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Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Luke Embrey

CERTIFICATE OF ANALYSIS

Date of report Generation: 14 October 2020
Customer: Newport City Council
Sample Delivery Group (SDG): 200917-49
Your Reference: Sept GW 2020 Area 2 Part 1
Location: Newport landfill
Report No: 570983

We received 8 samples on Thursday September 17, 2020 and 8 of these samples were scheduled for analysis which was completed on Monday September 28, 2020. 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: 200917-49 **Client Reference:** Sept GW 2020 Area 2 Part **Report Number:** 570983
Location: Newport landfill **Order Number:** 700154310 **Superseded Report:**

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22841888	GW03_09		0.00 - 0.00	15/09/2020
22841962	GW06_34		0.00 - 0.00	15/09/2020
22841900	GW06_39		0.00 - 0.00	15/09/2020
22841875	GW07_40		0.00 - 0.00	15/09/2020
22841926	GW09_31		0.00 - 0.00	15/09/2020
22841937	GW09_32		0.00 - 0.00	15/09/2020
22841911	GW12_30		0.00 - 0.00	15/09/2020
22841951	GW12_33		0.00 - 0.00	15/09/2020

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



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SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	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	
		22841888	GW03_09		0.00 - 0.00	NaOH (ALE245)	GW
		22841900	GW06_39		0.00 - 0.00	NaOH (ALE245)	GW
		22841962	GW06_34		0.00 - 0.00	NaOH (ALE245)	GW
						Vial (ALE227)	GW
						0.5l glass bottle (ALE212)	GW
						250ml BOD (ALE208)	GW
					500ml Plastic (ALE244)	GW	
					H2SO4 (ALE204)	GW	
					HNO3 Filtered (ALE204)	GW	
					NaOH (ALE245)	GW	
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					HNO3 Filtered (ALE204)	GW	

22841937	GW09_32	0.00 - 0.00	HNO3 Filtered (ALE204)	GW																
			H2SO4 (ALE244)	GW																
			500ml Plastic (ALE208)	GW																
			250ml BOD (ALE212)	GW																
			0.5l glass bottle (ALE227)	GW	X															
			Vial (ALE297)	GW																
			NaOH (ALE245)	GW																
			HNO3 Filtered (ALE204)	GW																
			H2SO4 (ALE244)	GW																
			500ml Plastic (ALE208)	GW																
22841926	GW09_31	0.00 - 0.00	250ml BOD (ALE212)	GW																
			0.5l glass bottle (ALE227)	GW																
			Vial (ALE297)	GW	X															
			NaOH (ALE245)	GW																
			HNO3 Filtered (ALE204)	GW																
			H2SO4 (ALE244)	GW																
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			250ml BOD (ALE212)	GW																
			0.5l glass bottle (ALE227)	GW																
			Vial (ALE297)	GW																
22841875	GW07_40	0.00 - 0.00	NaOH (ALE245)	GW																
			HNO3 Filtered (ALE204)	GW																
			H2SO4 (ALE244)	GW																
			500ml Plastic (ALE208)	GW																
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22841900	GW06_39	0.00 - 0.00	500ml Plastic (ALE208)	GW																
			250ml BOD (ALE212)	GW																
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22841937	GW09_32	0.00 - 0.00	Vial (ALE297)	GW																
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22841926	GW09_31	0.00 - 0.00	H2SO4 (ALE244)	GW																
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Location:	Newport landfill	Order Number:	700154310	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	
		22841937	GW09_32		0.00 - 0.00	NaOH (ALE245)	GW
		22841911	GW12_30		0.00 - 0.00	Vial (ALE297)	GW
		22841951	GW12_33		0.00 - 0.00	Vial (ALE297)	GW
						NaOH (ALE245)	GW
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					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	
					Vial (ALE297)	GW	
					NaOH (ALE245)	GW	
					HNO3 Filtered (ALE204)	GW	
					H2SO4 (ALE244)	GW	
					500ml Plastic (ALE208)	GW	
					250ml BOD (ALE212)	GW	
					0.5l glass bottle (ALE227)	GW	



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center;"> <div style="background-color: yellow; width: 15px; height: 15px; margin-right: 5px;"></div> Test </div> <div style="display: flex; align-items: center;"> <div style="background-color: red; width: 15px; height: 15px; margin-right: 5px;"></div> 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	
		22841937	GW09_32		0.00 - 0.00	NaOH (ALE245) Vial (ALE297) 0.5l glass bottle (ALE227)	GW
		22841911	GW12_30		0.00 - 0.00	NaOH (ALE245) Vial (ALE297) 0.5l glass bottle (ALE227)	GW
		22841951	GW12_33		0.00 - 0.00	Vial (ALE297) NaOH (ALE245) HNO3 Filtered (ALE204) H2SO4 (ALE244) 500ml Plastic (ALE208) 250ml BOD (ALE212)	GW
	Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 8				
	Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 8				
	pH Value	All	NDPs: 0 Tests: 8				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 8					
Phosphate by Kone (w)	All	NDPs: 0 Tests: 8					
Sulphide	All	NDPs: 0 Tests: 8					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 8					
VOC MS (W)	All	NDPs: 0 Tests: 8					



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32
# ISO17025 accredited.				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.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq Aqueous / settled sample.				15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020
diss.filt Dissolved / filtered sample.				17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
tot.unfilt Total / unfiltered sample.				200917-49	200917-49	200917-49	200917-49	200917-49	200917-49
* Subcontracted - refer to subcontractor report for accreditation status.				22841888	22841962	22841900	22841875	22841926	22841937
** % recovery of the surrogate standard to check 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	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
Ionic balance	% Diff	Calulation		-8.6	-0.375	-6.08	-7.33	-4.64	-6.07
Alkalinity, Total as CaCO3	<2 mg/l	TM043		1000	726	987	670	784	542
BOD, unfiltered	<1 mg/l	TM045		#	473	#	#	#	17.5
Carbon, Organic (diss.filt)	<3 mg/l	TM090		11.1	16.9	23.9	18.3	31.6	29
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		2.68	1.73	4.08	10.9	13.6	4.27
Sulphide	<0.01 mg/l	TM101		<0.01	1.11	<0.01	<0.01	<0.01	0.12
COD, unfiltered	<7 mg/l	TM107		120	574	99.9	61.1	111	219
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120		6.58	1.29	5.1	1.87	2.79	2.16
Arsenic (diss.filt)	<0.5 µg/l	TM152		1.6	18.8	11.9	19.6	3.32	4.62
Boron (diss.filt)	<10 µg/l	TM152		1090	640	1270	1510	1470	1000
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
Chromium (diss.filt)	<1 µg/l	TM152		<1	<1	<1	<1	3.03	2.16
Copper (diss.filt)	<0.3 µg/l	TM152		1.9	0.724	<0.3	<0.3	2.88	0.363
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2	<0.2	0.228	<0.2	<0.2	0.298
Manganese (diss.filt)	<3 µg/l	TM152		594	2760	1480	134	1470	1470
Nickel (diss.filt)	<0.4 µg/l	TM152		3.23	1.18	3.44	1.41	7.91	7.31
Selenium (diss.filt)	<1 µg/l	TM152		<1	<1	<1	<1	<1	<1
Zinc (diss.filt)	<1 µg/l	TM152		5.18	2.06	3.08	1.76	42.1	5.62
Sodium (Dis.Filt)	<0.076 mg/l	TM152		1030	85.2	722	233	234	229
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		115	46.2	133	54.6	82.5	53.6
Potassium (Dis.Filt)	<0.2 mg/l	TM152		39.4	19.7	48.5	28.7	39.2	26.6
Calcium (Dis.Filt)	<0.2 mg/l	TM152		167	159	173	41.4	241	153
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.0872	0.378	5.67	0.578	0.0917	0.092
Hardness, Total as CaCO3	<0.65 mg/l	TM152		891	587	979	328	941	604
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		110	1770	<100	135	248	405
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrite as NO2	<0.05 mg/l	TM184		<0.05	<0.05	<0.05	<0.05	0.381	<0.05
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		4.96	1.49	0.226	7.39	0.51	<0.05
Sulphate	<2 mg/l	TM184		417	46.2	140	15	350	340
Chloride	<2 mg/l	TM184		1660	95.3	1280	254	345	259
Nitrate as NO3	<0.3 mg/l	TM184		3	<0.3	<0.3	<0.3	7.95	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		0.687	<0.1	<0.1	<0.1	1.91	<0.1



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32
# ISO17025 accredited. M ACERTS accredited. sq Aqueous / settled sample. dis.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.4.6@ Sample deviation (see appendix)	Depth (m)	Sample Type	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)
	Date Sampled	Sampled Time	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020
	Date Received	SDG Ref	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020
	Lab Sample No.(s)	AGS Reference	200917-49	200917-49	200917-49	200917-49	200917-49	200917-49	200917-49
			22841888	22841962	22841900	22841875	22841926	22841937	
Component	LOD/Units	Method							
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256	7.92 #	7.48 #	7.72 #	7.95 #	7.6 #	7.68 #	
Phenols, Total Detected monohydric	<0.016 mg/l	TM259	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #	<0.016 #
Dibutyl tin	<5 ng/l	TM328	<5	<150	<5	<5	<5	<5	<5
Tributyl tin	<1 ng/l	TM328	<1	<30	<1	<1	<1	<1	<1
Tetrabutyl tin	<2 ng/l	TM328	<2	<60	<2	<2	<2	<2	<2
Triphenyl tin	<1 ng/l	TM328	<1	<30	<1	<1	<1	<1	<1
Surrogate	%	TM328	84.5	99.5	73.2	73.6	82.4	59.6	
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Heptachlor	<0.01 µg/l	TM343	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.2
Aldrin	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Isodrin	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
p,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Endrin	<0.01 µg/l	TM343	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.2
o,p'-DDT	<0.01 µg/l	TM343	<0.06	<0.2	<0.06	<0.06	<0.06	<0.06	<0.2
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.2	<0.01	<0.01	<0.01	<0.01	<0.2
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.4	<0.02	<0.02	<0.02	<0.02	<0.4
p,p'-DDT	<0.01 µg/l	TM343	<0.15	<0.2	<0.15	<0.15	<0.15	<0.15	<0.2
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.07	<0.2	<0.07	<0.07	<0.07	<0.07	<0.2
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.15	<0.2	<0.15	<0.15	<0.15	<0.15	<0.2
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.06	<0.4	<0.06	<0.06	<0.06	<0.06	<0.4



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32
# ISO17025 accredited. M mCERTS accredited. sq Aqueous / filtered sample. dis.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4-5@ Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32	
			0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020	0.00 - 0.00 Ground Water (GW) 15/09/2020
			17/09/2020 200917-49 22841888	17/09/2020 200917-49 22841962	17/09/2020 200917-49 22841900	17/09/2020 200917-49 22841875	17/09/2020 200917-49 22841926	17/09/2020 200917-49 22841937	
Component	LOD/Units	Method							
Permethrin I	<0.01 µg/l	TM343	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.2
Permethrin II	<0.01 µg/l	TM343	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.2
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dichlobenil	<0.01 µg/l	TM344	0.0817	<0.01	0.135	<0.01	<0.01	<0.01	<0.01
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phorate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triallate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Simazine	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Disulfoton	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorpyrifos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorpyrifos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Malathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenthion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Parathion	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

#	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
ISO17025 accredited.	GW12_30	0.00 - 0.00	Ground Water (GW)	15/09/2020		17/09/2020	200917-49	22841911	
mCERTS accredited.	GW12_33	0.00 - 0.00	Ground Water (GW)	15/09/2020		17/09/2020	200917-49	22841951	
aq Aqueous / settled sample.									
diss.filt Dissolved / filtered sample.									
tot.unfilt Total / unfiltered sample.									
* Subcontracted - refer to subcontractor report for accreditation status.									
** % recovery of the surrogate standard to check 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							
Ionic balance	% Diff	Calulation	-5.71	-5.22					
Alkalinity, Total as CaCO3	<2 mg/l	TM043	715	705	#	#			
BOD, unfiltered	<1 mg/l	TM045	<3	4.96	#	#			
Carbon, Organic (diss.filt)	<3 mg/l	TM090	24.4	14.8					
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.633	9.24	#	#			
Sulphide	<0.01 mg/l	TM101	<0.01	<0.01	2 #	2 #			
COD, unfiltered	<7 mg/l	TM107	127	96	#	#			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	2	2.68	#	#			
Arsenic (diss.filt)	<0.5 µg/l	TM152	6.36	67.4	#	#			
Boron (diss.filt)	<10 µg/l	TM152	575	962	#	#			
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	<0.08	#	#			
Chromium (diss.filt)	<1 µg/l	TM152	<1	<1	#	#			
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3	<0.3	#	#			
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	<0.2	#	#			
Manganese (diss.filt)	<3 µg/l	TM152	3670	615	#	#			
Nickel (diss.filt)	<0.4 µg/l	TM152	5.03	0.589	#	#			
Selenium (diss.filt)	<1 µg/l	TM152	<1	<1	#	#			
Zinc (diss.filt)	<1 µg/l	TM152	4.74	2.38	#	#			
Sodium (Dis.Filt)	<0.076 mg/l	TM152	226	274	#	#			
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	62.4	88.4	#	#			
Potassium (Dis.Filt)	<0.2 mg/l	TM152	11.1	30.6	#	#			
Calcium (Dis.Filt)	<0.2 mg/l	TM152	117	156	#	#			
Iron (Dis.Filt)	<0.019 mg/l	TM152	1.58	0.28	#	#			
Hardness, Total as CaCO3	<0.65 mg/l	TM152	550	755					
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	157	188	#	#			
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	0.0303	#	#			
Nitrite as NO2	<0.05 mg/l	TM184	<0.05	<0.05	#	#			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.068	0.566	#	#			
Sulphate	<2 mg/l	TM184	84.2	78.9	#	#			
Chloride	<2 mg/l	TM184	274	539	#	#			
Nitrate as NO3	<0.3 mg/l	TM184	0.416	<0.3					
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1	<0.1	#	#			



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend			Customer Sample Ref.		GW12_30	GW12_33			
# ISO17025 accredited. M mCERTS accredited. sq Aqueous / settled sample. dis.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.4.6@ 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 Ground Water (GW) 15/09/2020 . 17/09/2020 200917-49 22841911	0.00 - 0.00 Ground Water (GW) 15/09/2020 . 17/09/2020 200917-49 22841951					
Component	LOD/Units	Method							
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #					
pH	<1 pH Units	TM256	7.21 #	7.69 #					
Phenols, Total Detected monohydric	<0.016 mg/l	TM259	<0.016 #	<0.016 #					
Dibutyl tin	<5 ng/l	TM328	<5	<5					
Tributyl tin	<1 ng/l	TM328	<1	<1					
Tetrabutyl tin	<2 ng/l	TM328	<2	<2					
Triphenyl tin	<1 ng/l	TM328	<1	<1					
Surrogate	%	TM328	78.5	77.1					
Trifluralin	<0.01 µg/l	TM343	<0.01	<0.01					
alpha-HCH	<0.01 µg/l	TM343	<0.01	<0.01					
gamma-HCH (Lindane)	<0.01 µg/l	TM343	<0.01	<0.01					
Heptachlor	<0.01 µg/l	TM343	<0.02	<0.02					
Aldrin	<0.01 µg/l	TM343	<0.01	<0.01					
beta-HCH	<0.01 µg/l	TM343	<0.01	<0.01					
Isodrin	<0.01 µg/l	TM343	<0.01	<0.01					
delta-HCH	<0.01 µg/l	TM343	<0.01	<0.01					
Heptachlor epoxide	<0.01 µg/l	TM343	<0.01	<0.01					
o,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01					
Endosulphan I	<0.01 µg/l	TM343	<0.01	<0.01					
trans-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01					
cis-Chlordane	<0.01 µg/l	TM343	<0.01	<0.01					
p,p'-DDE	<0.01 µg/l	TM343	<0.01	<0.01					
Dieldrin	<0.01 µg/l	TM343	<0.01	<0.01					
o,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01					
Endrin	<0.01 µg/l	TM343	<0.02	<0.02					
o,p'-DDT	<0.01 µg/l	TM343	<0.06	<0.06					
p,p'-DDD (TDE)	<0.01 µg/l	TM343	<0.01	<0.01					
Endosulphan II	<0.02 µg/l	TM343	<0.02	<0.02					
p,p'-DDT	<0.01 µg/l	TM343	<0.15	<0.15					
o,p'-Methoxychlor	<0.01 µg/l	TM343	<0.07	<0.07					
p,p'-Methoxychlor	<0.01 µg/l	TM343	<0.15	<0.15					
Endosulphan Sulphate	<0.02 µg/l	TM343	<0.06	<0.06					



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Results Legend			Customer Sample Ref.	GW12_30	GW12_33			
# ISO17025 accredited. M mCERTS accredited. sq Aqueous / filtered sample. dis.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.4.6@ Sample deviation (see appendix)	Customer Sample Ref.	GW12_30	GW12_33					
	Depth (m)	0.00 - 0.00	0.00 - 0.00					
	Sample Type	Ground Water (GW)	Ground Water (GW)					
	Date Sampled	15/09/2020	15/09/2020					
	Sampled Time	.	.					
	Date Received	17/09/2020	17/09/2020					
	SDG Ref	200917-49	200917-49					
	Lab Sample No.(s)	22841911	22841951					
	AGS Reference							
Component	LOD/Units	Method						
Permethrin I	<0.01 µg/l	TM343	<0.02	<0.02				
Permethrin II	<0.01 µg/l	TM343	<0.02	<0.02				
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Hexachlorobutadiene	<0.01 µg/l	TM344	<0.01	<0.01				
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Dichlorvos	<0.01 µg/l	TM344	<0.01	<0.01				
Dichlobenil	<0.01 µg/l	TM344	<0.01	<0.01				
Mevinphos	<0.01 µg/l	TM344	<0.01	<0.01				
Tecnazene	<0.01 µg/l	TM344	<0.01	<0.01				
Hexachlorobenzene	<0.01 µg/l	TM344	<0.01	<0.01				
Demeton-S-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Phorate	<0.01 µg/l	TM344	<0.01	<0.01				
Diazinon	<0.01 µg/l	TM344	<0.01	<0.01				
Triallate	<0.01 µg/l	TM344	<0.01	<0.01				
Atrazine	<0.01 µg/l	TM344	<0.01	<0.01				
Simazine	<0.01 µg/l	TM344	<0.01	<0.01				
Disulfoton	<0.01 µg/l	TM344	<0.01	<0.01				
Propetamphos	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorpyrifos-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Dimethoate	<0.01 µg/l	TM344	<0.01	<0.01				
Pirimiphos-methyl	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorpyrifos	<0.01 µg/l	TM344	<0.01	<0.01				
Methyl Parathion	<0.01 µg/l	TM344	<0.01	<0.01				
Malathion	<0.01 µg/l	TM344	<0.01	<0.01				
Fenthion	<0.01 µg/l	TM344	<0.01	<0.01				
Fenitrothion	<0.01 µg/l	TM344	<0.01	<0.01				
Triadimefon	<0.01 µg/l	TM344	<0.01	<0.01				
Pendimethalin	<0.01 µg/l	TM344	<0.01	<0.01				
Parathion	<0.01 µg/l	TM344	<0.01	<0.01				
Chlorfenvinphos	<0.01 µg/l	TM344	<0.01	<0.01				
trans-Chlordane	<0.01 µg/l	TM344	<0.01	<0.01				



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49
Location: Newport landfill

Client Reference: Sept GW 2020 Area 2 Part
Order Number: 700154310

Report Number: 570983
Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32			
#	ISO17025 accredited.			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.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)			
aq	Aqueous / settled sample.			15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020	15/09/2020			
diss.filt	Dissolved / filtered sample.			17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020	17/09/2020			
tot.unfilt	Total / unfiltered sample.			200917-49	200917-49	200917-49	200917-49	200917-49	200917-49			
*	Subcontracted - refer to subcontractor report for accreditation status.			22841888	22841962	22841900	22841875	22841926	22841937			
**	% recovery of the surrogate standard to check 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	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference		
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Methylphenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Methylphenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
Azobenzene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
Acenaphthylene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
Acenaphthene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
Anthracene (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	#	<40	#	<2	#	<2	#	<8	#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	#	<20	#	<1	#	<1	#	<4	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49	Client Reference: Sept GW 2020 Area 2 Part	Report Number: 570983
Location: Newport landfill	Order Number: 700154310	Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / filtered sample. dis.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4-#@ Sample deviation (see appendix)	Depth (m)	Sample Type							
	Date Sampled	Sampled Time							
	Date Received	SDG Ref							
	Lab Sample No.(s)	AGS Reference							
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Carbazole (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Chrysene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #	<100 #	<5 #	<5 #	<5 #	<5 #	<20 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Fluorene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Phenol (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Isophorone (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Phenanthrene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
Pyrene (aq)	<1 µg/l	TM176	<1 #	<20 #	<1 #	<1 #	<1 #	<1 #	<4 #
SVOC TIC (aq)		TM176	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Detected	Not Detected
Total SVOC TIC	<10 µg/l	TM176	<10	<200	<10	<10	<10	289	<40
2(3H)-Benzothiazolone	µg/l	TM176					48.5		
Triisopropylphosphate	µg/l	TM176					197		



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GW12_30	GW12_33			
#	ISO17025 accredited.	M	mCERTS accredited.	Depth (m)	0.00 - 0.00	0.00 - 0.00		
aq	Aqueous / settled sample.	diss.filt	Dissolved / filtered sample.	Sample Type	Ground Water (GW)	Ground Water (GW)		
tot.unfilt	Total / unfiltered sample.	*	Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	15/09/2020	15/09/2020		
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Date Received	17/09/2020	Date Received	17/09/2020			
(F)	Trigger breach confirmed	SDG Ref	200917-49	SDG Ref	200917-49			
1-4*§@	Sample deviation (see appendix)	Lab Sample No.(s)	22841911	Lab Sample No.(s)	22841951			
AGS Reference	AGS Reference	Method	Method					
Component	LOD/Units	Method	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Chloronaphthalene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Chlorophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Methylnaphthalene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Methylphenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Nitroaniline (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
2-Nitrophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
3-Nitroaniline (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Chloroaniline (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Methylphenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Nitroaniline (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
4-Nitrophenol (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
Azobenzene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
Acenaphthylene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
Acenaphthene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
Anthracene (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	TM176	<16	<2	#	#	
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	TM176	<8	<1	#	#	



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	GW12_30	GW12_33			
#	M	aq	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref
ISO17025 accredited. mCERTS accredited. Aqueous / filtered sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. Trigger breach confirmed Sample deviation (see appendix)			200917-49	0.00 - 0.00	15/09/2020	.	17/09/2020	200917-49
(F) 1.4*5@			Newport landfill	Ground Water (GW)	15/09/2020	.	17/09/2020	200917-49
Lab Sample No.(s) AGS Reference			22841911	Ground Water (GW)	15/09/2020	.	17/09/2020	200917-49
Lab Sample No.(s) AGS Reference			22841911	Ground Water (GW)	15/09/2020	.	17/09/2020	200917-49
Component	LOD/Units	Method	Lab Sample No.(s)	AGS Reference	Date Sampled	Sampled Time	Date Received	SDG Ref
Benzo(a)anthracene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Benzo(a)pyrene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Carbazole (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Chrysene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Dibenzofuran (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Diethyl phthalate (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Dimethyl phthalate (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Fluoranthene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Fluorene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Hexachlorobenzene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Hexachlorobutadiene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Pentachlorophenol (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Phenol (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Hexachloroethane (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Nitrobenzene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Naphthalene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Isophorone (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Phenanthrene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Pyrene (aq)	<1 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
SVOC TIC (aq)		TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49
Total SVOC TIC	<10 µg/l	TM176	22841911	22841911	15/09/2020	.	17/09/2020	200917-49



CERTIFICATE OF ANALYSIS

Validated

SDG:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

VOC MS (W)

Results Legend			Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32
# ISO17025 accredited. M mCERTS accredited. sq Aqueous / settled sample. disc.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.4.6@ 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 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841888	0.00 - 0.00 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841962	0.00 - 0.00 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841900	0.00 - 0.00 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841875	0.00 - 0.00 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841926	0.00 - 0.00 Ground Water (GW) 15/09/2020 17/09/2020 200917-49 22841937
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49	Client Reference: Sept GW 2020 Area 2 Part	Report Number: 570983
Location: Newport landfill	Order Number: 700154310	Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.	GW12_30	GW12_33			
# ISO17025 accredited.								
M mCERTS accredited.								
sq Aqueous / settled sample.								
dis.filt Dissolved / filtered sample.								
tot.unfilt Total / unfiltered sample.								
* Subcontracted - refer to subcontractor report for accreditation status.								
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F) Trigger breach confirmed								
1.4.4.6@ Sample deviation (see appendix)								
			Depth (m)	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Ground Water (GW)			
			Date Sampled	15/09/2020	15/09/2020			
			Sampled Time	.	.			
			Date Received	17/09/2020	17/09/2020			
			SDG Ref	200917-49	200917-49			
			Lab Sample No.(s)	22841911	22841951			
			AGS Reference					
Component	LOD/Units	Method						
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #				
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #				
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #				
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #				
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #				
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #				
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #				
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #				
o-Xylene	<1 µg/l	TM208	<1 #	<1 #				
Styrene	<1 µg/l	TM208	<1 #	<1 #				
Bromoform	<1 µg/l	TM208	<1 #	<1 #				
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #				
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #				
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #				
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #				
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #				
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #				
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #				
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #				
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #				
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #				
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #				
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #				
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #				
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #				
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #				
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #				
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #				
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #				
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #				
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #				
Naphthalene	<1 µg/l	TM208	<1 #	<1 #				



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 **Client Reference:** Sept GW 2020 Area 2 Part **Report Number:** 570983
Location: Newport landfill **Order Number:** 700154310 **Superseded Report:**

Notification of NDPs (No determination possible)

Date Received : 17/09/2020 08:22:24

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
22841888	GW03_09	0.00 - 0.00	BOD True Total	Conflicting results from dilutions
22841888	GW03_09	0.00 - 0.00	BOD True Total	Conflicting results from dilutions
22841888	GW03_09	0.00 - 0.00	BOD True Total	Conflicting results from dilutions



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
 Location: Newport landfill Order Number: 700154310 Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
Calculation		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
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
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
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and 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:	200917-49	Client Reference:	Sept GW 2020 Area 2 Part	Report Number:	570983
Location:	Newport landfill	Order Number:	700154310	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	22841888	22841962	22841900	22841875	22841926	22841937	22841911	22841951
Customer Sample Ref.	GW03_09	GW06_34	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30	GW12_33
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
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alkalinity as CaCO3	23-Sep-2020	23-Sep-2020	23-Sep-2020	22-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Alkalinity Filtered as CaCO3	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Ammoniacal Nitrogen	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
Anions by Kone (w)	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	23-Sep-2020
BOD True Total		23-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	23-Sep-2020	22-Sep-2020	22-Sep-2020
COD Unfiltered	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020
Conductivity (at 20 deg.C)	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Cyanide Comp/Free/Total/Thiocyanate	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Dissolved Metals by ICP-MS	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Dissolved Organic/Inorganic Carbon	22-Sep-2020	25-Sep-2020	25-Sep-2020	22-Sep-2020	25-Sep-2020	22-Sep-2020	22-Sep-2020	25-Sep-2020
EPH (DRO) (C10-C40) Aqueous (W)	24-Sep-2020	23-Sep-2020	23-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
Ionic Balance	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	23-Sep-2020
Mercury Dissolved	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
Nitrite by Kone (w)	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020
Organotins in Aqueous Samples	24-Sep-2020	28-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
Pesticides (Suite I) by GCMS	23-Sep-2020	28-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	28-Sep-2020	23-Sep-2020	23-Sep-2020
Pesticides (Suite II) by GCMS	25-Sep-2020	25-Sep-2020	25-Sep-2020	25-Sep-2020	25-Sep-2020	25-Sep-2020	25-Sep-2020	25-Sep-2020
Pesticides (Suite III) by GCMS	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	25-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
pH Value	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	21-Sep-2020	22-Sep-2020
Phenols by HPLC (W)	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Phosphate by Kone (w)	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020
Sulphide	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
SVOC MS (W) - Aqueous	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
VOC MS (W)	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020



CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

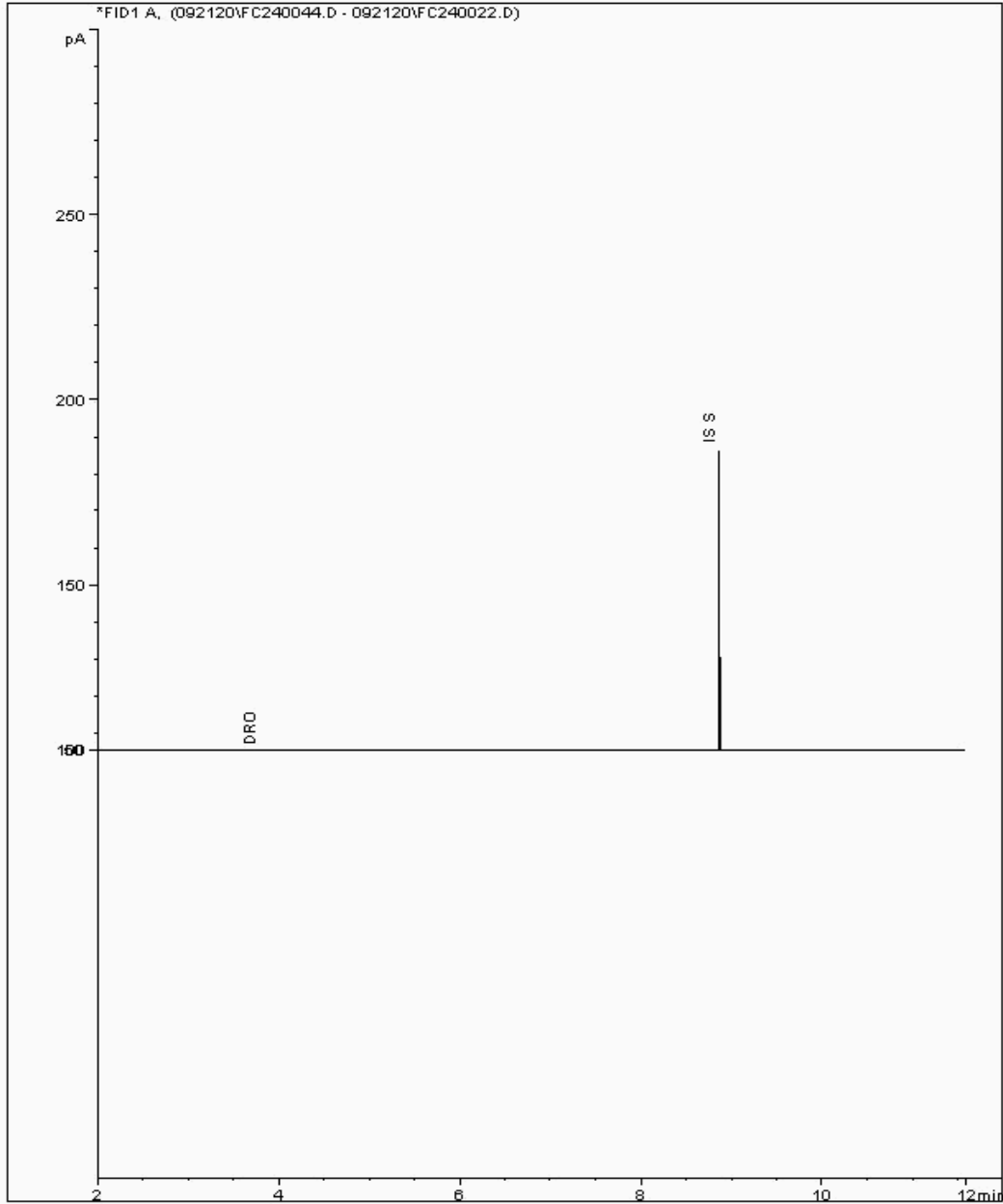
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22855511
Sample ID : GW06_39

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454498-
Date Acquired : 22/09/2020 04:37:05 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

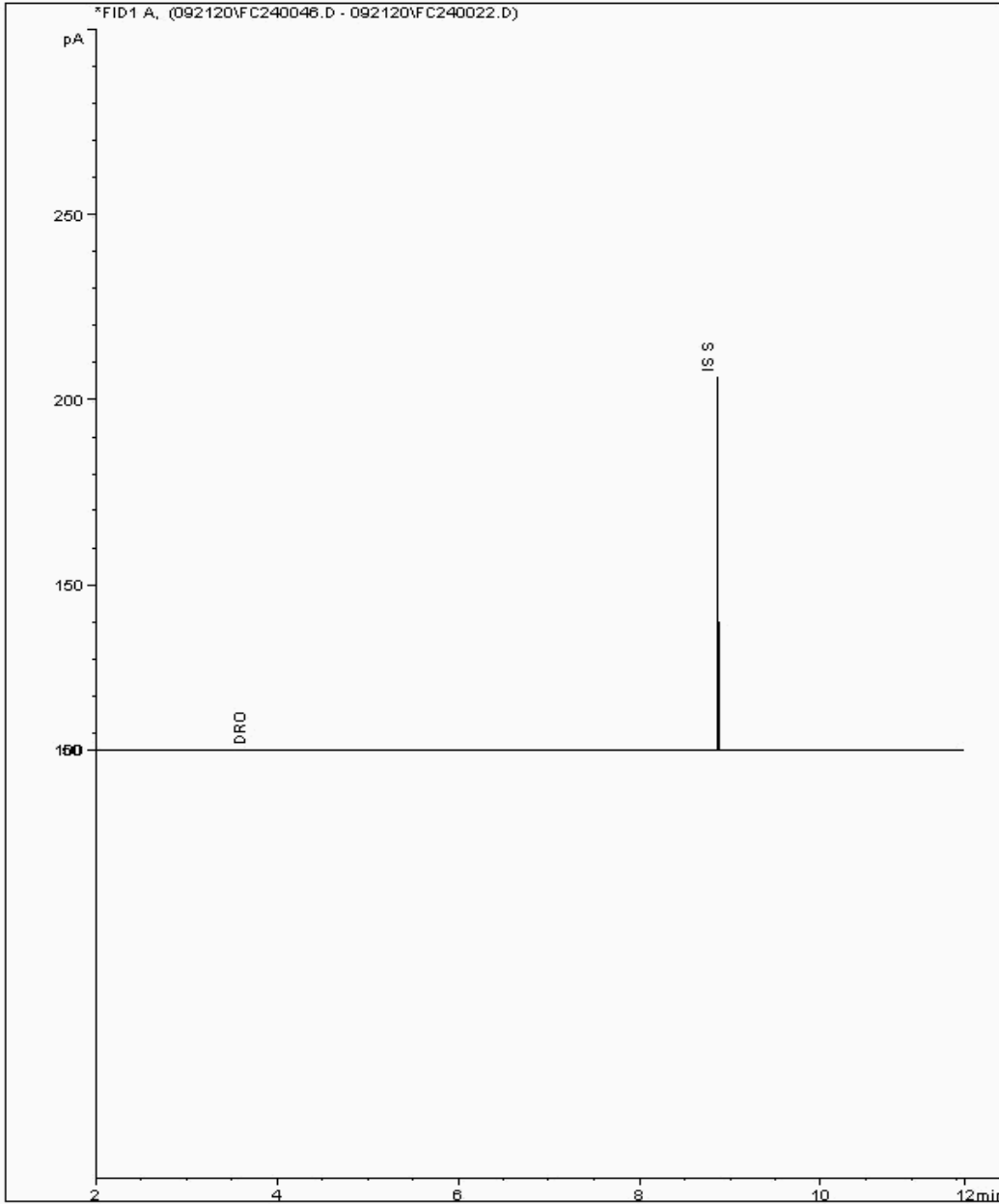
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22855530
Sample ID : GW06_34

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454627-
Date Acquired : 22/09/2020 05:25:42 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

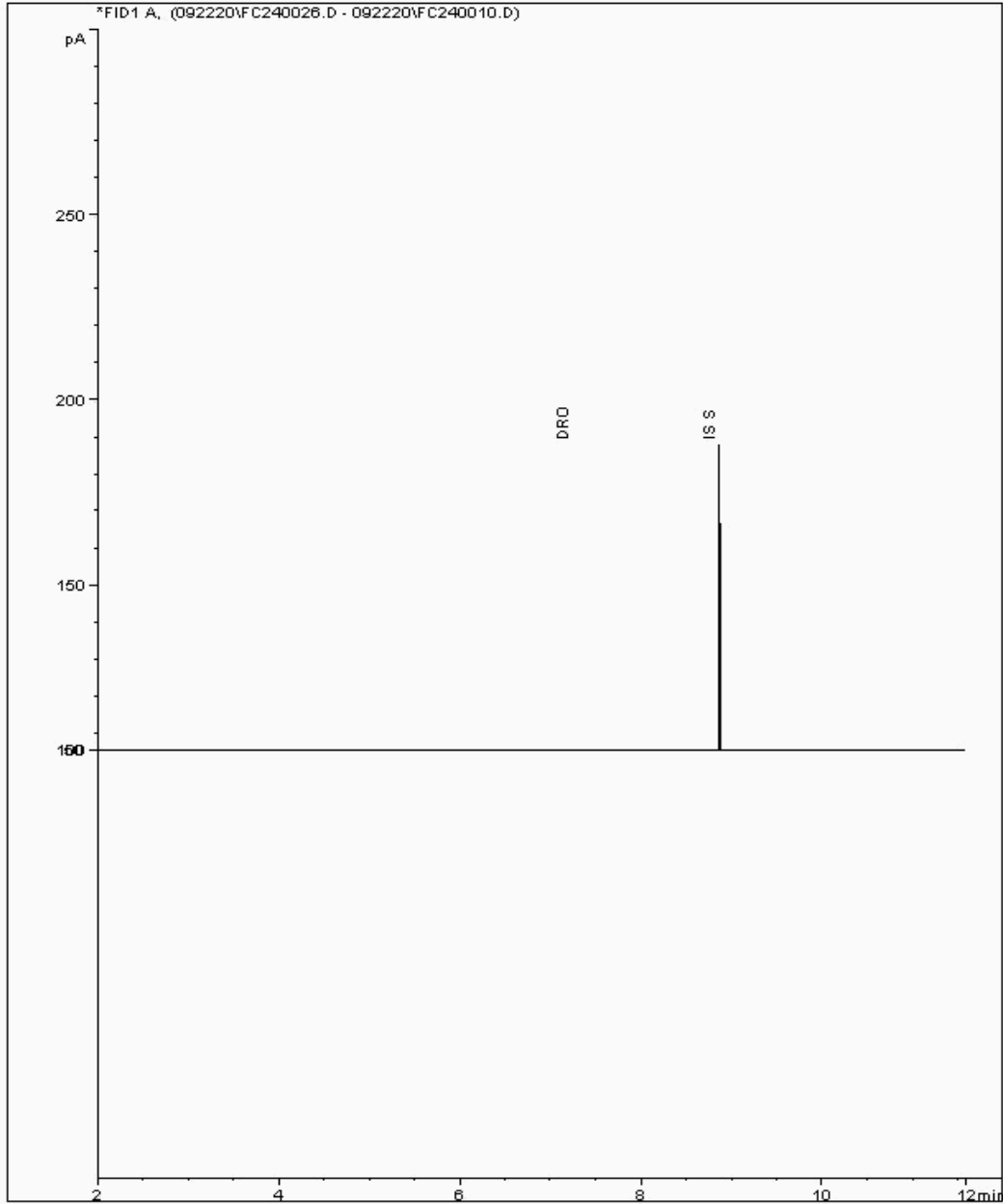
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22861703
Sample ID : GW12_30

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454522-
Date Acquired : 23/09/2020 00:01:01 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

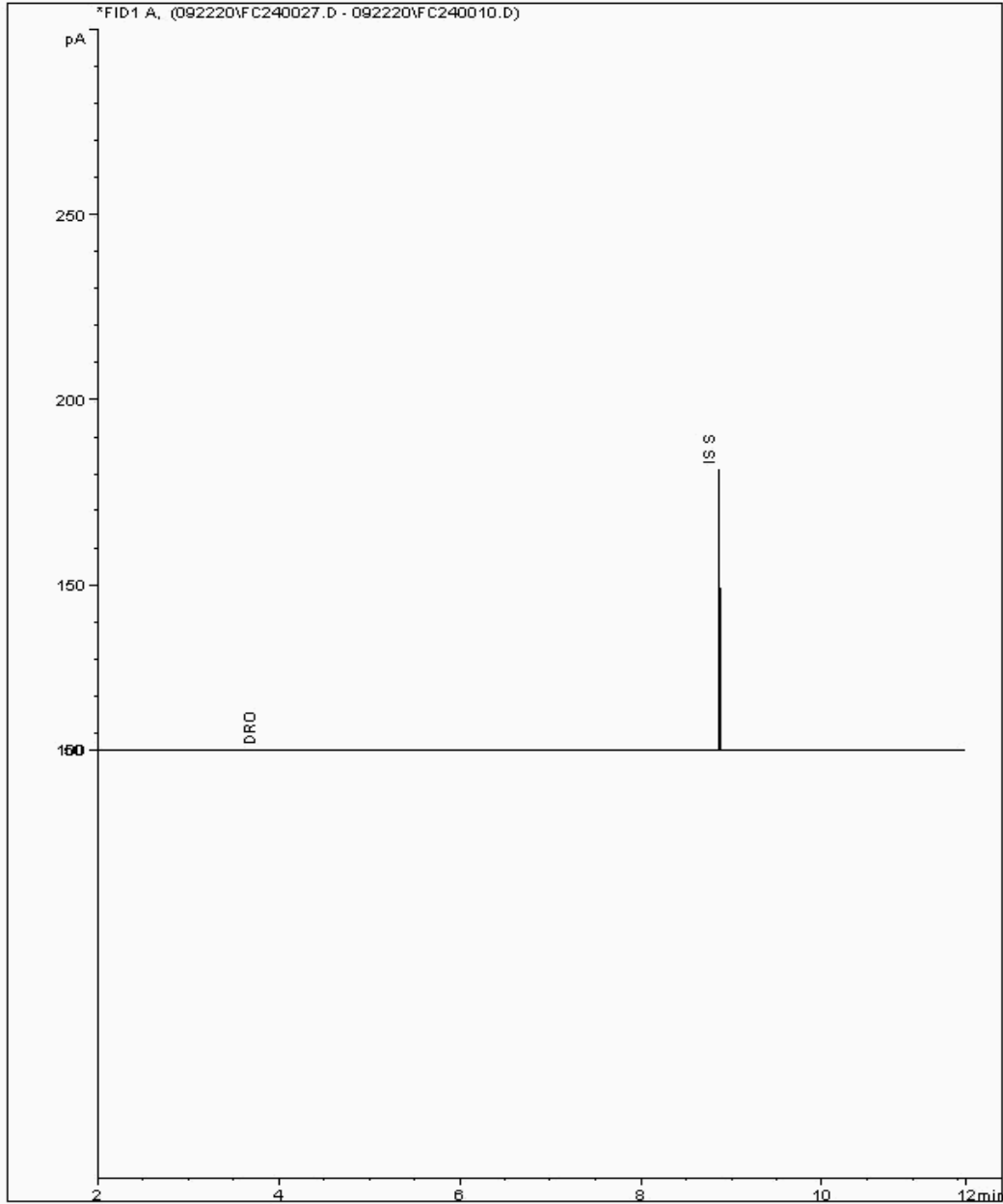
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22861747
Sample ID : GW09_31

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454553-
Date Acquired : 23/09/2020 00:25:42 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

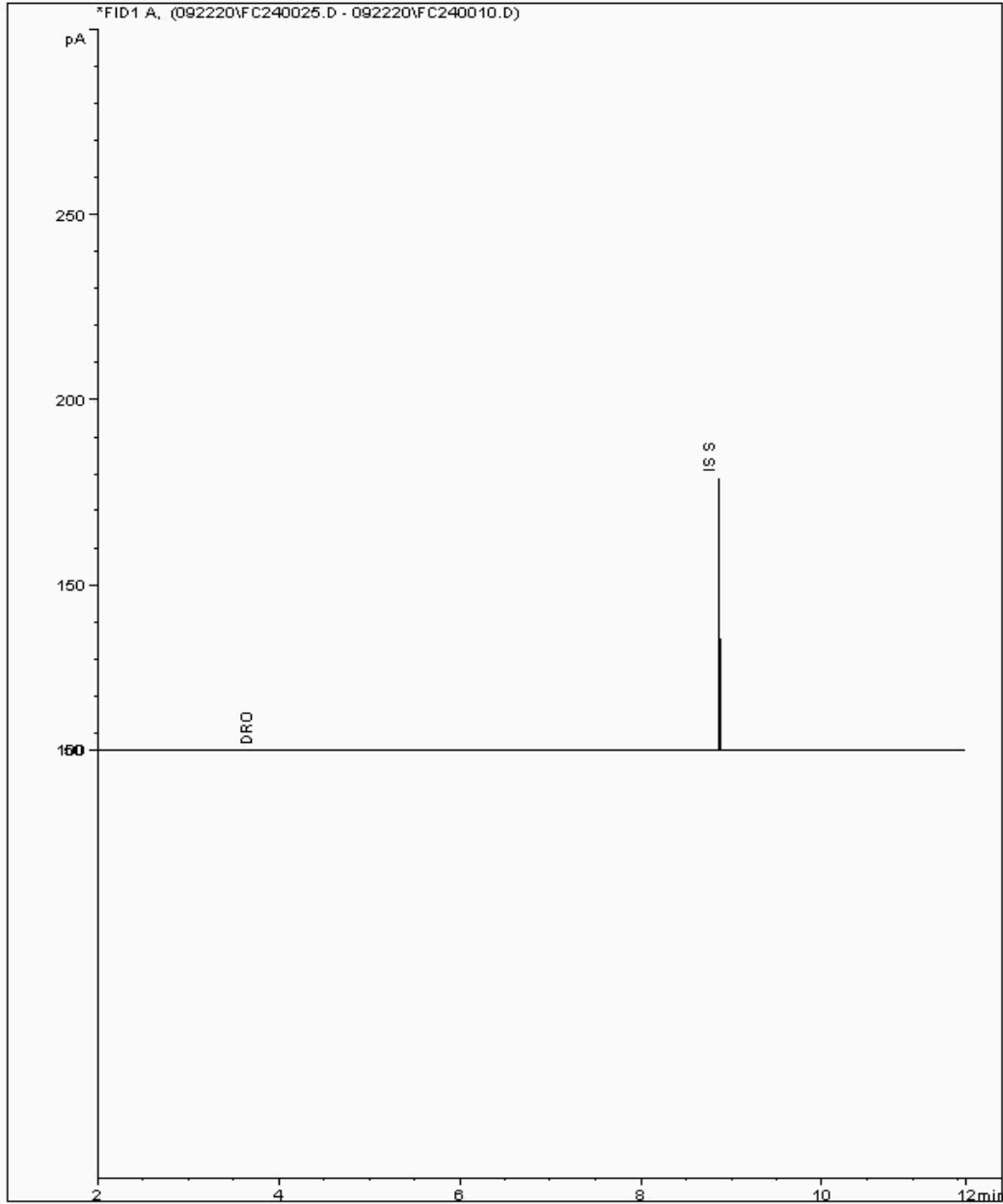
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22861764
Sample ID : GW09_32

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454577-
Date Acquired : 22/09/2020 23:36:30 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

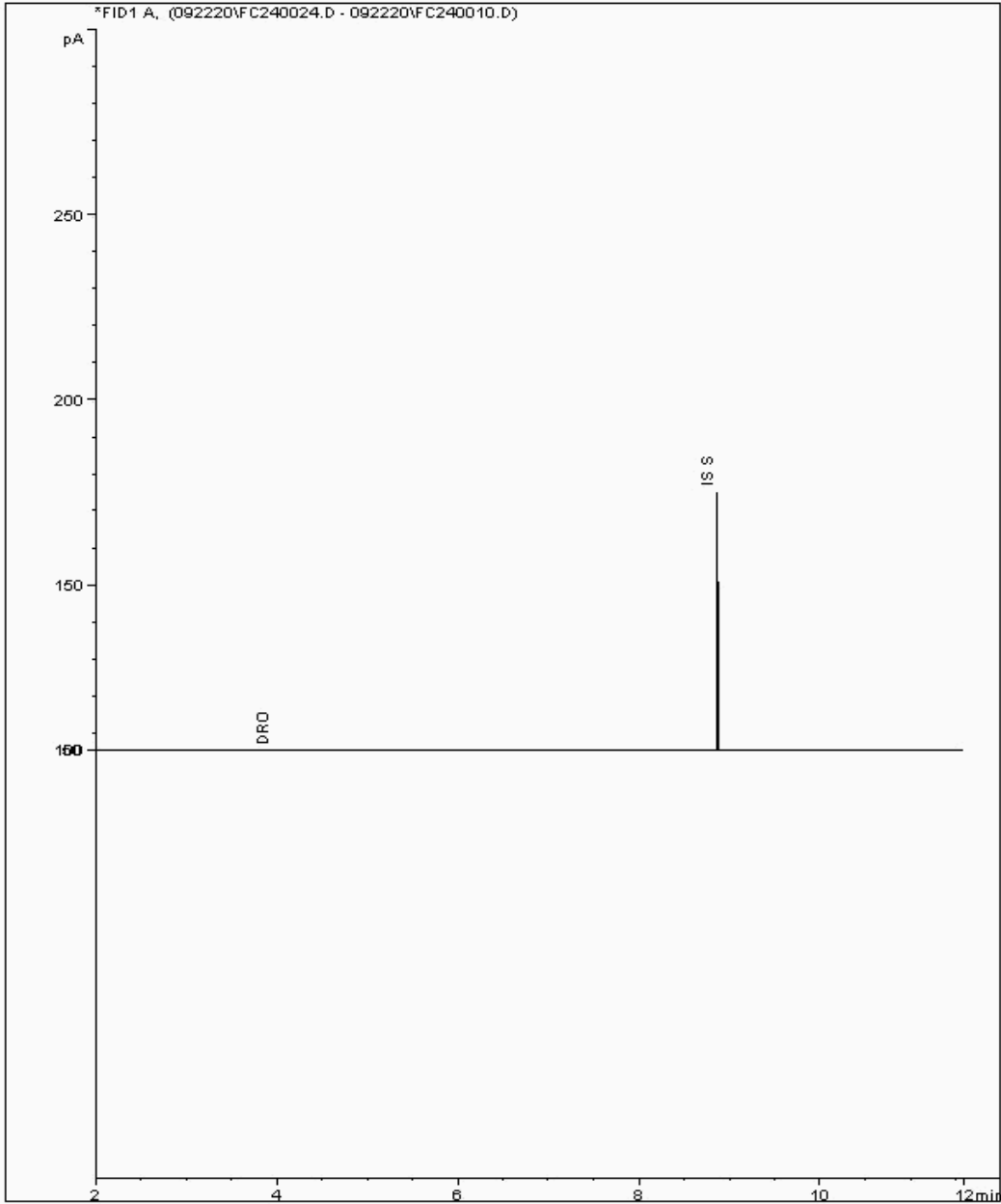
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22861787
Sample ID : GW03_09

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454473-
Date Acquired : 22/09/2020 23:11:53 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

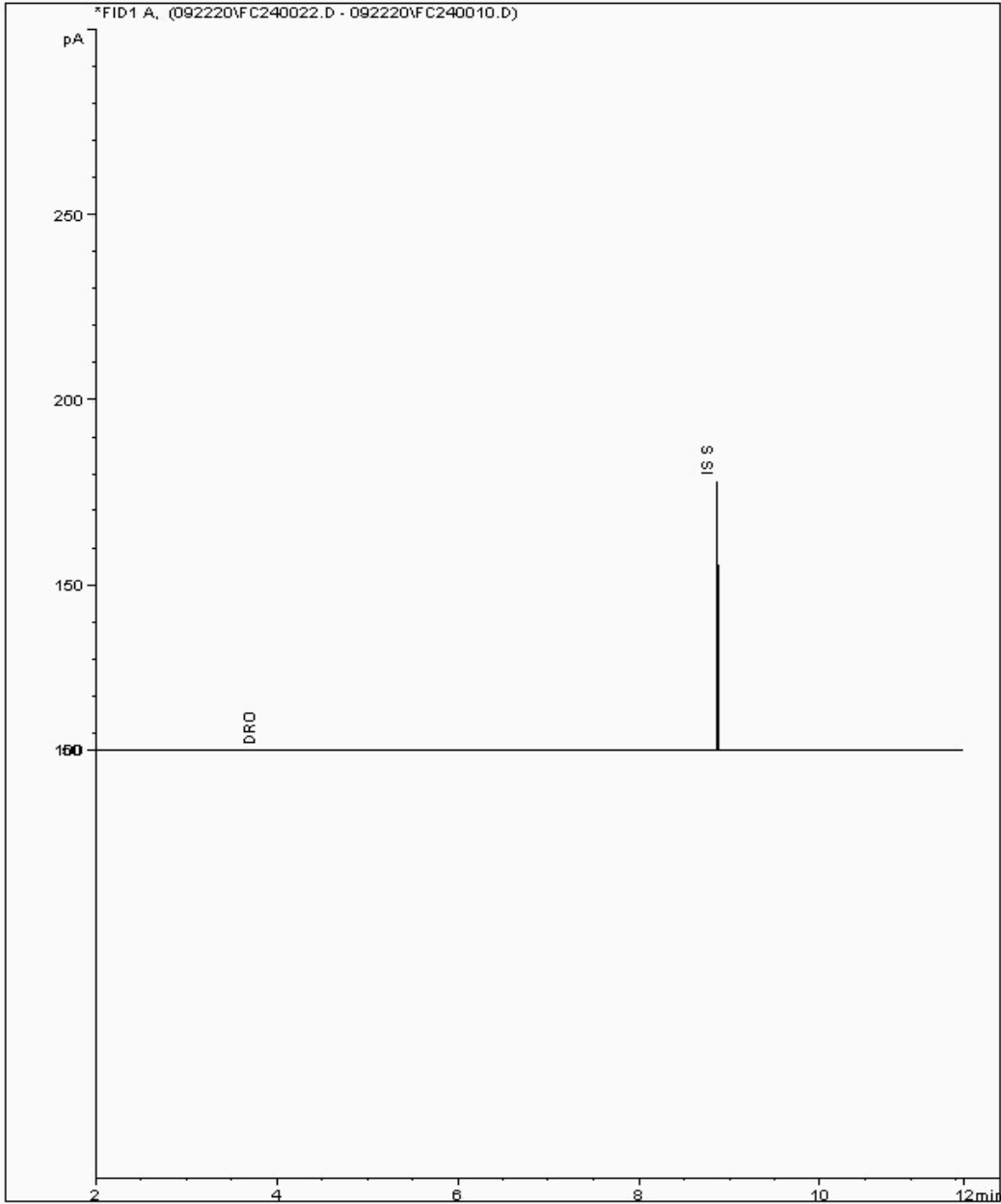
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22861809
Sample ID : GW12_33

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454602-
Date Acquired : 22/09/2020 22:22:42 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Part Report Number: 570983
Location: Newport landfill Order Number: 700154310 Superseded Report:

Chromatogram

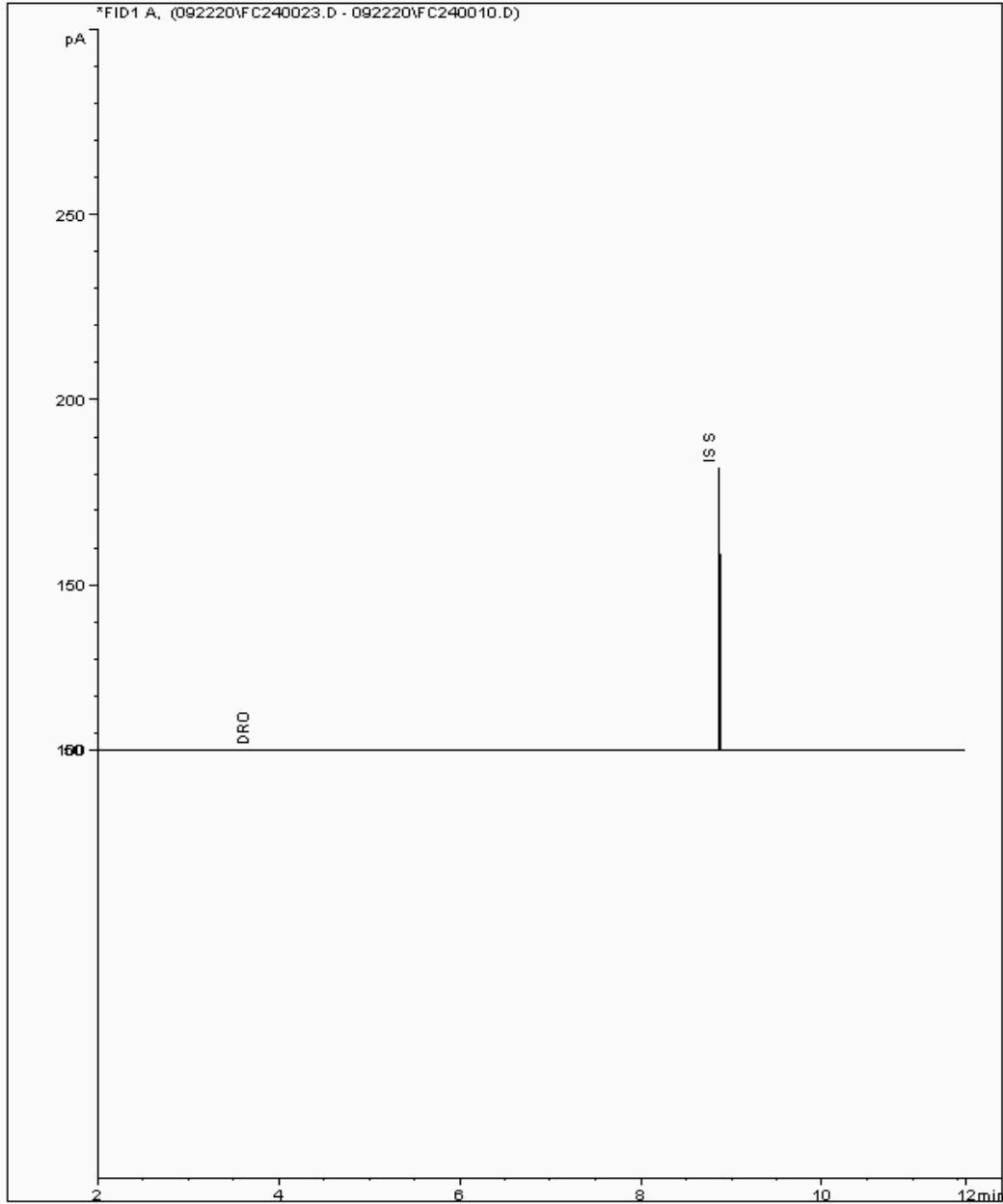
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 22862860
Sample ID : GW07_40

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21454439-
Date Acquired : 22/09/2020 22:47:14 PM
Units : ppm





CERTIFICATE OF ANALYSIS

SDG: 200917-49 Client Reference: Sept GW 2020 Area 2 Pa Report Number: 570983
 Location: Newport landfill Order Number: 700154310 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
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

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 (2017)*.

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.