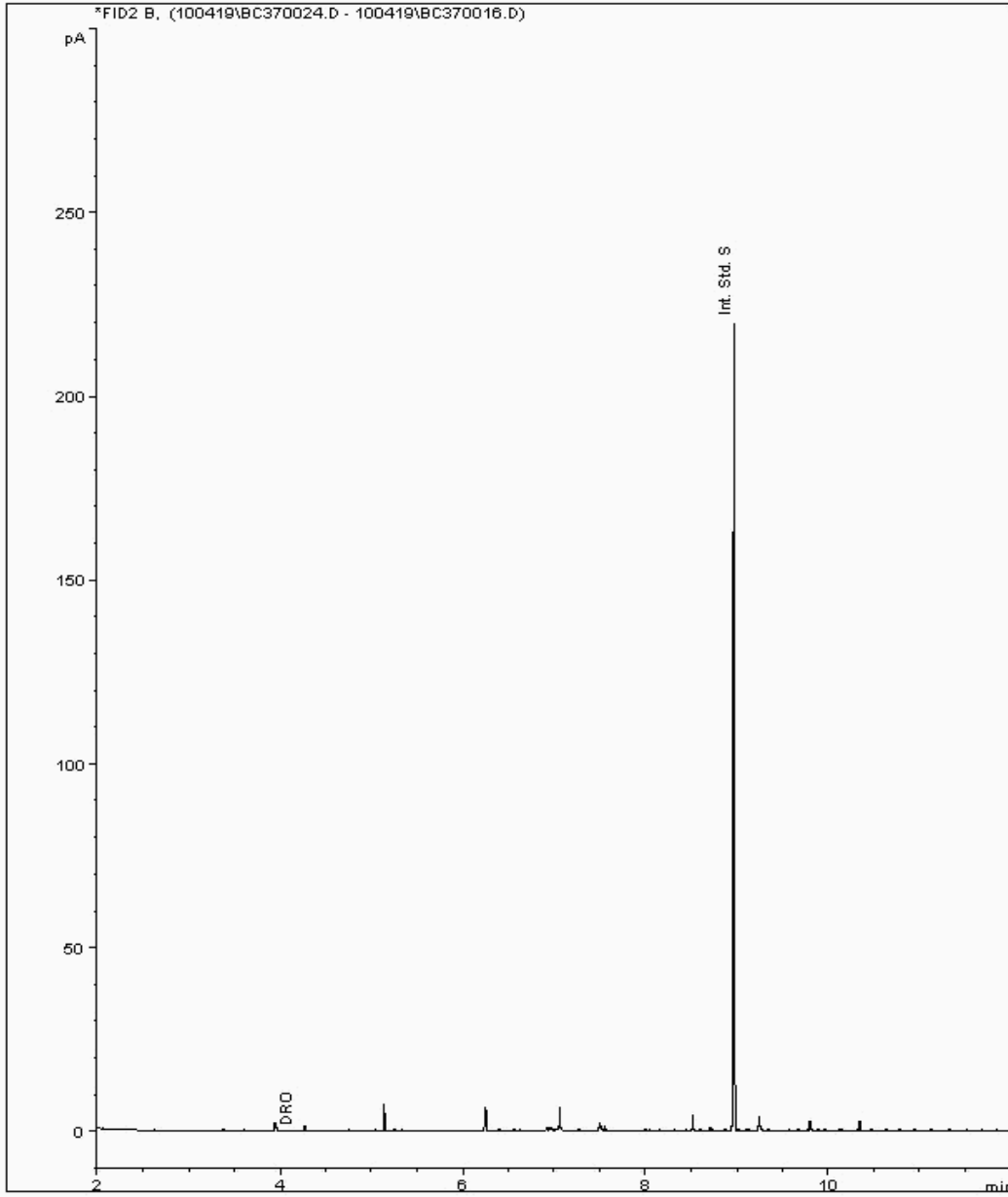
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 20846507
Sample ID : GW03_02

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 19563913-
Date Acquired : 04/10/2019 20:19:23 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

SDG: 190927-122	Client Reference: Phase 1 GW & Leach	Report Number: 524884
Location: Docks Way	Order Number: 700142918	Superseded Report:

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) 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 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

12. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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. **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.

18. 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
§	Sampled on date not provided
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

19. 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 (2005), 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

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials 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 (2005).

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, based on HSG 248 (2005).

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.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2107)*.

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.