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Newport City Council
Civic Centre
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Attention: Meirion Humphreys

CERTIFICATE OF ANALYSIS

Date: 29 September 2017
Customer: H_NCC_NPT
Sample Delivery Group (SDG): 170920-14
Your Reference:
Location: Docksway Landfill Site
Report No: 426218

We received 9 samples on Wednesday September 20, 2017 and 9 of these samples were scheduled for analysis which was completed on Friday September 29, 2017. 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).

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14	Client Reference:	Report Number: 426218
Location: Docksway Landfill Site	Order Number: 700111791	Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
16213082	C3_Asb		0.00 - 0.00	19/09/2017
16213031	LF11_02		0.00 - 0.00	19/09/2017
16213054	LF11_04		0.00 - 0.00	19/09/2017
16213068	LF11_05		0.00 - 0.00	19/09/2017
16213043	LF11_07		0.00 - 0.00	19/09/2017
16213078	SW11		0.00 - 0.00	19/09/2017
16213014	SW_23		0.00 - 0.00	19/09/2017
16213019	SW_24		0.00 - 0.00	19/09/2017
16213024	SW_1A		0.00 - 0.00	19/09/2017

Maximum Sample/Coolbox Temperature (°C) : 13.6

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.



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Location: Docksway Landfill Site **Order Number:** 700111791 **Superseded Report:**

Results Legend <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center;"> Test</div> <div style="display: flex; align-items: center;"> 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																
		16213082	C3_Asb		0.00 - 0.00	H2SO4 (ALE244) 1000ml glass bottle (ALE220)	LE															
		16213031	LF11_02		0.00 - 0.00	Vial (ALE297)	LE															
		16213054	LF11_04		0.00 - 0.00	NaOH (ALE245)	LE															
		16213068	LF11_05		0.00 - 0.00	HNO3 Filtered (ALE204)	LE															
		16213043	LF11_07		0.00 - 0.00	NaOH (ALE245)	LE															
Phenols by HPLC (W)	All	NDPs: 0 Tests: 4																				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4																				
VOC MS (W)	All	NDPs: 0 Tests: 4																				



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SDG:	170920-14	Client Reference:	700111791	Report Number:	426218
Location:	Docksway Landfill Site	Order Number:		Superseded Report:	

Results Legend		Customer Sample Ref.	C3_Asb	LF11_02	LF11_04	LF11_05	LF11_07	SW11
#	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	0.00 - 0.00
M	mCERTS accredited.		Surface Water (SW)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Surface Water (SW)
aq	Aqueous / settled sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed		20/09/2017	20/09/2017	20/09/2017	20/09/2017	20/09/2017	20/09/2017
1-5&*\$@	Sample deviation (see appendix)		170920-14	170920-14	170920-14	170920-14	170920-14	170920-14
			16213082	16213031	16213054	16213068	16213043	16213078
Component	LOD/Units	Method						
Chrysotile*	-	SUB (ASB)	Not Detected					
Crocidolite*	-	SUB (ASB)	Not Detected					
Amosite*	-	SUB (ASB)	Not Detected					
Fibrous Anthophyllite*	-	SUB (ASB)	Not Detected					
Fibrous Actinolite*	-	SUB (ASB)	Not Detected					
BOD, unfiltered	<1 mg/l	TM045						7.62
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2	373	2130	1770	1450	<0.2
COD, unfiltered	<7 mg/l	TM107	54.2					138
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120						0.265
Arsenic (diss.filt)	<0.5 µg/l	TM152		3.74	13.7	27.6	1.18	
Nickel (diss.filt)	<0.4 µg/l	TM152		10.4	242	149	13.7	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		7820	5810	1160000000	134000	
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01	<0.1	<0.1	<0.1	
Chloride	<2 mg/l	TM184	209					7.8
Cyanide, Total	<0.05 mg/l	TM227		<0.05	0.05	0.06	<0.05	
Cyanide, Free	<0.05 mg/l	TM227		<0.05	<0.05	<0.05	<0.05	
Potassium (diss.filt)	<1 mg/l	TM228		212	964	719	586	
pH	<1 pH Units	TM256						7.84
Phenols, Total Detected monohydric	<0.016 mg/l	TM259		0.04	0.11	0.49	0.17	
1,3,5-Trichlorobenzene	<0.02 µg/l	TM314		<0.1	<0.1	<1	<0.1	
1,2,4-Trichlorobenzene	<0.02 µg/l	TM314		<0.1	<0.1	<1	<0.1	
1,2,3-Trichlorobenzene	<0.02 µg/l	TM314		<0.1	<0.1	<1	<0.1	
Hexachlorobutadiene	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Dichlobenil	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Etridiazole	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Chloroneb	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Tecnazene	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Propachlor	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Trifluralin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
alpha-HCH	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Hexachlorobenzene	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
beta-HCH	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	



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SDG:	170920-14	Client Reference:	426218
Location:	Docksway Landfill Site	Order Number:	700111791
		Report Number:	
		Superseded Report:	

Results Legend		Customer Sample Ref.	C3_Asb	LF11_02	LF11_04	LF11_05	LF11_07	SW11
#	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	0.00 - 0.00
M	mCERTS accredited.		Surface Water (SW)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Surface Water (SW)
aq	Aqueous / settled sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
gamma-HCH	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
delta-HCH	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Triallate	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Chlorothalonil	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Heptachlor	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Aldrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Isodrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Dacthal	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Heptachlor-exo-epoxide	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
alpha-Chlordane	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
2,4-DDE	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
alpha-Endosulphan	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
gamma-Chlordane	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
4,4-DDE	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Dieldrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
2,4-DDD	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Endrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Chlorobenzilate	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
beta-Endosulfan	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
4,4-DDD	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
2,4-DDT	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Endrin-Aldehyde	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
4,4-DDT	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Endosulfan-sulfate	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Methoxychlor	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
cis-Permethrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
trans-Permethrin	<0.01 µg/l	TM314		<0.05	<0.05	<0.5	<0.05	
Cypermethrin	<0.02 µg/l	TM314		<0.1	<0.1	<1	<0.1	
Drins	<0.04 µg/l	TM314		<0.2	<0.2	<2	<0.2	
DDT	<0.02 µg/l	TM314		<0.1	<0.1	<1	<0.1	
Dichlorvos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Mevinphos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	



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SDG:	170920-14	Client Reference:	426218
Location:	Docksway Landfill Site	Order Number:	700111791
		Report Number:	
		Superseded Report:	

Results Legend		Customer Sample Ref.	C3_Asb	LF11_02	LF11_04	LF11_05	LF11_07	SW11
#	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	0.00 - 0.00
M	mCERTS accredited.		Surface Water (SW)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Surface Water (SW)
aq	Aqueous / settled sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017	19/09/2017
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Omethoate	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Demeton-s-methyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Disulfoton	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Phorate	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Dimethoate	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Dioxation	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Propetamphos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Simazine	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Trietazine	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Atrazine	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Diazinon	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Propazine	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Terbufos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Cypromazine	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Chlorpyrifos-Methyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Parathion-Methyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Alachlor	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Pirimiphos-Methyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Fenitrothion	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Malathion	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Fenthion	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Chlorpyrifos-Ethyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Terbutryn	<0.01 µg/l	TM315		<0.05	0.68	<0.5	<0.05	
Parathion-Ethyl	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Triadimefon	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Chlorfenvinphos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Bromophos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Prometryn	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Ethion	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Triazophos	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
Carbophenothion	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	
EPN	<0.01 µg/l	TM315		<0.05	<0.05	<0.5	<0.05	



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SDG:	170920-14	Client Reference:	426218
Location:	Docksway Landfill Site	Order Number:	700111791

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	LF11_02	LF11_04	LF11_05	LF11_07		
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
aq	Aqueous / settled sample.		Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
diss.filt	Dissolved / filtered sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017		
tot.unfilt	Total / unfiltered sample.		20/09/2017	20/09/2017	20/09/2017	20/09/2017		
*	Subcontracted test.		170920-14	170920-14	170920-14	170920-14		
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		16213031	16213054	16213068	16213043		
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Chlorophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Methylphenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Nitroaniline (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
2-Nitrophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
3-Nitroaniline (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Chloroaniline (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Methylphenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Nitroaniline (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
4-Nitrophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Azobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Acenaphthylene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Acenaphthene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Anthracene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	28.2	148	29900	248		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8	<20	<200	<20		



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SDG: 170920-14
Location: Docksway Landfill Site

Client Reference:
Order Number: 700111791

Report Number: 426218
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	LF11_02	LF11_04	LF11_05	LF11_07		
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
aq	Aqueous / settled sample.		Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
diss.filt	Dissolved / filtered sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017		
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed		20/09/2017	20/09/2017	20/09/2017	20/09/2017		
1-5&*\$@	Sample deviation (see appendix)		170920-14	170920-14	170920-14	170920-14		
			16213031	16213054	16213068	16213043		
Component	LOD/Units	Method						
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Carbazole (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Chrysene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Dibenzofuran (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Diethyl phthalate (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Dimethyl phthalate (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<40	<100	<1000	<100		
Fluoranthene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Fluorene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Pentachlorophenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Phenol (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Hexachloroethane (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Nitrobenzene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Naphthalene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Isophorone (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Phenanthrene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		
Pyrene (aq)	<1 µg/l	TM176	<8	<20	<200	<20		



CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14	Client Reference:	Report Number: 426218
Location: Docksway Landfill Site	Order Number: 700111791	Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	LF11_02	LF11_04	LF11_05	LF11_07		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted test. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-5&*\$@ Sample deviation (see appendix)		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Land Leachate (LE) 19/09/2017 20/09/2017 170920-14 16213031	0.00 - 0.00 Land Leachate (LE) 19/09/2017 20/09/2017 170920-14 16213054	0.00 - 0.00 Land Leachate (LE) 19/09/2017 20/09/2017 170920-14 16213068	0.00 - 0.00 Land Leachate (LE) 19/09/2017 20/09/2017 170920-14 16213043		
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	110	105	103	104		
Toluene-d8**	%	TM208	99.7	98.4	94	97.9		
4-Bromofluorobenzene**	%	TM208	98.7	94.2	84.6	95.7		
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1		
Chloromethane	<1 µg/l	TM208	<1	<1	<1	<1		
Vinyl chloride	<1 µg/l	TM208	<1	<1	<1	<1		
Bromomethane	<1 µg/l	TM208	<1	<1	<1	<1		
Chloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1	<1	<1		
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1		
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1		
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	1.23	1.65	1.39		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1		
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	1.2	2.17		
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
Bromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1		
Chloroform	<1 µg/l	TM208	<1	<1	<1	<1		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1		
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1		
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1		
Benzene	<1 µg/l	TM208	5.03	6.89	14.3	5.61		
Trichloroethene	<1 µg/l	TM208	<1	<1	<1	<1		
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1		
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1		
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1		
Toluene	<1 µg/l	TM208	1.21	13.8	18.3	5.08		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1		



CERTIFICATE OF ANALYSIS

Validated

SDG:	170920-14	Client Reference:	426218
Location:	Docksway Landfill Site	Order Number:	700111791
		Report Number:	
		Superseded Report:	

VOC MS (W)

Results Legend		Customer Sample Ref.	LF11_02	LF11_04	LF11_05	LF11_07		
#	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		
M	mCERTS accredited.		Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
aq	Aqueous / settled sample.		19/09/2017	19/09/2017	19/09/2017	19/09/2017		
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
1-5&*\$@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Tetrachloroethene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Dibromochloromethane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Chlorobenzene	<1 µg/l	TM208	4.16	<1	2.13	1.75	#	#
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Ethylbenzene	<1 µg/l	TM208	<1	15	22.8	22.1	#	#
m,p-Xylene	<1 µg/l	TM208	38.2	22.4	52.2	28	#	#
o-Xylene	<1 µg/l	TM208	4.46	10.9	29.3	15.2	#	#
Styrene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Bromoform	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Isopropylbenzene	<1 µg/l	TM208	1.01	<1	6.95	2.73	#	#
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Bromobenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Propylbenzene	<1 µg/l	TM208	<1	1.06	2.48	1.18	#	#
2-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	3.04	9.8	2.68	#	#
4-Chlorotoluene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
tert-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,2,4-Trimethylbenzene	<1 µg/l	TM208	8.82	13.5	36.4	11.2	#	#
sec-Butylbenzene	<1 µg/l	TM208	<1	<1	1.46	<1	#	#
4-iso-Propyltoluene	<1 µg/l	TM208	<1	13.2	36.5	4.44	#	#
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
n-Butylbenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,2-Dichlorobenzene	<1 µg/l	TM208	1.68	<1	<1	<1	#	#
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1	<1	#	#
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1	<1	<1	#	#
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	<1	#	#
Naphthalene	<1 µg/l	TM208	1.26	2.73	15.6	13.7	#	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14 **Client Reference:** **Report Number:** 426218
Location: Docksway Landfill Site **Order Number:** 700111791 **Superseded Report:**

Notification of NDPs (No determination possible)

Date Received : 20/09/2017 08:10:25

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
16213082	C3_Asb	0.00 - 0.00	Conductivity (at 20 deg.C)	Sample unsuitable for analysis
16213082	C3_Asb	0.00 - 0.00	pH Value	Sample unsuitable for analysis
16213082	C3_Asb	0.00 - 0.00	BOD True Total	Sample unsuitable for analysis



CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14 Client Reference: Report Number: 426218
 Location: Docksway Landfill Site Order Number: 700111791 Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
SUB (ASB)				
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
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		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
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		
TM314		Analysis of Organochlorine Pesticides in Aqueous sample by GCMS		
TM315		Analysis of Organophosphorus Pesticides in Aqueous samples by GCMS		

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. 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: 170920-14 **Client Reference:** **Report Number:** 426218
Location: Docksway Landfill Site **Order Number:** 700111791 **Superseded Report:**

Test Completion Dates

Lab Sample No(s) Customer Sample Ref.	16213082	16213031	16213054	16213068	16213043	16213078	16213014	16213019	16213024
	C3_Asb	LF11_02	LF11_04	LF11_05	LF11_07	SW11	SW_23	SW_24	SW_1A
AGS Ref.									
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Surface Water	Land Leachate	Land Leachate	Land Leachate	Land Leachate	Surface Water	Surface Water	Surface Water	Surface Water
Ammoniacal Nitrogen	20-Sep-2017	20-Sep-2017	22-Sep-2017	22-Sep-2017	22-Sep-2017	20-Sep-2017	20-Sep-2017	20-Sep-2017	20-Sep-2017
Anions by Kone (w)	21-Sep-2017					25-Sep-2017	25-Sep-2017	21-Sep-2017	25-Sep-2017
Asbestos in Water*	29-Sep-2017								
BOD True Total						26-Sep-2017	26-Sep-2017	26-Sep-2017	26-Sep-2017
COD Unfiltered	26-Sep-2017					26-Sep-2017	26-Sep-2017	26-Sep-2017	26-Sep-2017
Conductivity (at 20 deg.C)						20-Sep-2017	20-Sep-2017	20-Sep-2017	20-Sep-2017
Cyanide Comp/Free/Total/Thiocyanate		25-Sep-2017	26-Sep-2017	25-Sep-2017	25-Sep-2017				
Dissolved Metals by ICP-MS		27-Sep-2017	29-Sep-2017	29-Sep-2017	29-Sep-2017				
EPH (DRO) (C10-C40) Aqueous (W)		28-Sep-2017	28-Sep-2017	29-Sep-2017	29-Sep-2017				
Mercury Dissolved		21-Sep-2017	26-Sep-2017	26-Sep-2017	26-Sep-2017				
Metals by iCap-OES Dissolved (W)		25-Sep-2017	25-Sep-2017	25-Sep-2017	25-Sep-2017				
Organochlorine Pesticides (Aq)		25-Sep-2017	25-Sep-2017	25-Sep-2017	25-Sep-2017				
Organophosphorus Pesticides (Aq)		25-Sep-2017	25-Sep-2017	25-Sep-2017	25-Sep-2017				
pH Value						22-Sep-2017	22-Sep-2017	22-Sep-2017	22-Sep-2017
Phenols by HPLC (W)		21-Sep-2017	22-Sep-2017	22-Sep-2017	22-Sep-2017				
SVOC MS (W) - Aqueous		28-Sep-2017	28-Sep-2017	28-Sep-2017	28-Sep-2017				
VOC MS (W)		26-Sep-2017	26-Sep-2017	26-Sep-2017	26-Sep-2017				



CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14
Location: Docksway Landfill Site

Client Reference:
Order Number: 700111791

Report Number: 426218
Superseded Report:

Chromatogram

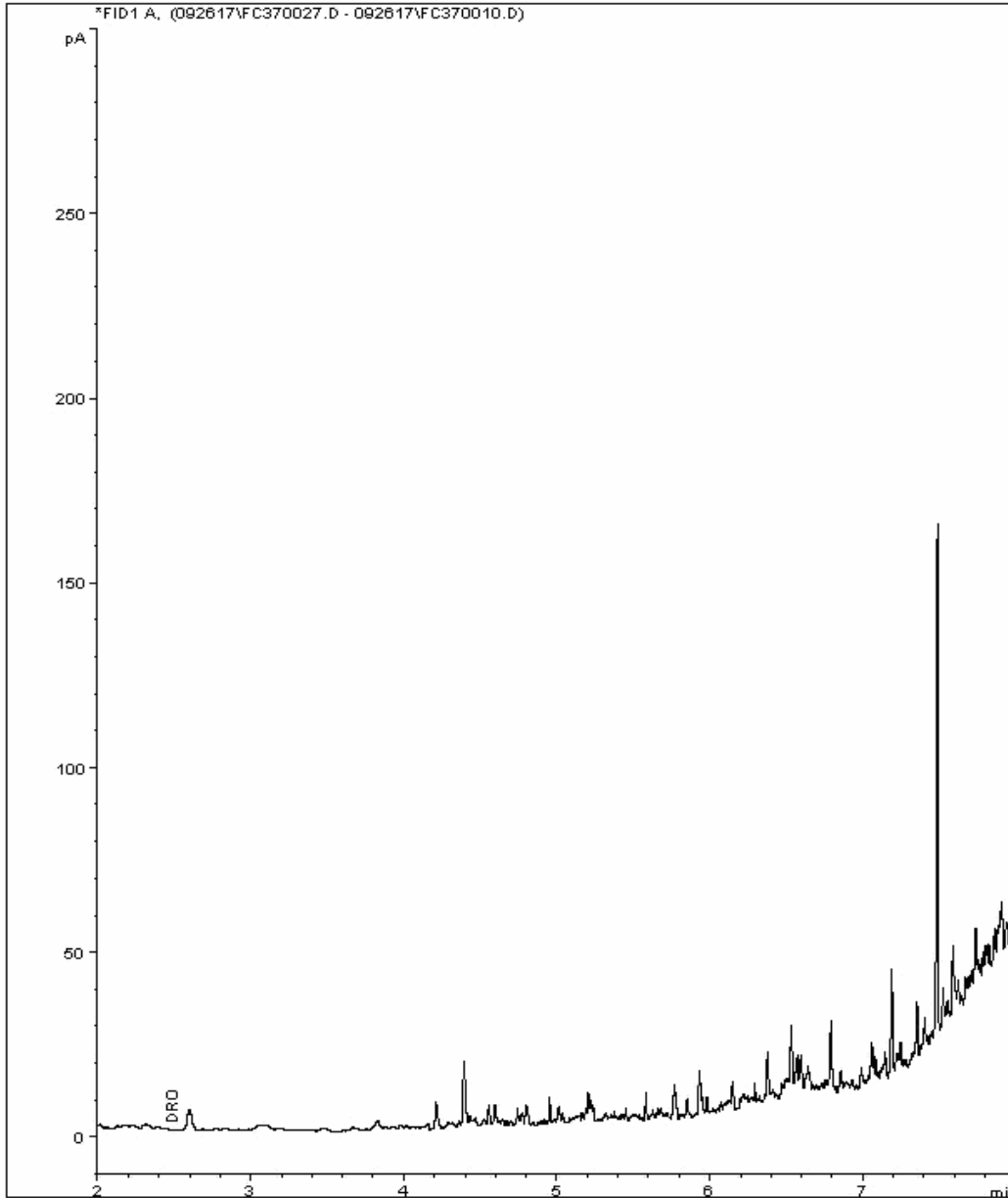
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 16216509
Sample ID : LF11_02

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 15184385-
Date Acquired : 27/09/2017 03:00:51 PM
Units : ppb





CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14
Location: Dockway Landfill Site

Client Reference:
Order Number: 700111791

Report Number: 426218
Superseded Report:

Chromatogram

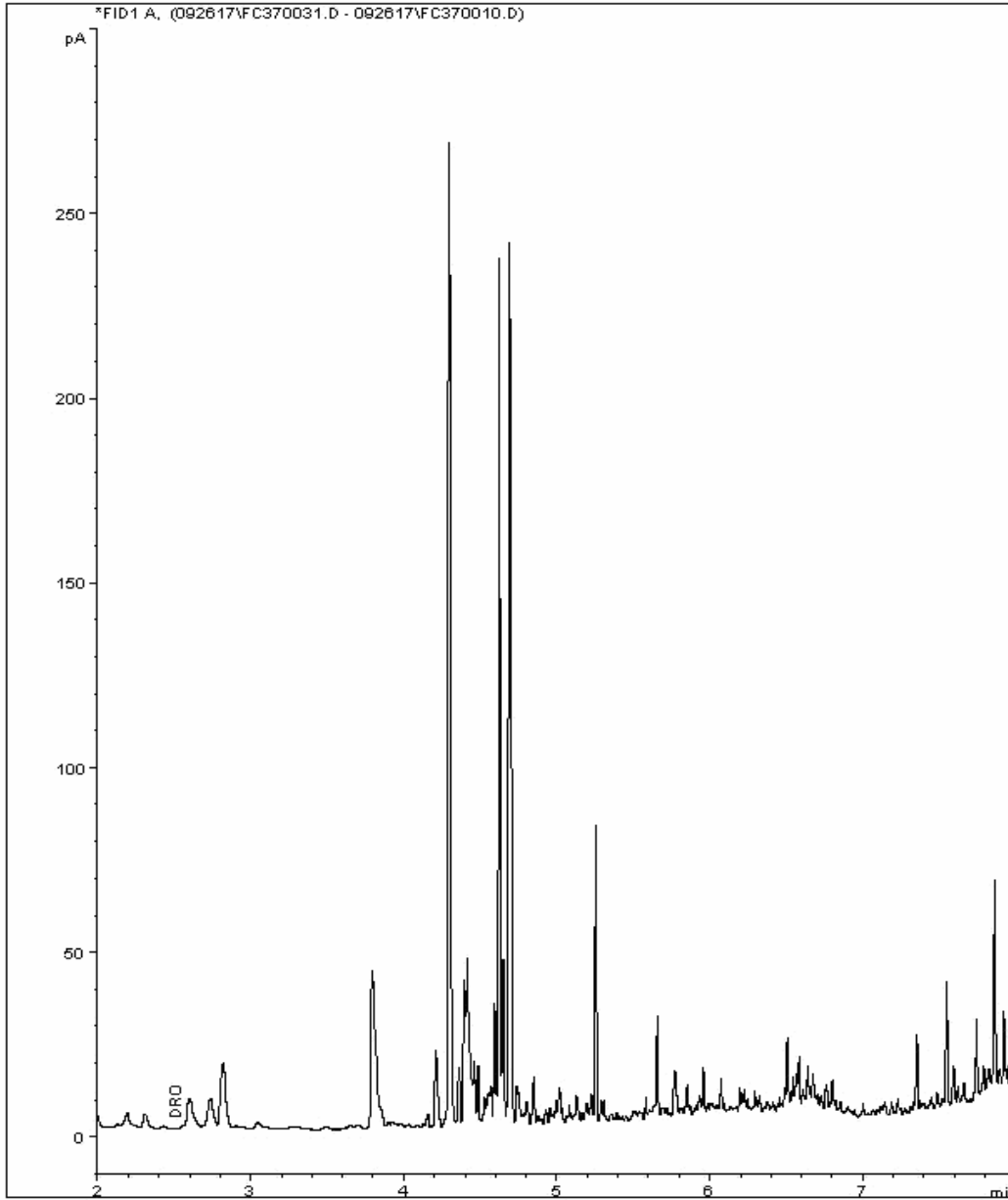
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 16217003
Sample ID : LF11_04

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 15184411-
Date Acquired : 27/09/2017 04:33:41 PM
Units : ppb





CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14
Location: Docksway Landfill Site

Client Reference:
Order Number: 700111791

Report Number: 426218
Superseded Report:

Chromatogram

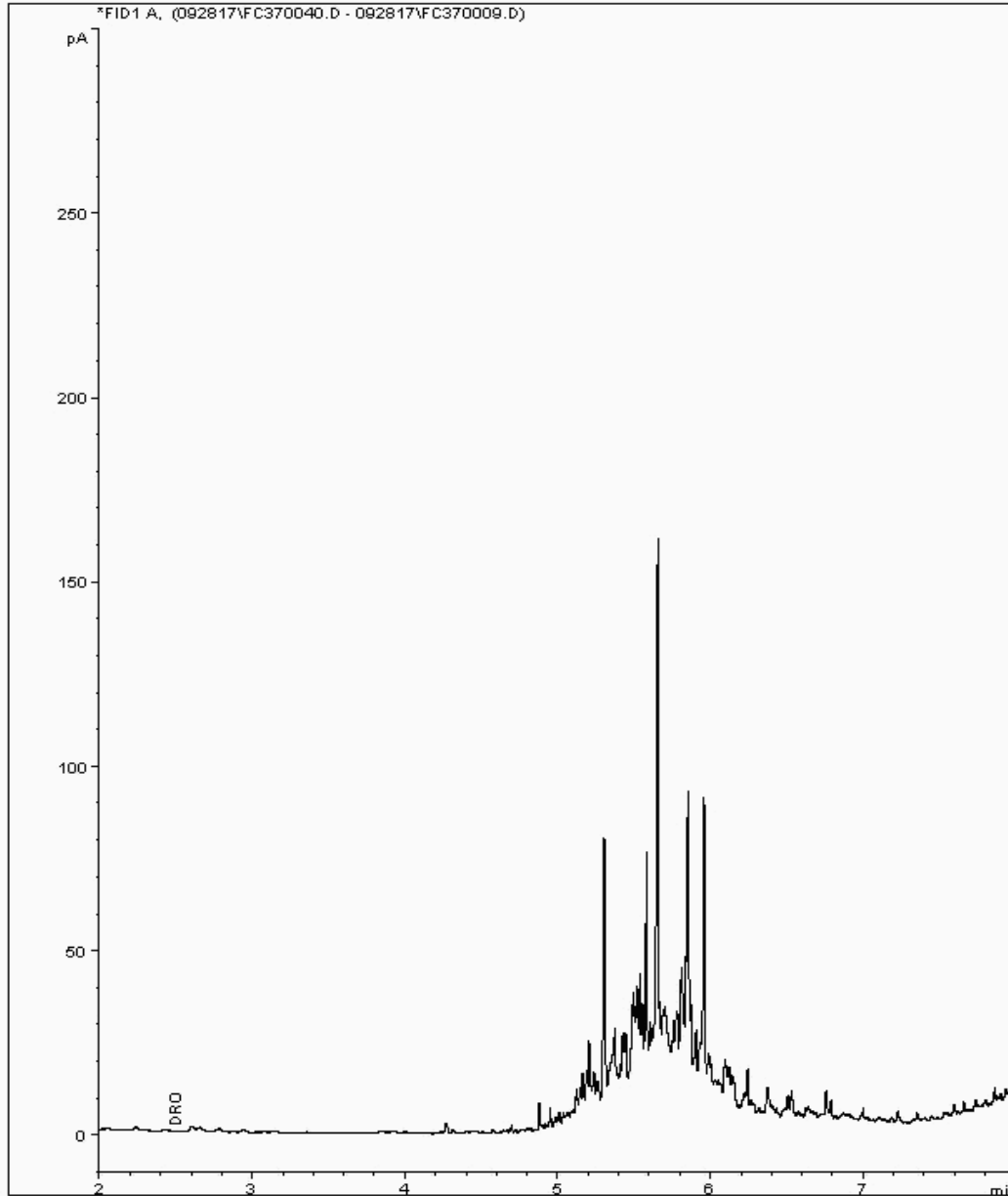
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 16217044
Sample ID : LF11_05

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 15184427-
Date Acquired : 29/09/2017 07:31:36 PM
Units : ppb





CERTIFICATE OF ANALYSIS

Validated

SDG: 170920-14
Location: Docksway Landfill Site

Client Reference:
Order Number: 700111791

Report Number: 426218
Superseded Report:

Chromatogram

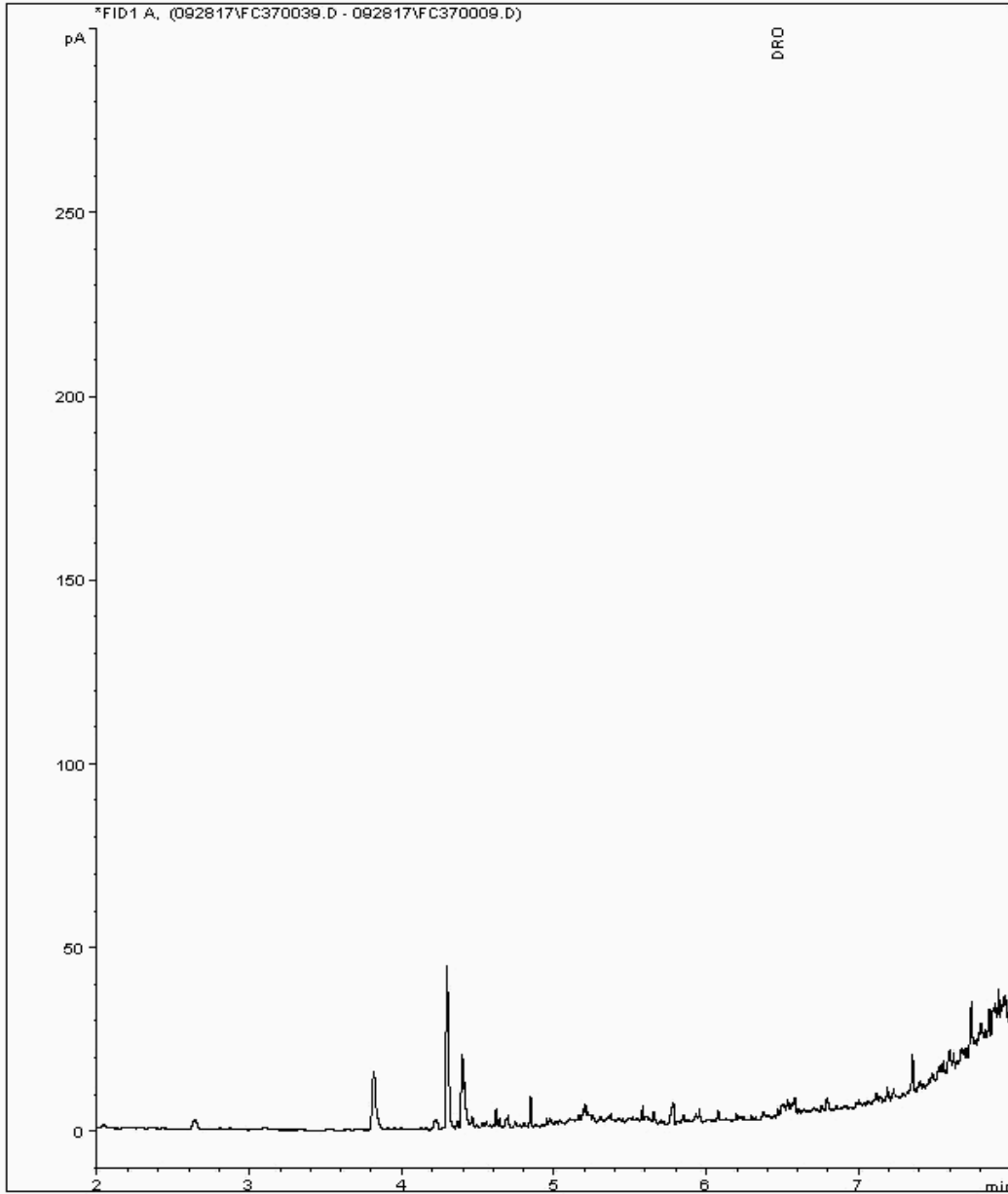
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 16217572
Sample ID : LF11_07

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 15184398-
Date Acquired : 29/09/2017 07:08:50 PM
Units : ppb



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Ms Foster
ALS Life Sciences Limited
Units 7 & 8 Hawarden Business
Park
Manor Road
Hawarden
Deeside CH5 3US

28 September 2017

Test Report: COV/1442216/2017

Dear Ms Foster

Analysis of your sample(s) submitted on 22 September 2017 is now complete and we have pleasure in enclosing the appropriate test report(s).

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

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

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

Thank you for using ALS Environmental Ltd and we look forward to receiving your next samples.

Yours Sincerely,

Signed:



Name: A. Zunzunegui

Title: Organic Team Leader



This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No.02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

Report Summary

ANALYSED BY

Ms Carrie Foster
ALS Life Sciences Limited
Units 7 & 8 Hawarden Business
Park
Manor Road
Hawarden
Deeside
CH5 3US



Date of Issue: **28 September 2017**

Report Number: **COV/1442216/2017**

Issue **1**

This issue replaces
all previous issues

Job Description: 2016 Analysis

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

Job Received: **22 September 2017**

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

Analysis Commenced: **27 September 2017**

Signed:

Name: **A. Zunzunegui**

Date: **28 September 2017**

Title: **Organic Team Leader**

ALS Environmental Ltd was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This communication has been sent to you by ALS Environmental Ltd. Registered in England and Wales. Registration No. 02148934. Registered Office: ALS Environmental Limited, Torrington Avenue, Coventry, CV4 9GU.

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ALS Environmental Ltd

Torrington Avenue, Coventry, CV4 9GU
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

Page 1 of 4

Certificate of Analysis

ANALYSED BY



Report Number: **COV/1442216/2017**
Laboratory Number: **16439152**
Sample Source: **ALS Life Sciences Limited**
Sample Point Description:
Sample Description: **16214885**
Sample Matrix: **Surface Water**
Sample Date/Time: **19 September 2017**
Sample Received: **22 September 2017**
Analysis Complete: **28 September 2017**

Issue **1**
Sample **1** of **1**

Test Description	Result	Units	Analysis Date	Accreditation	Method
Description of Sample	Analyst Com	Text	27/09/2017	N Cov	70
Asbestos Identification	Analyst Com	Text	27/09/2017	N Cov	70

Analyst Comments for 16439152:

ASBESTOS COMMENTS Asbestos ID: Non Detected, Description of Sample: Water

This issue replaces all previous issues

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Cov = Coventry(CV4 9GU), Che = Chester(CH4 9EP), Ott = Otterbourne(SO21 2SW), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG).
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered. The LOD for the Legionella analysis will increase where the volume analysed is <1000g (1g is approximately equivalent to 1ml for sample volume analysed).

Signed:

Name: **A. Zunzunegui**

Date: **28 September 2017**

Title: **Organic Team Leader**

ALS Environmental Ltd

Torrington Avenue, Coventry, CV4 9GU
Tel:+44 (0)24 7642 1213 Fax:+44 (0)24 7685 6575

Page 2 of 4

ANALYST COMMENTS FOR REPORT COV/1442216/2017

Issue 1

Date of Issue: 28 September 2017

Sample No	Analysis Comments
16439152	ASBESTOS COMMENTS Asbestos ID: Non Detected, Description of Sample: Water

Signed:



Name: **A. Zunzunegui**

Date: **28 September 2017**

Title: **Organic Team Leader**


DETERMINAND COMMENTS FOR REPORT

COV/1442216/2017

ISSUE 1

Date of Issue : 28 September 2017

Sample No	Description	Determinand	Comments
16439152	16214885	Asbestos Identification	{*}Non Detected{*/}
16439152	16214885	Description of Sample	{*}Water{*/}

Signed: 	Name: A. Zunzunegui	Date: 28 September 2017
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CERTIFICATE OF ANALYSIS

SDG: 170920-14	Client Reference:	Report Number: 426218
Location: Docksway Landfill Site	Order Number: 700111791	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. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. 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.

4. 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.

5. 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.

6. 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 asbestos present is not determined unless specifically requested.

7. 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.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

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

13. **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%, they are generally wider for volatiles analysis, 50-150%. 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.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethylphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

18. 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.

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

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

21. 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.

22. 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.

23. 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.

24. **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.

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	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
§	Sampled on date not provided
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

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).

Astestost 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.

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.