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Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Luke Embrey

CERTIFICATE OF ANALYSIS

Date of report Generation: 16 June 2022
Customer: Newport City Council
Sample Delivery Group (SDG): 220610-122
Your Reference: JUNE SW & LEACH 2022
Location: Newport landfill
Report No: 650859
Order Number: 700181017

We received 8 samples on Friday June 10, 2022 and 8 of these samples were scheduled for analysis which was completed on Thursday June 16, 2022. 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.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
26414610	C3_ASB		0.00 - 0.00	08/06/2022
26414645	C3B		0.00 - 0.00	08/06/2022
26414663	C4B		0.00 - 0.00	08/06/2022
26414627	C2C		0.00 - 0.00	08/06/2022
26414614	LF08_07		0.00 - 0.00	08/06/2022
26414601	SW23		0.00 - 0.00	08/06/2022
26414605	SW24		0.00 - 0.00	08/06/2022
26414595	SW1A		0.00 - 0.00	08/06/2022

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report: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																		
								26414610	26414645	26414663	26414627													
								C3_ASB	C3B	C4B	C2C													
								0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00													
								250ml BOD (ALE212)	ZnAc (ALE246)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml BOD (ALE212)	0.5l glass bottle (ALE227)	ZnAc (ALE246)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml BOD (ALE212)	0.5l glass bottle (ALE227)
								SW	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE
								SW	SW	SW	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE
Alkalinity as CaCO3	All	NDPs: 0 Tests: 4																						
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 4																						
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 8																						
Anions by Kone (w)	All	NDPs: 1 Tests: 8																						
BOD True Total	All	NDPs: 0 Tests: 8																						
COD Unfiltered	All	NDPs: 0 Tests: 8																						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4																						
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 4																						
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4																						
Ionic Balance	All	NDPs: 1 Tests: 3																						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 4																						
pH Value	All	NDPs: 0 Tests: 8																						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 4																						
Sulphide	All	NDPs: 0 Tests: 4																						
Suspended Solids	All	NDPs: 0 Tests: 1																						



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Report Number: 650859
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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																								
								26414610	26414645	26414683	26414627																			
								C3_ASB	C3B	C4B	C2C																			
								0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	250ml BOD (ALE212)	0.5l glass bottle (ALE227)	ZnAc (ALE246)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml BOD (ALE212)	0.5l glass bottle (ALE227)	ZnAc (ALE246)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml BOD (ALE212)	0.5l glass bottle (ALE227)	
								SW	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE
								SW	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE
								SW	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE
Total Organic and Inorganic Carbon	All					NDPs: 0 Tests: 4																								
VOC MS (W)	All					NDPs: 0 Tests: 4																								

26414605	SW24	0.00 - 0.00	500ml Plastic (ALE208)	SW						
			250ml BOD (ALE212)	SW						
			H2SO4 (ALE244)	SW						
			500ml Plastic (ALE208)	SW						
			250ml BOD (ALE212)	SW						
			ZnAc (ALE246)	LE						
			Vial (ALE297)	LE					X	
			NaOH (ALE245)	LE						
			HNO3 Filtered (ALE204)	LE						
			H2SO4 (ALE244)	LE						X
26414614	LF08_07	0.00 - 0.00	500ml Plastic (ALE208)	LE						
			250ml BOD (ALE212)	LE						
			0.5l glass bottle (ALE227)	LE						
			ZnAc (ALE246)	LE						
			Vial (ALE297)	LE						
			NaOH (ALE245)	LE						
			HNO3 Filtered (ALE204)	LE						
			H2SO4 (ALE244)	LE						X
			500ml Plastic (ALE208)	LE						
			250ml BOD (ALE212)	LE						
26414627	C2C	0.00 - 0.00	ZnAc (ALE246)	LE						
			Vial (ALE297)	LE						
			NaOH (ALE245)	LE						X
			HNO3 Filtered (ALE204)	LE						
			H2SO4 (ALE244)	LE						X
			500ml Plastic (ALE208)	LE						



CERTIFICATE OF ANALYSIS

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SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Results Legend <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="background-color: yellow; border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> X Test </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="background-color: red; color: white; border: 1px solid black; width: 15px; height: 15px; margin-right: 5px;"></div> No Determination Possible </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)	26414605	26414595			
	Customer Sample Reference	SW24	SW1A			
	AGS Reference					
	Depth (m)	0.00 - 0.00	0.00 - 0.00			
	Container	H2SO4 (ALE244)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	
	Sample Type	SW	SW	SW	SW	
	Ammoniacal Nitrogen	All	NDPs: 0 Tests: 8	X		X
Anions by Kone (w)	All	NDPs: 1 Tests: 8		X		
BOD True Total	All	NDPs: 0 Tests: 8	X			
COD Unfiltered	All	NDPs: 0 Tests: 8	X			
pH Value	All	NDPs: 0 Tests: 8		X		



CERTIFICATE OF ANALYSIS

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Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Results Legend		Customer Sample Ref.	C3_ASB	C3B	C4B	C2C	LF08_07	SW23
#	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.		08/06/2022	08/06/2022	08/06/2022	08/06/2022	08/06/2022	08/06/2022
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		10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022	10/06/2022
(F)	Trigger breach confirmed		220610-122	220610-122	220610-122	220610-122	220610-122	220610-122
1-4	Sample deviation (see appendix)		26414610	26414645	26414663	26414627	26414614	26414601
Component	LOD/Units		Method					
Ionic balance	% Diff	Calulation			-12.2	-1.69	-0.771	
Suspended solids, Total	<2 mg/l	TM022	4.6 #					
Alkalinity, Total as CaCO3	<2 mg/l	TM043		5900 #	3500 #	8330 #	4080 #	
Alkalinity, Total as CaCO3 (diss.filt)	<2 mg/l	TM043		5930	3500	8280	4050	
Alkalinity, Bicarbonate as CaCO3 (diss.filt)	<2 mg/l	TM043		5930	3500	8280	4050	
BOD, unfiltered	<1 mg/l	TM045	3.9 #	184 #	51 #	70.8 #	34.5 #	3.81 #
Organic Carbon, Total	<3 mg/l	TM090		736	318	793	263	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.241 #	1100	613	1740	652	43 #
Sulphide	<0.01 mg/l	TM101		0.097	<0.05	0.838	0.118	
COD, unfiltered	<7 mg/l	TM107	110 #	2610 #	1230 #	891 #	812 #	59.9 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		29.1 #	8.61 #	27.6 #	17.3 #	
Boron (diss.filt)	<10 µg/l	TM152		15100 #	7930 #	9660 #	5910 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.8 #	<0.08 #	
Chromium (diss.filt)	<1 µg/l	TM152		329 #	67.3 #	271 #	42 #	
Copper (diss.filt)	<0.3 µg/l	TM152		0.401 #	<0.3 #	<3 #	0.393 #	
Lead (diss.filt)	<0.2 µg/l	TM152		0.402 #	<0.2 #	<2 #	<0.2 #	
Manganese (diss.filt)	<3 µg/l	TM152		418 #	1180 #	319 #	610 #	
Nickel (diss.filt)	<0.4 µg/l	TM152		102 #	92.4 #	159 #	81.4 #	
Selenium (diss.filt)	<1 µg/l	TM152		1.44 #	1.43 #	<10 #	<1 #	
Zinc (diss.filt)	<1 µg/l	TM152		10.6 #	6.3 #	17.4 #	11 #	
Sodium (Dis.Filt)	<0.076 mg/l	TM152		1580 #	1540 #	1580 #	972 #	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		187 #	251 #	174 #	165 #	
Potassium (Dis.Filt)	<0.2 mg/l	TM152		404 #	326 #	789 #	332 #	
Calcium (Dis.Filt)	<0.2 mg/l	TM152		125 #	284 #	77.1 #	181 #	
Iron (Dis.Filt)	<0.019 mg/l	TM152		1.32 #	3.84 #	0.59 #	1.24 #	
Hardness, Total as CaCO3	<0.65 mg/l	TM152		1080	1750	911	1130	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		3630	1760	3430	785	
Nitrite as NO2	<0.05 mg/l	TM184		<0.25	<0.05	<0.25	<0.05	
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		21.6	0.288	43.2	4.39	
Sulphate	<2 mg/l	TM184			<2	285	<2	
Chloride	<2 mg/l	TM184	310 #	2210	4490	2400	1450	245 #
Nitrate as NO3	<0.3 mg/l	TM184		<1.5	<0.3	<1.5	0.384	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	C3B	C4B	C2C	LF08_07		
#	ISU17025 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.		08/06/2022	08/06/2022	08/06/2022	08/06/2022		
diss.fit	Dissolved / filtered sample.		10/06/2022	10/06/2022	10/06/2022	10/06/2022		
tot.unfit	Total / unfiltered sample.		220610-122	220610-122	220610-122	220610-122		
*	Subcontracted - refer to subcontractor report for accreditation status.		26414645	26414663	26414627	26414614		
**	% 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					
Dibromofluoromethane**	%	TM208	109	107	108	109		
Toluene-d8**	%	TM208	98.2	98.3	97.5	97.6		
4-Bromofluorobenzene**	%	TM208	93.5	98.5	94.8	100		
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	1.02 #	<1 #	2.98 #	<1 #		
Dichloromethane	<3 µg/l	TM208	<5 #	<8 #	<5 #	<4 #		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	2.97 #	<1 #	4.37 #		
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 #	<1 #		
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	2.8 #	2.46 #	5.64 #	5.02 #		
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	6.88 #	1.27 #	3.52 #	1.47 #		
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: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	C3B	C4B	C2C	LF08_07		
#	ISO17025 accredited.	Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
M	mCERTS accredited.	Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
sq	Aqueous / settled sample.	Date Sampled	08/06/2022	08/06/2022	08/06/2022	08/06/2022		
disc.filt	Dissolved / filtered sample.	Sampled Time	-	-	-	-		
tot.unfilt	Total / unfiltered sample.	Date Received	10/06/2022	10/06/2022	10/06/2022	10/06/2022		
	Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	220610-122	220610-122	220610-122	220610-122		
**	% 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	Lab Sample No.(s)	26414645	26414663	26414627	26414614		
(F)	Trigger breach confirmed	AGS Reference						
1.4.4.6	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	<1 #	<1 #	<1 #	<1 #		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Ethylbenzene	<1 µg/l	TM208	7.39 #	3.65 #	6.92 #	<1 #		
m,p-Xylene	<1 µg/l	TM208	7.84 #	5.4 #	7.25 #	2.92 #		
o-Xylene	<1 µg/l	TM208	4.09 #	4.42 #	4.42 #	2.21 #		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µg/l	TM208	1.08 #	<1 #	<1 #	<1 #		
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 #	<1 #	<1 #		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
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	1.74 #	1.25 #	2.24 #	2.4 #		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	4.59 #	<1 #		
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 #	<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 #	<1 #	1.96 #	<1 #		



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Notification of NDPs (No determination possible)

Date Received : 10/06/2022 15:34:29

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
26414645	C3B	0.00 - 0.00	Ionic Balance	See Comments for cancellation details
26414645	C3B	0.00 - 0.00	Anions by Kone (w)	Sample too coloured



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
Calculation		
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
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
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
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, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

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

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Test Completion Dates

Lab Sample No(s)	26414610	26414645	26414663	26414627	26414614	26414601	26414605	26414595
Customer Sample Ref.	C3_ASB	C3B	C4B	C2C	LF08_07	SW23	SW24	SW1A
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	Surface Water	Land Leachate	Land Leachate	Land Leachate	Land Leachate	Surface Water	Surface Water	Surface Water
Alkalinity as CaCO3		15-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022			
Alkalinity Filtered as CaCO3		15-Jun-2022	15-Jun-2022	15-Jun-2022	15-Jun-2022			
Ammoniacal Nitrogen	13-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022
Anions by Kone (w)	13-Jun-2022	15-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022
BOD True Total	16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022
COD Unfiltered	13-Jun-2022	13-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022
Cyanide Comp/Free/Total/Thiocyanate		15-Jun-2022	15-Jun-2022	15-Jun-2022	15-Jun-2022			
Dissolved Metals by ICP-MS		14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022			
EPH (DRO) (C10-C40) Aqueous (W)		16-Jun-2022	16-Jun-2022	16-Jun-2022	16-Jun-2022			
Ionic Balance			15-Jun-2022	15-Jun-2022	15-Jun-2022			
Nitrite by Kone (w)		13-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022			
pH Value	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022	14-Jun-2022
Phosphate by Kone (w)		11-Jun-2022	11-Jun-2022	11-Jun-2022	11-Jun-2022			
Sulphide		15-Jun-2022	15-Jun-2022	15-Jun-2022	15-Jun-2022			
Suspended Solids	15-Jun-2022							
Total Organic and Inorganic Carbon		13-Jun-2022	13-Jun-2022	13-Jun-2022	13-Jun-2022			
VOC MS (W)		15-Jun-2022	15-Jun-2022	15-Jun-2022	15-Jun-2022			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Chromatogram

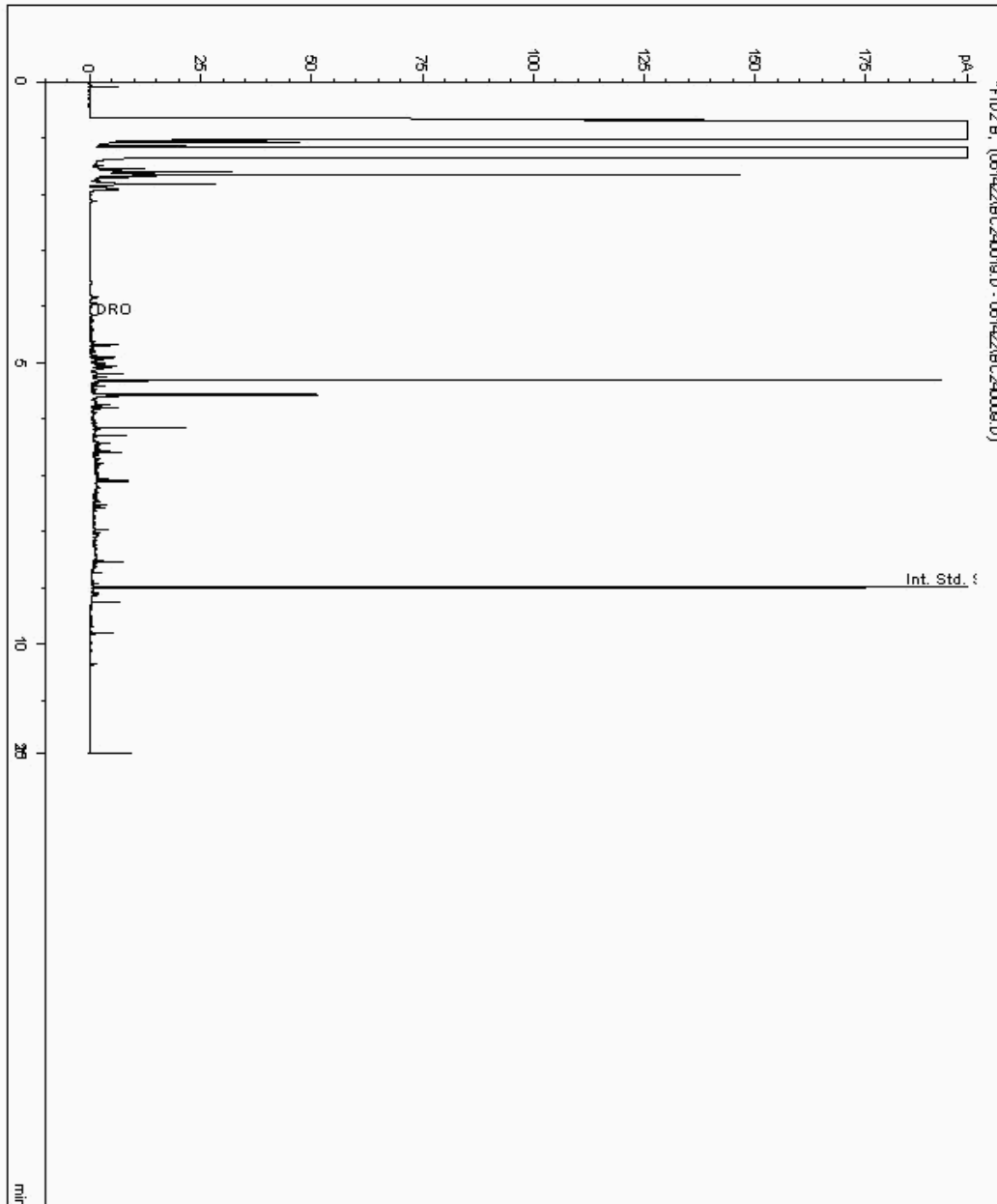
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26416516
Sample ID : LF08_07

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 24634974-
Date Acquired : 14/06/2022 17:33:43 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

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SDG: 220610-122
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Report Number: 650859
Location: Newport landfill

Superseded Report:

Chromatogram

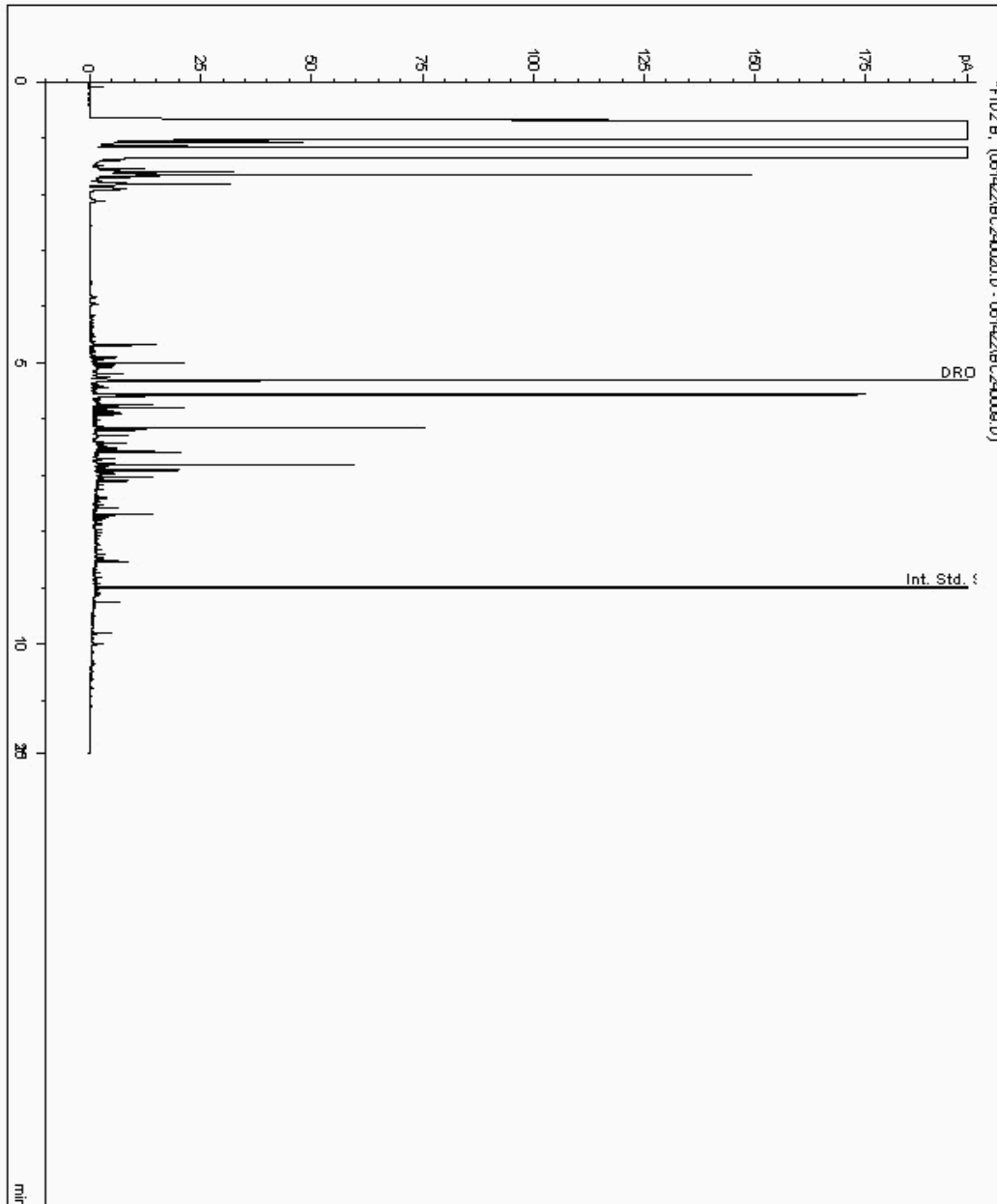
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26416517
Sample ID : C4B

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 24635025-
Date Acquired : 14/06/2022 17:57:56 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

Superseded Report:

Chromatogram

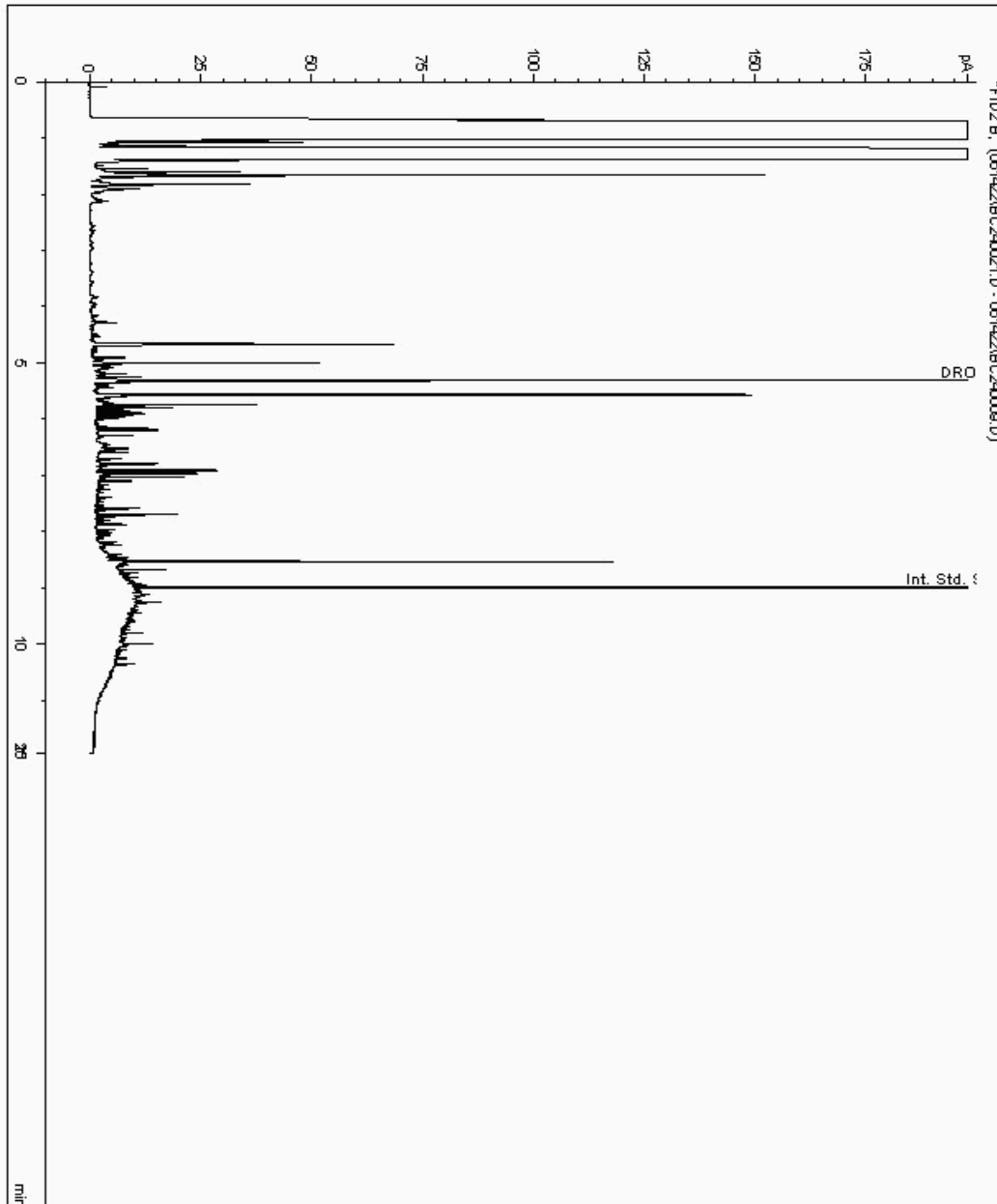
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26416518
Sample ID : C3B

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 24635008-
Date Acquired : 14/06/2022 18:21:58 PM
Units : mg/l





CERTIFICATE OF ANALYSIS

Validated

SDG: 220610-122
Client Ref.: JUNE SW & LEACH 2C

Report Number: 650859
Location: Newport landfill

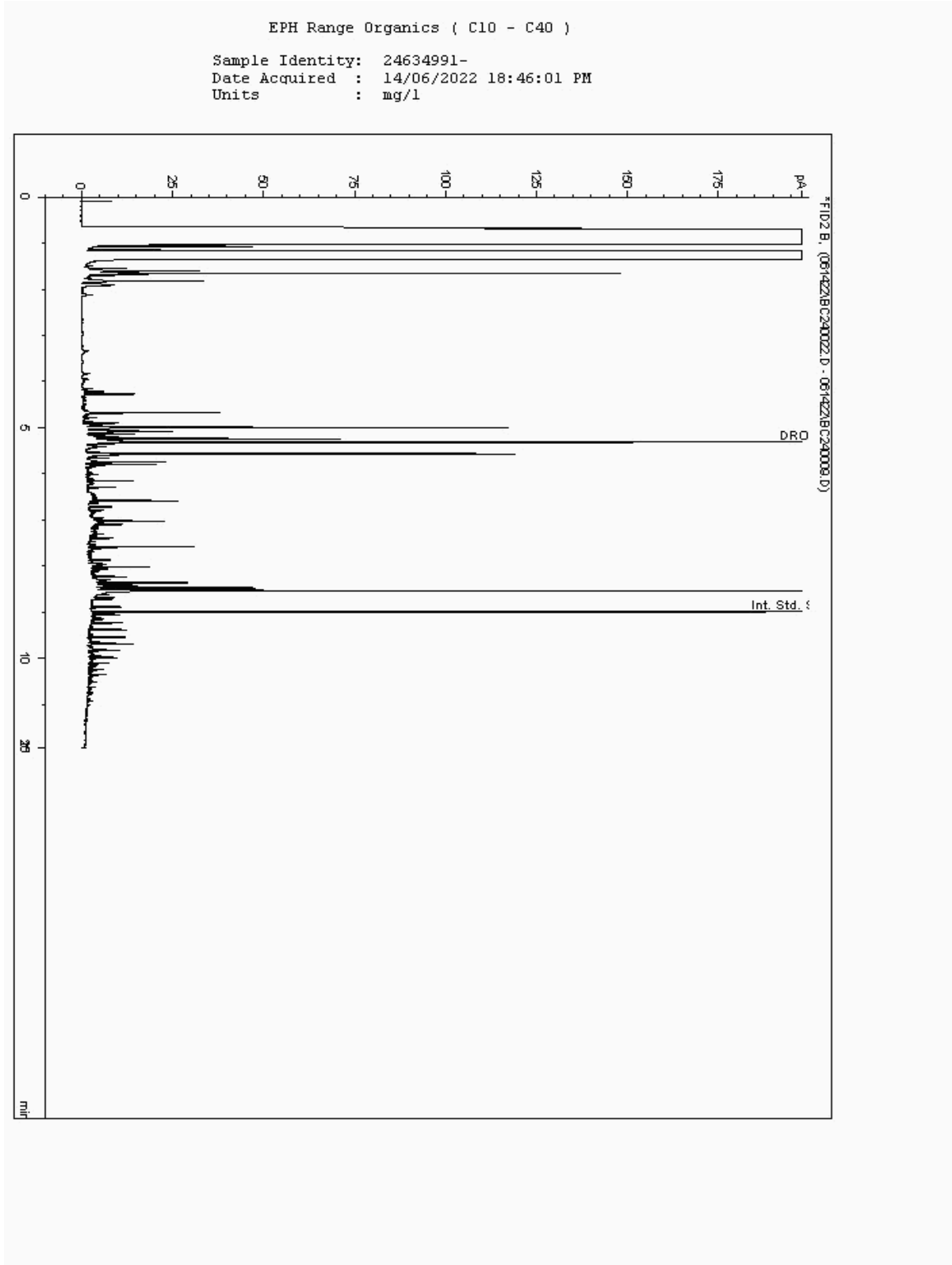
Superseded Report:

Chromatogram

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

Sample No : 26416522
Sample ID : C2C

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG: 220610-122

Report Number: 650859

Superseded Report:

Client Ref: JUNE SW & LEACH 2021

Location: Newport landfill

Appendix

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

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.