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Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
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Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Luke Embrey

CERTIFICATE OF ANALYSIS

Date of report Generation:	30 June 2021
Customer:	Newport City Council
Sample Delivery Group (SDG):	210610-80
Your Reference:	June GW 2021 P1
Location:	Newport landfill
Report No:	603948

This report has been revised and directly supersedes 603585 in its entirety.

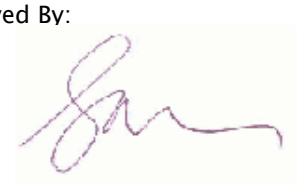
We received 7 samples on Thursday June 10, 2021 and 7 of these samples were scheduled for analysis which was completed on Monday June 28, 2021. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 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

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
24423979	GW03_09		0.00 - 0.00	08/06/2021
24423913	GW06_39		0.00 - 0.00	08/06/2021
24423929	GW07_40		0.00 - 0.00	08/06/2021
24423960	GW09_31		0.00 - 0.00	08/06/2021
24423994	GW09_32		0.00 - 0.00	08/06/2021
24423945	GW12_30		0.00 - 0.00	08/06/2021
24424014	GW12_33		0.00 - 0.00	08/06/2021

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

CERTIFICATE OF ANALYSIS

Validated

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)	24423979	24423913	24423929
Customer Sample Reference	GW03_09	GW06_39	GW07_40
AGS Reference			
Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Container	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW

Alkalinity as CaCO3	All	NDPs: 0 Tests: 7			X							X								X		
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 7			X							X								X		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7				X							X								X	
Anions by Kone (w)	All	NDPs: 0 Tests: 7			X							X								X		
BOD True Total	All	NDPs: 0 Tests: 7		X							X								X			
COD Unfiltered	All	NDPs: 0 Tests: 7		X							X								X			
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7			X							X								X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7						X							X							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7					X							X								X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 7	X								X							X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7							X								X					
Ionic Balance	All	NDPs: 0 Tests: 7			X							X								X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7						X							X							
pH Value	All	NDPs: 0 Tests: 7			X							X								X		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7			X							X								X		

24423994	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW											X				
				NaOH (ALE245)	GW								X					X		
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW			X												
				500ml Plastic (ALE208)	GW	X	X		X			X					X		X	X
				250ml BOD (ALE212)	GW					X	X									
				0.5l glass bottle (ALE227)	GW										X					
24423960	GW09_31		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW											X				
				NaOH (ALE245)	GW								X					X		
				HNO3 Filtered (ALE204)	GW									X						
				H2SO4 (ALE244)	GW			X												
				500ml Plastic (ALE208)	GW	X	X		X			X					X		X	X
				250ml BOD (ALE212)	GW					X	X									
				0.5l glass bottle (ALE227)	GW										X					
24423929	GW07_40		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW											X				
				NaOH (ALE245)	GW								X					X		

CERTIFICATE OF ANALYSIS

Validated

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)			24423979	24423913	24423929
Customer Sample Reference			GW03_09	GW06_39	GW07_40
AGS Reference					
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Container			0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sulphide	All	NDPs: 0 Tests: 7								X								X						
TOC (Filtered)*	All	NDPs: 0 Tests: 7	X								X								X					
Total EPH (aq)	All	NDPs: 0 Tests: 7	X								X								X					
VOC MS (W)	All	NDPs: 0 Tests: 7							X								X							

24423994	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW		X						
				Vial (ALE297)	GW								X
				NaOH (ALE245)	GW								
				HNO3 Filtered (ALE204)	GW								
				H2SO4 (ALE244)	GW								
				500ml Plastic (ALE208)	GW								
				250ml BOD (ALE212)	GW								
				0.5l glass bottle (ALE227)	GW				X		X		
24423960	GW09_31		0.00 - 0.00	ZnAc (ALE246)	GW		X						
				Vial (ALE297)	GW								X
				NaOH (ALE245)	GW								
				HNO3 Filtered (ALE204)	GW								
				H2SO4 (ALE244)	GW								
				500ml Plastic (ALE208)	GW								
				250ml BOD (ALE212)	GW								
				0.5l glass bottle (ALE227)	GW				X		X		
24423929	GW07_40		0.00 - 0.00	ZnAc (ALE246)	GW		X						
				Vial (ALE297)	GW								X
				NaOH (ALE245)	GW								

CERTIFICATE OF ANALYSIS

Validated

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)																			24423945	24424014
Customer Sample Reference																			GW12_30	GW12_33
AGS Reference																				
Depth (m)																			0.00 - 0.00	0.00 - 0.00
Container																			0.5l glass bottle (ALE227)	0.5l glass bottle (ALE227)
																			250ml BOD (ALE212)	250ml BOD (ALE212)
																			500ml Plastic (ALE208)	500ml Plastic (ALE208)
																			H2SO4 (ALE244)	H2SO4 (ALE244)
																			HNO3 Filtered (ALE204)	HNO3 Filtered (ALE204)
																			NaOH (ALE245)	NaOH (ALE245)
																			Vial (ALE297)	Vial (ALE297)
																			ZnAc (ALE246)	ZnAc (ALE246)
Sample Type																			GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 7																		
					X														X	X
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 7																		
					X														X	X
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 7																		
						X													X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 7																		
					X														X	X
BOD True Total	All	NDPs: 0 Tests: 7																		
			X												X					
COD Unfiltered	All	NDPs: 0 Tests: 7																		
			X												X					
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 7																		
					X														X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7																		
								X										X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 7																		
							X										X			
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 7																		
			X										X							
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7																		
									X										X	X
Ionic Balance	All	NDPs: 0 Tests: 7																		
					X														X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 7																		
								X										X		
pH Value	All	NDPs: 0 Tests: 7																		
					X														X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 7																		
					X														X	X

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water
Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)										24423945									24424014
Customer Sample Reference										GW12_30									GW12_33
AGS Reference																			
Depth (m)										0.00 - 0.00									0.00 - 0.00
Container										0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type										GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sulphide	All	NDPs: 0 Tests: 7															X									X
TOC (Filtered)*	All	NDPs: 0 Tests: 7								X								X								
Total EPH (aq)	All	NDPs: 0 Tests: 7								X								X								
VOC MS (W)	All	NDPs: 0 Tests: 7														X								X		

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	-	-	-	-	-	-
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
Ionic balance	% Diff	Calulation		-2.23	-9.35	-8.31	-5.38	-14	-7.19
Dissolved Organic Carbon, as C*	<0.7 mg/l	SUB		10.6	12.3	13.3	46.9	6.6	18.8
Alkalinity, Total as CaCO3	<2 mg/l	TM043		1000 #	990 #	665 #	1080 #	608 #	709 #
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		979	980	669	1070	582	740
Alkalinity, Bicarbonate as CaCO3 (diss.filt)	<2 mg/l	TM043		979	980	669	1070	582	740
BOD, unfiltered	<1 mg/l	TM045		<3 #	<1 #	<3 #	<3 #	<1 #	<1 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		10.2 #	4.09 #	7.67 #	49.2 #	15.5 #	3.04 #
Sulphide	<0.01 mg/l	TM101		0.0171 #	0.0319 #	0.0558 #	0.0537 #	0.0211 #	0.0716 #
COD, unfiltered	<7 mg/l	TM107		186 #	82.2 #	49.2 #	166 #	166 #	71.8 #
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120		10.2 #	5.81 #	1.76 #	2.82 #	15 #	2.01 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		9.14 #	10.4 #	13.5 #	10.1 #	8.83 #	17.6 #
Boron (diss.filt)	<10 µg/l	TM152		1560 #	1250 #	1350 #	2270 #	1780 #	608 #
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 #	8.78 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152		624 #	361 #	150 #	1930 #	854 #	3060 #
Nickel (diss.filt)	<0.4 µg/l	TM152		0.524 #	1.69 #	1.41 #	10.4 #	0.528 #	1.69 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		2.61 #	3.77 #	<1 #	4.68 #	2.42 #	<1 #
Sodium (Dis.Filt)	<0.076 mg/l	TM152		2020 #	834 #	225 #	217 #	2130 #	219 #
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		216 #	137 #	44.1 #	84.1 #	374 #	70 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		64.7 #	46.5 #	25.3 #	64 #	102 #	14.8 #
Calcium (Dis.Filt)	<0.2 mg/l	TM152		132 #	149 #	60.5 #	250 #	220 #	119 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		5.43 #	6.19 #	0.981 #	10.5 #	10.9 #	14.8 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152		1220	937	333	971	2330	585
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		272 #	326 #	336 #	476 #	268 #	294 #
Total EPH (C6-C40) (aq)	<100 µg/l	TM172		272	326	336	476	268	294
Nitrite as NO2	<0.05 mg/l	TM184		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		0.973 #	0.901 #	7.99 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184		233 #	42.2 #	21.6 #	370 #	402 #	86.2 #
Chloride	<2 mg/l	TM184		3380 #	1690 #	248 #	310 #	5780 #	304 #

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	.	.	.	.	.	.
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
Nitrate as NO3	<0.3 mg/l	TM184		<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256		7.95 #	7.77 #	8.08 #	7.49 #	7.74 #	7.24 #

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	GW12_33								
Depth (m)	0.00 - 0.00								
Sample Type	Ground Water (GW)								
Date Sampled	08/06/2021								
Sampled Time	-								
Date Received	10/06/2021								
SDG Ref	210610-80								
Lab Sample No.(s)	24424014								
AGS Reference									
Component	**LOD/Units**	**Method**							
Ionic balance	% Diff	Calulation	-14.5						
Dissolved Organic Carbon, as C*	<0.7 mg/l	SUB	22.5						
Alkalinity, Total as CaCO3	<2 mg/l	TM043	1080 #						
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043	1120						
Alkalinity, Bicarbonate as CaCO3 (diss.filt)	<2 mg/l	TM043	1090						
BOD, unfiltered	<1 mg/l	TM045	<1 #						
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	52.5 #						
Sulphide	<0.01 mg/l	TM101	0.169 #						
COD, unfiltered	<7 mg/l	TM107	262 #						
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	16.4 #						
Arsenic (diss.filt)	<0.5 µg/l	TM152	13.5 #						
Boron (diss.filt)	<10 µg/l	TM152	2880 #						
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #						
Chromium (diss.filt)	<1 µg/l	TM152	<1 #						
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #						
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #						
Manganese (diss.filt)	<3 µg/l	TM152	207 #						
Nickel (diss.filt)	<0.4 µg/l	TM152	<0.4 #						
Selenium (diss.filt)	<1 µg/l	TM152	<1 #						
Zinc (diss.filt)	<1 µg/l	TM152	1.15 #						
Sodium (Dis.Filt)	<0.076 mg/l	TM152	2250 #						
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	432 #						
Potassium (Dis.Filt)	<0.2 mg/l	TM152	118 #						
Calcium (Dis.Filt)	<0.2 mg/l	TM152	134 #						
Iron (Dis.Filt)	<0.019 mg/l	TM152	6.46 #						
Hardness, Total as CaCO3	<0.65 mg/l	TM152	2320						
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	290 #						
Total EPH (C6-C40) (aq)	<100 µg/l	TM172	290						
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #						
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	7.15 #						
Sulphate	<2 mg/l	TM184	78.5 #						
Chloride	<2 mg/l	TM184	6120 #						

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Customer Sample Ref.	GW12_33
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	08/06/2021
Sampled Time	.
Date Received	10/06/2021
SDG Ref	210610-80
Lab Sample No.(s)	24424014
AGS Reference	

Component	LOD/Units	Method	
Nitrate as NO3	<0.3 mg/l	TM184	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #
pH	<1 pH Units	TM256	7.67 #

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	-	-	-	-	-	-
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Benzene	<7 µg/l	TM245		<7 #	<7 #	<7 #	<7 #	<7 #	<7 #
Toluene	<4 µg/l	TM245		<4 #	<4 #	<4 #	<4 #	<4 #	<4 #
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 #	<8 #	<8 #	<8 #	<8 #
o-Xylene	<3 µg/l	TM245		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Sum of detected BTEX	<28 µg/l	TM245		<28	<28	<28	<28	<28	<28
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	29	<10	<10
EPH (C6-C10)	<100 µg/l	TM245		<100	<100	<100	<100	<100	<100

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref. GW12_33 Depth (m) 0.00 - 0.00 Sample Type Ground Water (GW) Date Sampled 08/06/2021 Sampled Time - Date Received 10/06/2021 SDG Ref 210610-80 Lab Sample No.(s) 24424014 AGS Reference
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3 #
Benzene	<7 µg/l	TM245	<7 #
Toluene	<4 µg/l	TM245	<4 #
Ethylbenzene	<5 µg/l	TM245	<5 #
m,p-Xylene	<8 µg/l	TM245	<8 #
o-Xylene	<3 µg/l	TM245	<3 #
Sum of detected BTEX	<28 µg/l	TM245	<28
GRO >C5-C10	<10 µg/l	TM245	<10
EPH (C6-C10)	<100 µg/l	TM245	<100

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	-	-	-	-	-	-
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
Dibromofluoromethane**	%	TM208		105	107	108	106	107	112
Toluene-d8**	%	TM208		100	100	100	99.6	101	101
4-Bromofluorobenzene**	%	TM208		98.1	97.9	99.8	97.9	99.7	99.2
Dichlorodifluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vinyl chloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichlorofluoromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbon disulphide	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dichloromethane	<3 µg/l	TM208		<3 #	<3 #	<3 #	<3 #	<3 #	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,2-Dichloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chloroform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbontetrachloride	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Trichloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromomethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromodichloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Toluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	.	.	.	.	.	.
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
1,3-Dichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
			Date Sampled	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021	08/06/2021
			Sampled Time	.	.	.	.	.	.
			Date Received	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021	10/06/2021
			SDG Ref	210610-80	210610-80	210610-80	210610-80	210610-80	210610-80
			Lab Sample No.(s)	24423979	24423913	24423929	24423960	24423994	24423945
			AGS Reference						
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1	<1	<1	<1	<1	<1

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	GW12_33
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	08/06/2021
Sampled Time	-
Date Received	10/06/2021
SDG Ref	210610-80
Lab Sample No.(s)	24424014
AGS Reference	

Component	LOD/Units	Method	
Dibromofluoromethane**	%	TM208	109
Toluene-d8**	%	TM208	100
4-Bromofluorobenzene**	%	TM208	96.5
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #
Chloromethane	<1 µg/l	TM208	<1 #
Vinyl chloride	<1 µg/l	TM208	<1 #
Bromomethane	<1 µg/l	TM208	<1 #
Chloroethane	<1 µg/l	TM208	<1 #
Trichlorofluoromethane	<1 µg/l	TM208	<1 #
1,1-Dichloroethene	<1 µg/l	TM208	<1 #
Carbon disulphide	<1 µg/l	TM208	<1 #
Dichloromethane	<3 µg/l	TM208	<3 #
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
1,1-Dichloroethane	<1 µg/l	TM208	<1 #
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #
2,2-Dichloropropane	<1 µg/l	TM208	<1
Bromochloromethane	<1 µg/l	TM208	<1 #
Chloroform	<1 µg/l	TM208	<1 #
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #
1,1-Dichloropropene	<1 µg/l	TM208	<1 #
Carbontetrachloride	<1 µg/l	TM208	<1 #
1,2-Dichloroethane	<1 µg/l	TM208	<1 #
Benzene	<1 µg/l	TM208	<1 #
Trichloroethene	<1 µg/l	TM208	<1 #
1,2-Dichloropropane	<1 µg/l	TM208	<1 #
Dibromomethane	<1 µg/l	TM208	<1 #
Bromodichloromethane	<1 µg/l	TM208	<1 #
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
Toluene	<1 µg/l	TM208	<1 #
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+§@	Sample deviation (see appendix)

Customer Sample Ref.	GW12_33
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	08/06/2021
Sampled Time	.
Date Received	10/06/2021
SDG Ref	210610-80
Lab Sample No.(s)	24424014
AGS Reference	

Component	LOD/Units	Method					
1,3-Dichloropropane	<1 µg/l	TM208	<1 #				
Tetrachloroethene	<1 µg/l	TM208	<1 #				
Dibromochloromethane	<1 µg/l	TM208	<1 #				
1,2-Dibromoethane	<1 µg/l	TM208	<1 #				
Chlorobenzene	<1 µg/l	TM208	<1 #				
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #				
Ethylbenzene	<1 µg/l	TM208	<1 #				
m,p-Xylene	<1 µg/l	TM208	<1 #				
o-Xylene	<1 µg/l	TM208	<1 #				
Styrene	<1 µg/l	TM208	<1 #				
Bromoform	<1 µg/l	TM208	<1 #				
Isopropylbenzene	<1 µg/l	TM208	<1 #				
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #				
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #				
Bromobenzene	<1 µg/l	TM208	<1 #				
Propylbenzene	<1 µg/l	TM208	<1 #				
2-Chlorotoluene	<1 µg/l	TM208	<1 #				
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #				
4-Chlorotoluene	<1 µg/l	TM208	<1 #				
tert-Butylbenzene	<1 µg/l	TM208	<1 #				
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #				
sec-Butylbenzene	<1 µg/l	TM208	<1 #				
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #				
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #				
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #				
n-Butylbenzene	<1 µg/l	TM208	<1 #				
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #				
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1				
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #				
Hexachlorobutadiene	<1 µg/l	TM208	<1 #				
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #				
Naphthalene	<1 µg/l	TM208	<1 #				

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+5@	Sample deviation (see appendix)

Customer Sample Ref.	GW12_33
Depth (m)	0.00 - 0.00
Sample Type	Ground Water (GW)
Date Sampled	08/06/2021
Sampled Time	.
Date Received	10/06/2021
SDG Ref	210610-80
Lab Sample No.(s)	24424014
AGS Reference	

Component	LOD/Units	Method	
1,2,3-Trichlorobenzene	<1 µg/l	TM208	<1 #
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1

Table of Results - Appendix

Method No	Reference	Description
Calulation		
SUB		Subcontracted Test
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
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
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
TM245	By GC-FID	Determination of GRO by Headspace in waters
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

NA = not applicable.

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

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Test Completion Dates

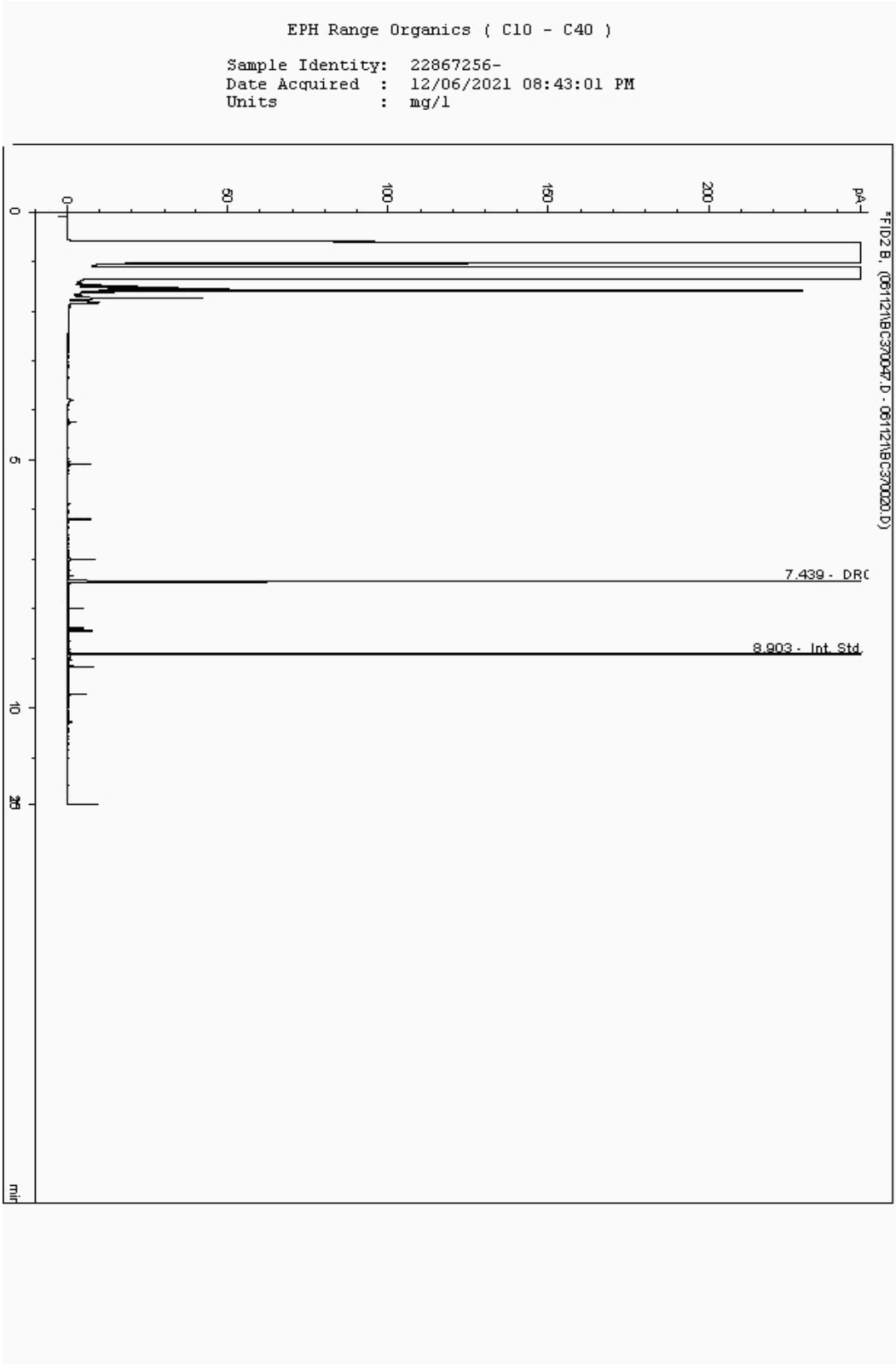
Lab Sample No(s)	24423979	24423913	24423929	24423960	24423994	24423945	24424014
Customer Sample Ref.	GW03_09	GW06_39	GW07_40	GW09_31	GW09_32	GW12_30	GW12_33
AGS Ref.							
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alkalinity as CaCO3	12-Jun-2021	16-Jun-2021	15-Jun-2021	12-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021
Alkalinity Filtered as CaCO3	16-Jun-2021	28-Jun-2021	17-Jun-2021	28-Jun-2021	16-Jun-2021	28-Jun-2021	16-Jun-2021
Ammoniacal Nitrogen	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021
Anions by Kone (w)	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
BOD True Total	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
COD Unfiltered	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021
Conductivity (at 20 deg.C)	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
Cyanide Comp/Free/Total/Thiocyanate	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
Dissolved Metals by ICP-MS	15-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	15-Jun-2021	11-Jun-2021	15-Jun-2021
EPH (DRO) (C10-C40) Aqueous (W)	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
GRO by GC-FID (W)	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021
Ionic Balance	16-Jun-2021	28-Jun-2021	17-Jun-2021	28-Jun-2021	16-Jun-2021	28-Jun-2021	16-Jun-2021
Nitrite by Kone (w)	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021
pH Value	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021
Phosphate by Kone (w)	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021	11-Jun-2021
Sulphide	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021	16-Jun-2021
TOC (Filtered)*	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
Total EPH (aq)	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021	15-Jun-2021
VOC MS (W)	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021	14-Jun-2021

CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425788 **Sample ID :** GW07_40 **Depth :** 0.00 - 0.00

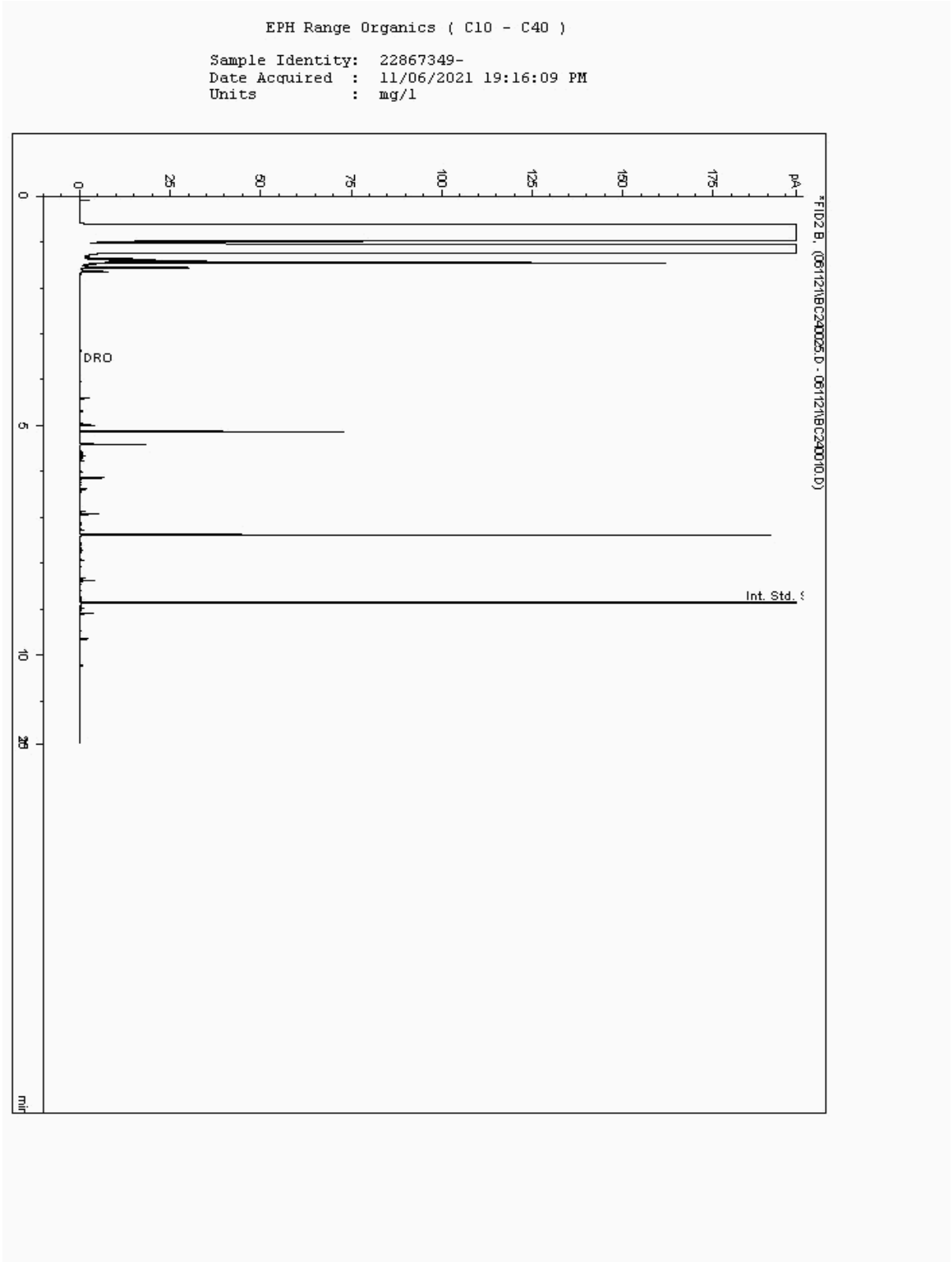


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425794 **Sample ID :** GW09_31 **Depth :** 0.00 - 0.00

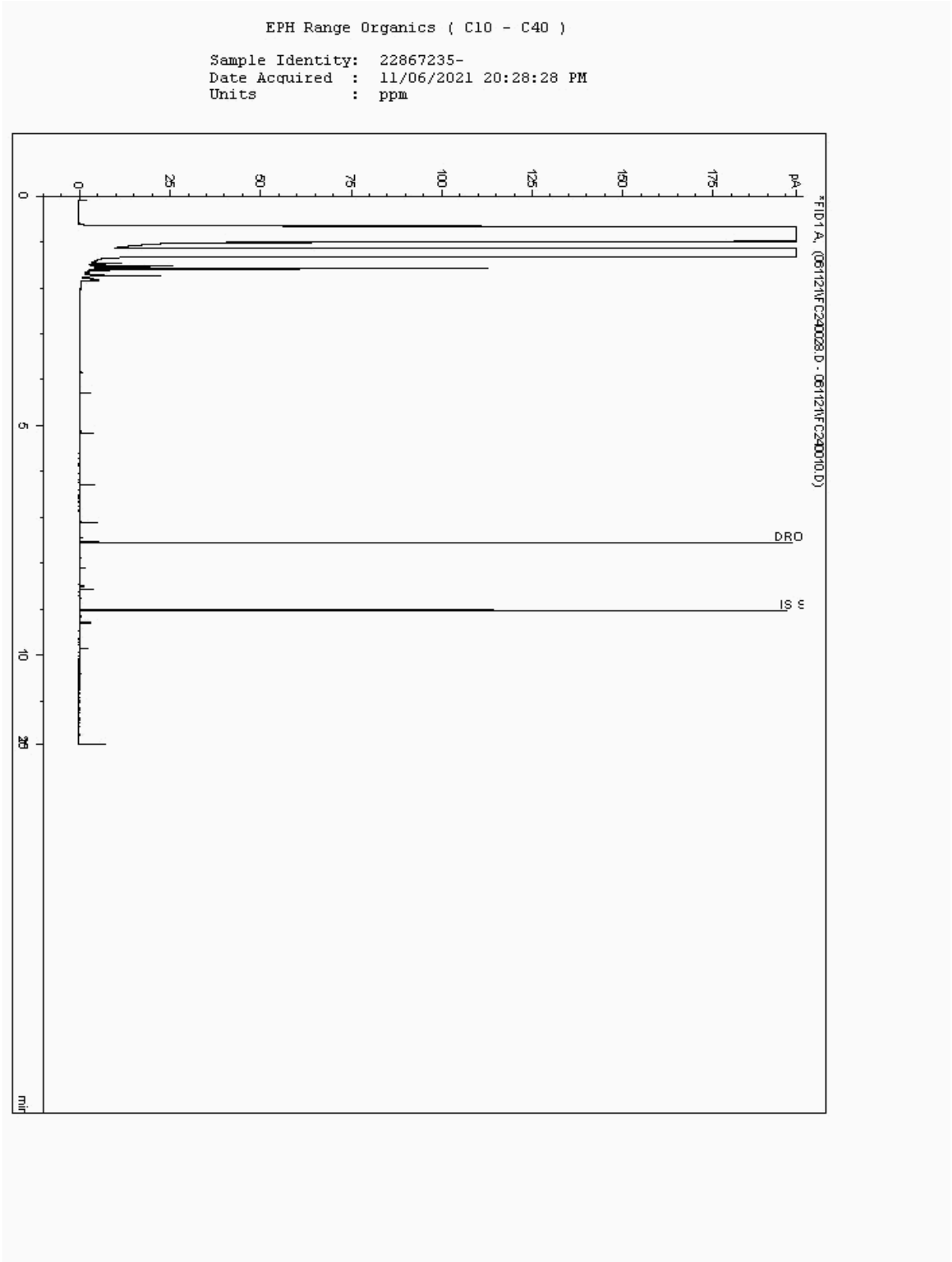


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425804 **Sample ID :** GW06_39 **Depth :** 0.00 - 0.00

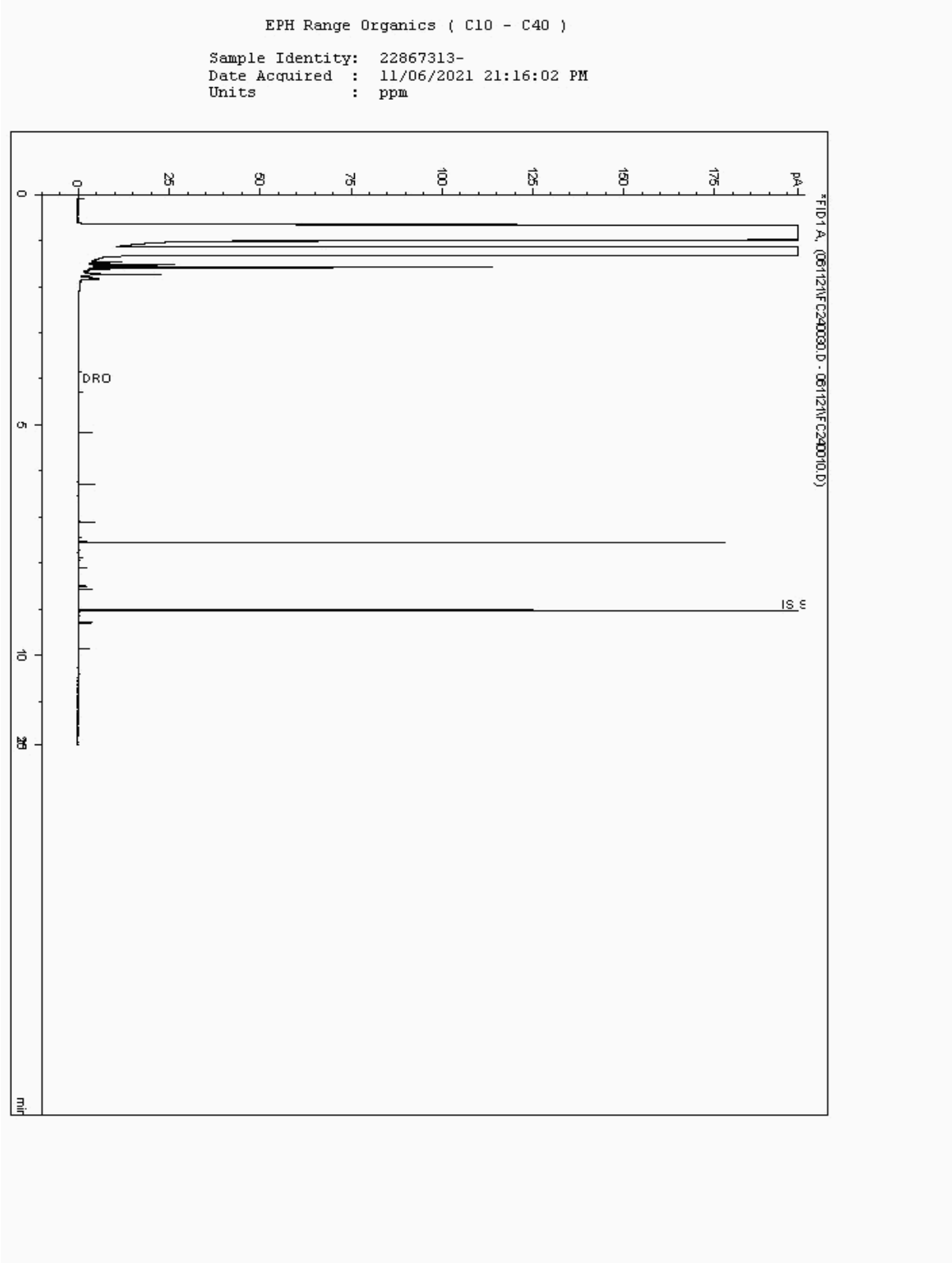


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425810 **Sample ID :** GW12_30 **Depth :** 0.00 - 0.00

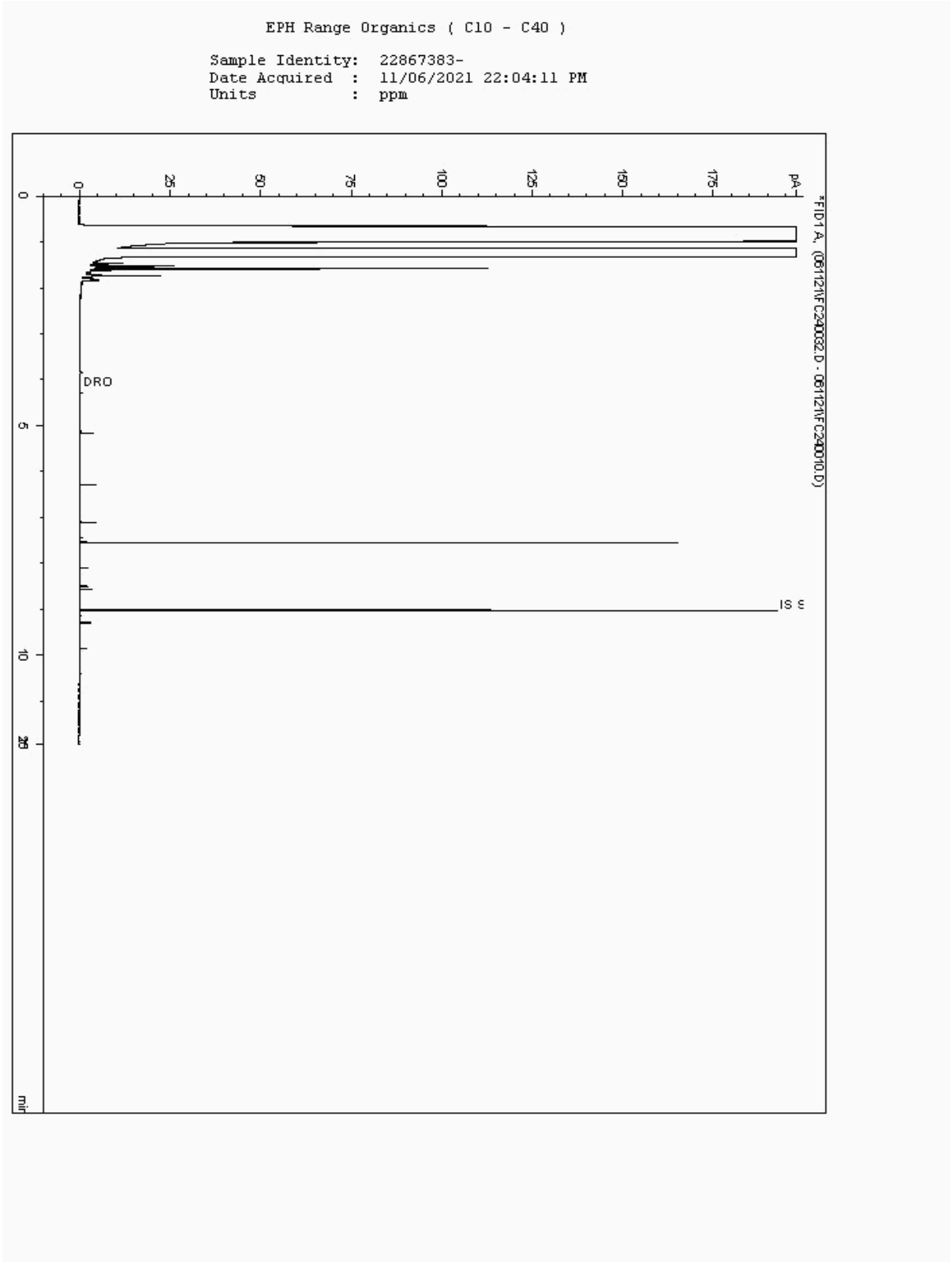


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425903 **Sample ID :** GW03_09 **Depth :** 0.00 - 0.00

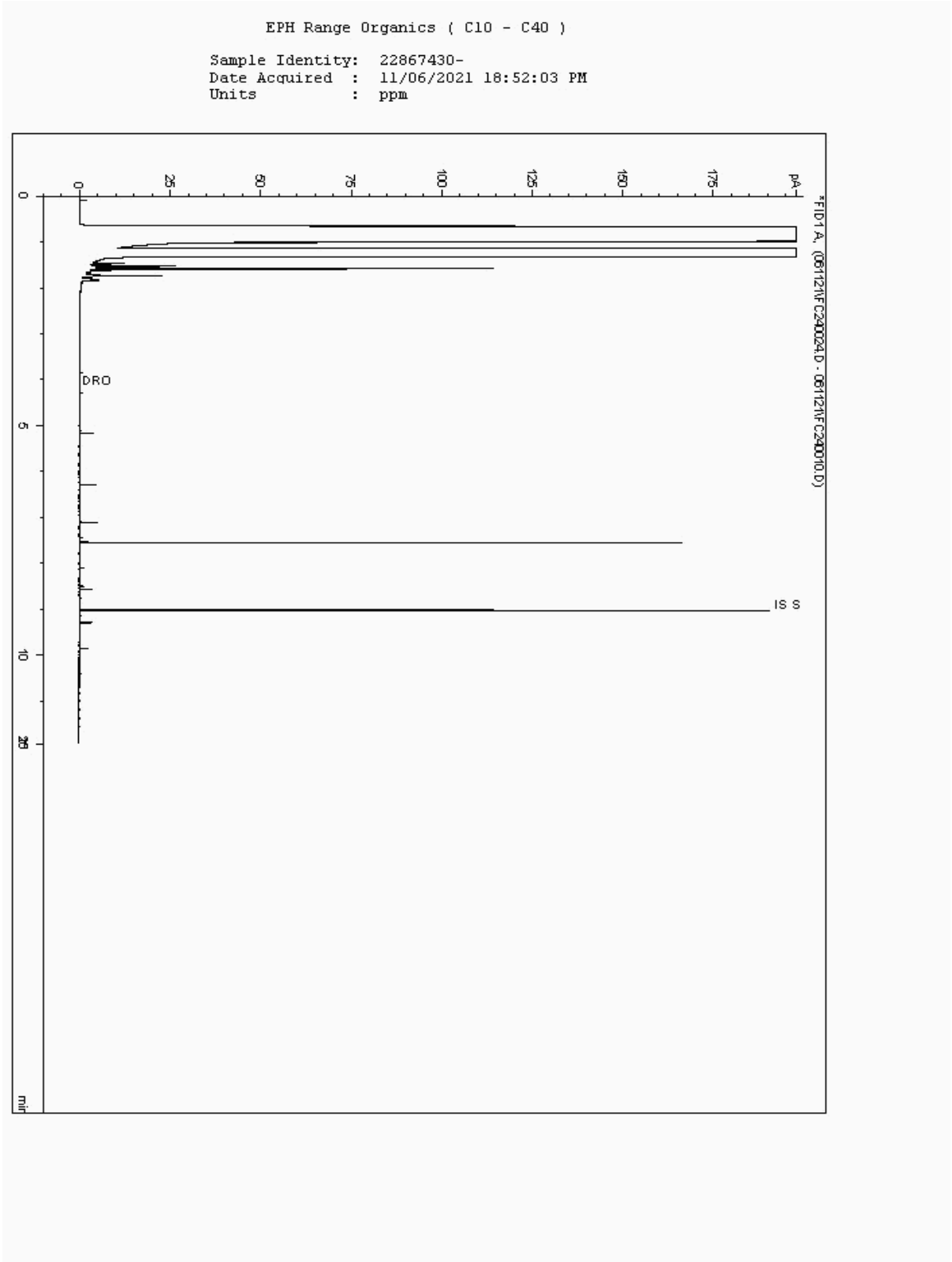


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425919 **Sample ID :** GW12_33 **Depth :** 0.00 - 0.00

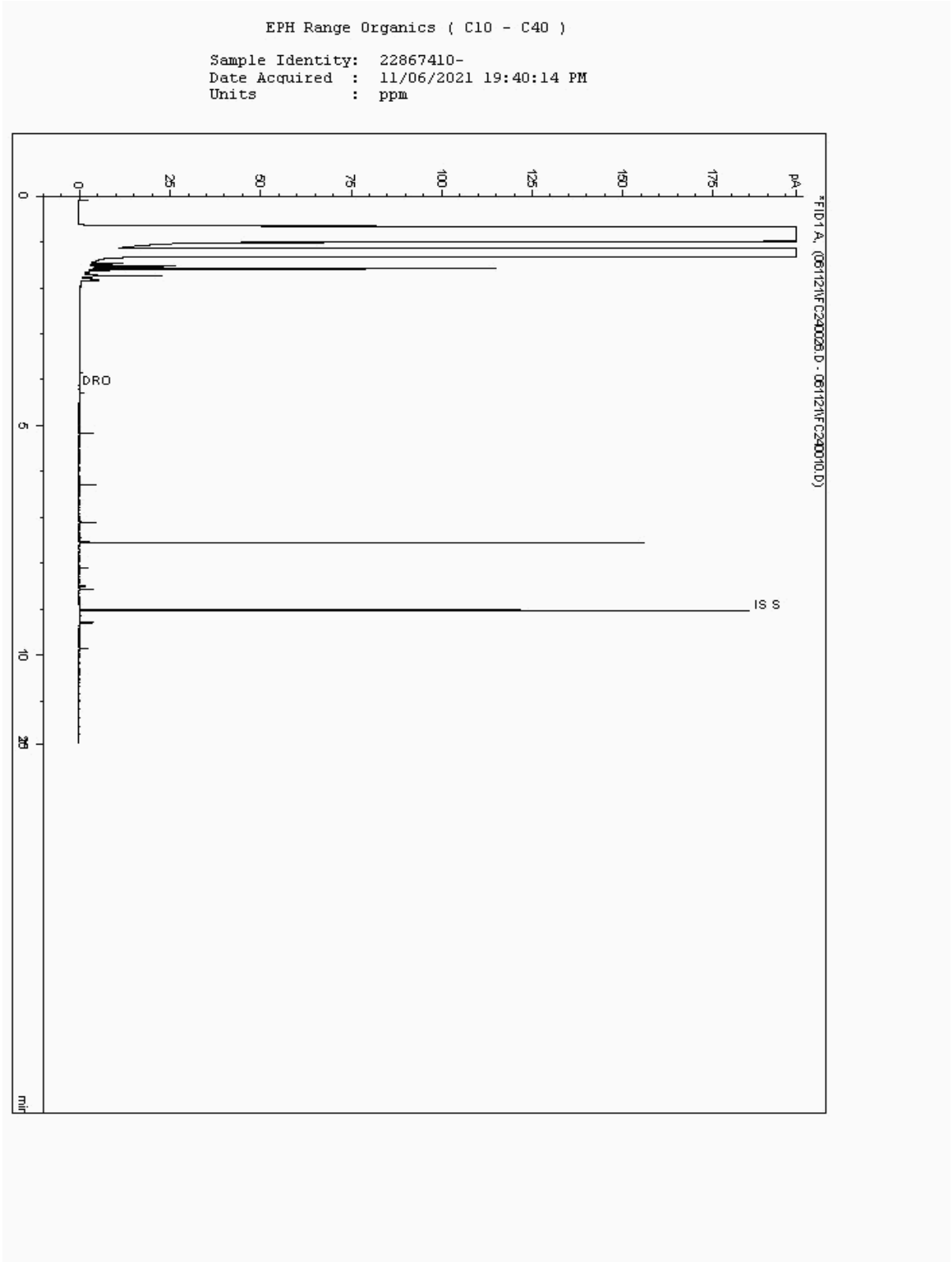


CERTIFICATE OF ANALYSIS

SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 24425925 **Sample ID :** GW09_32 **Depth :** 0.00 - 0.00



CERTIFICATE OF ANALYSIS

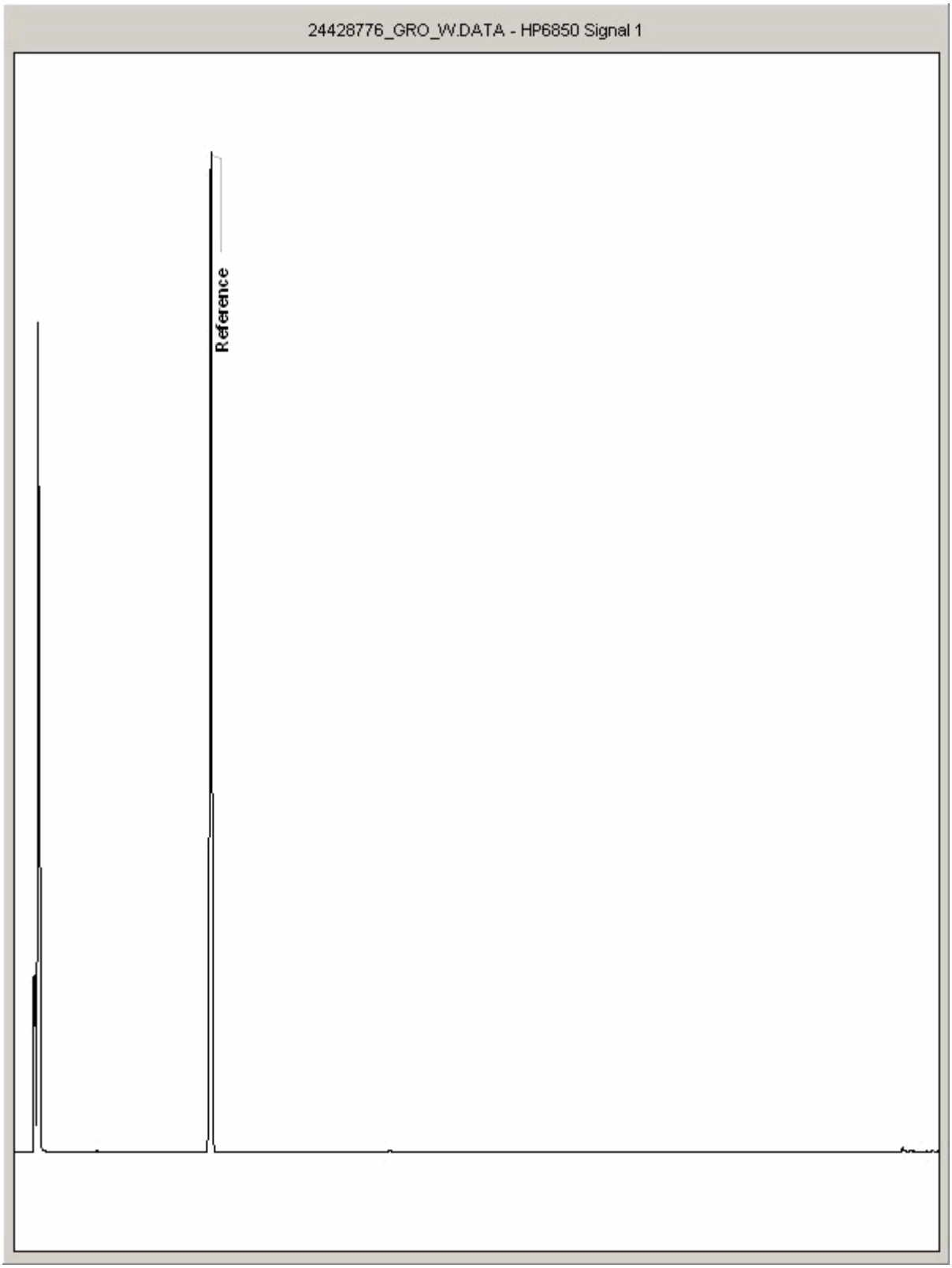
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428776
Sample ID : GW12_30

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

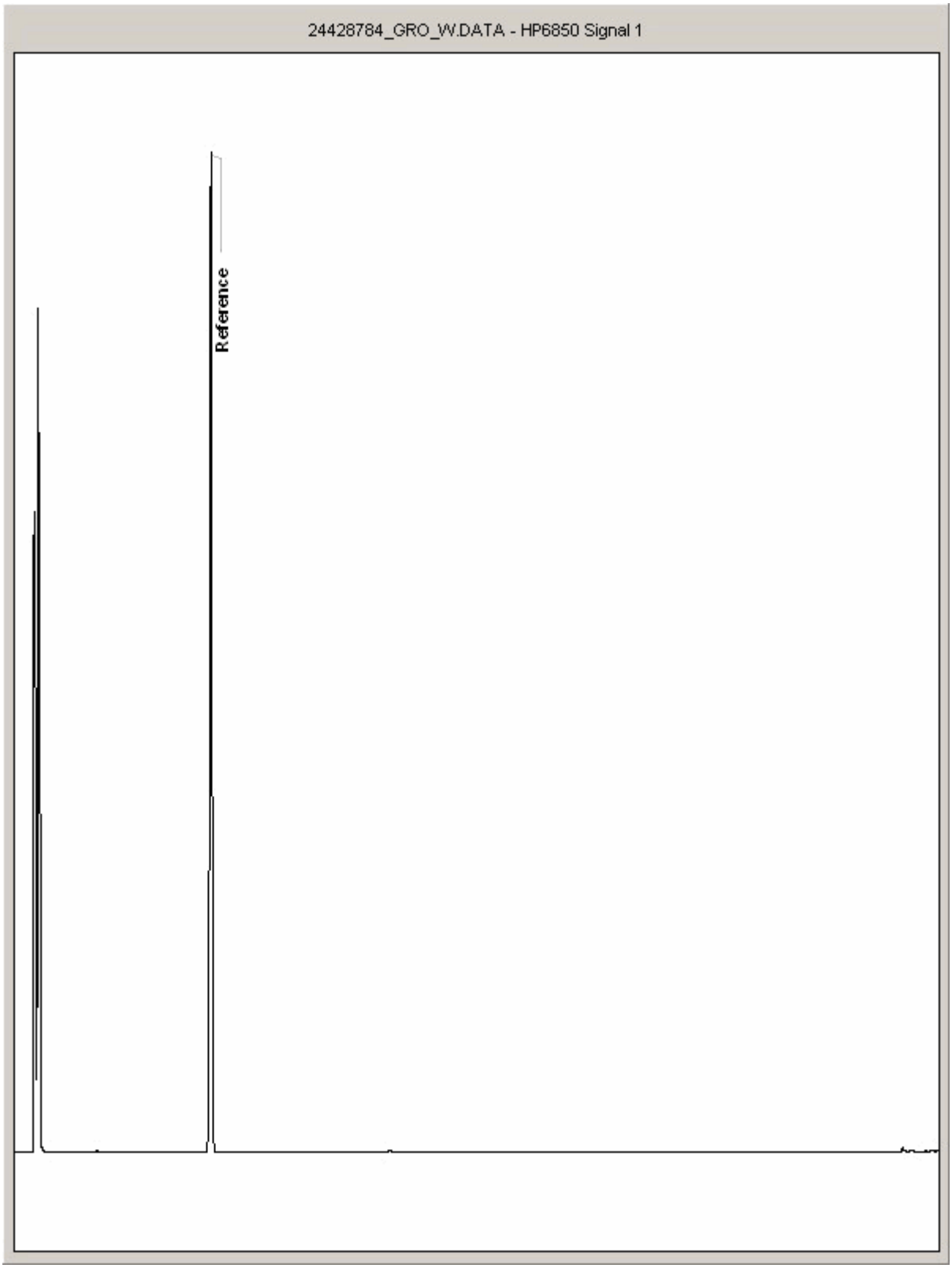
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428784
Sample ID : GW07_40

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

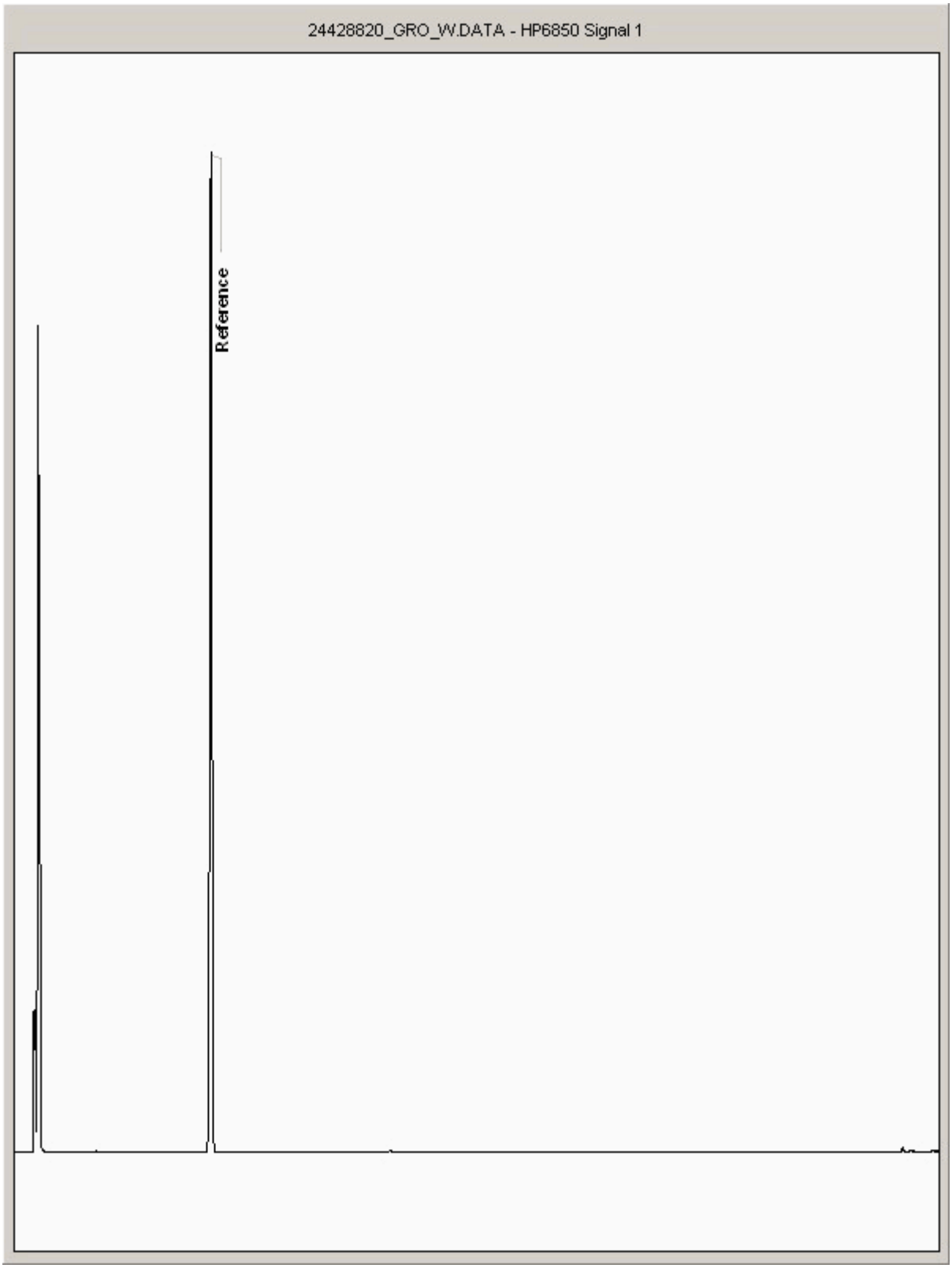
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428820
Sample ID : GW09_32

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

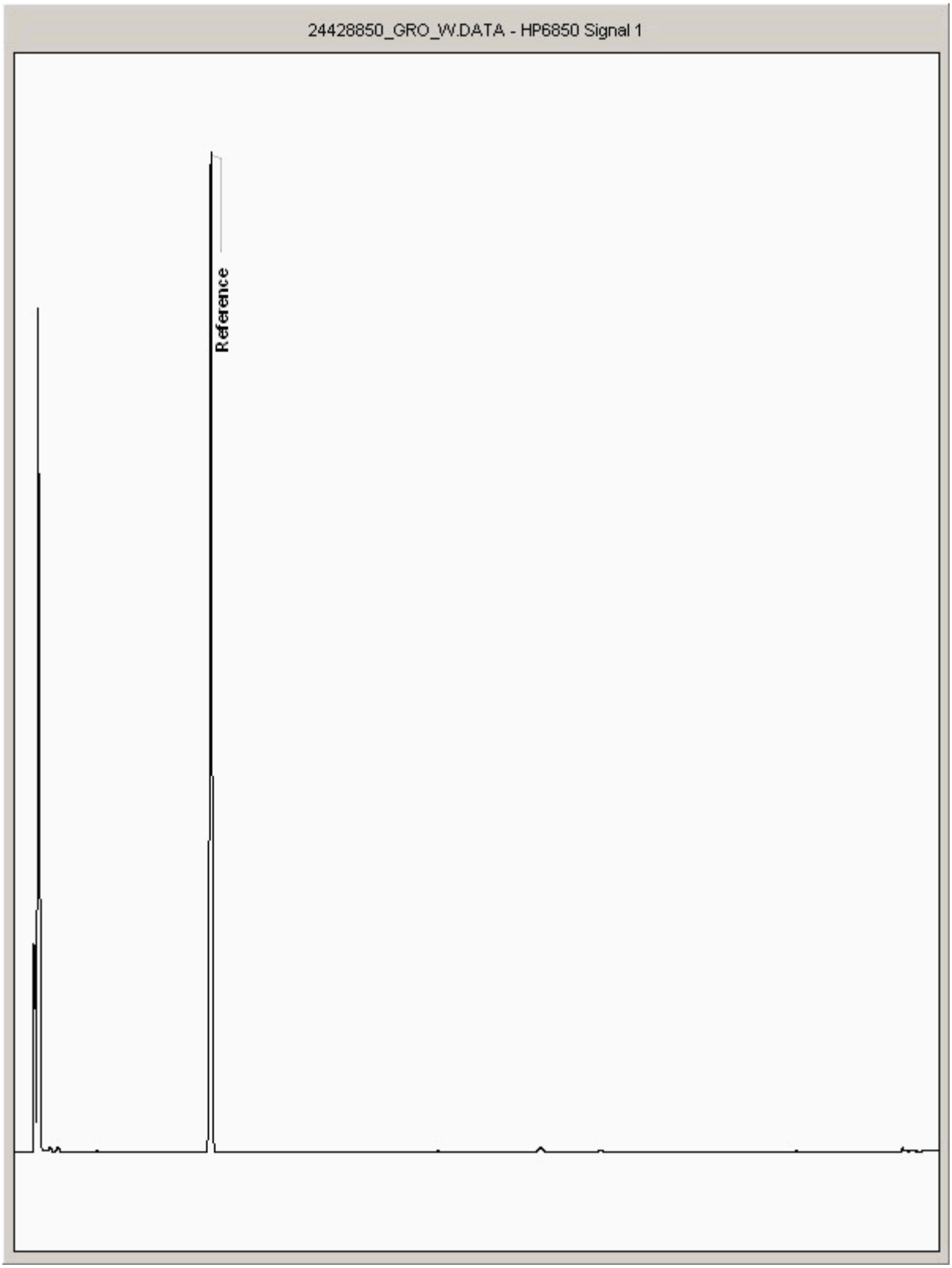
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428850
Sample ID : GW09_31

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

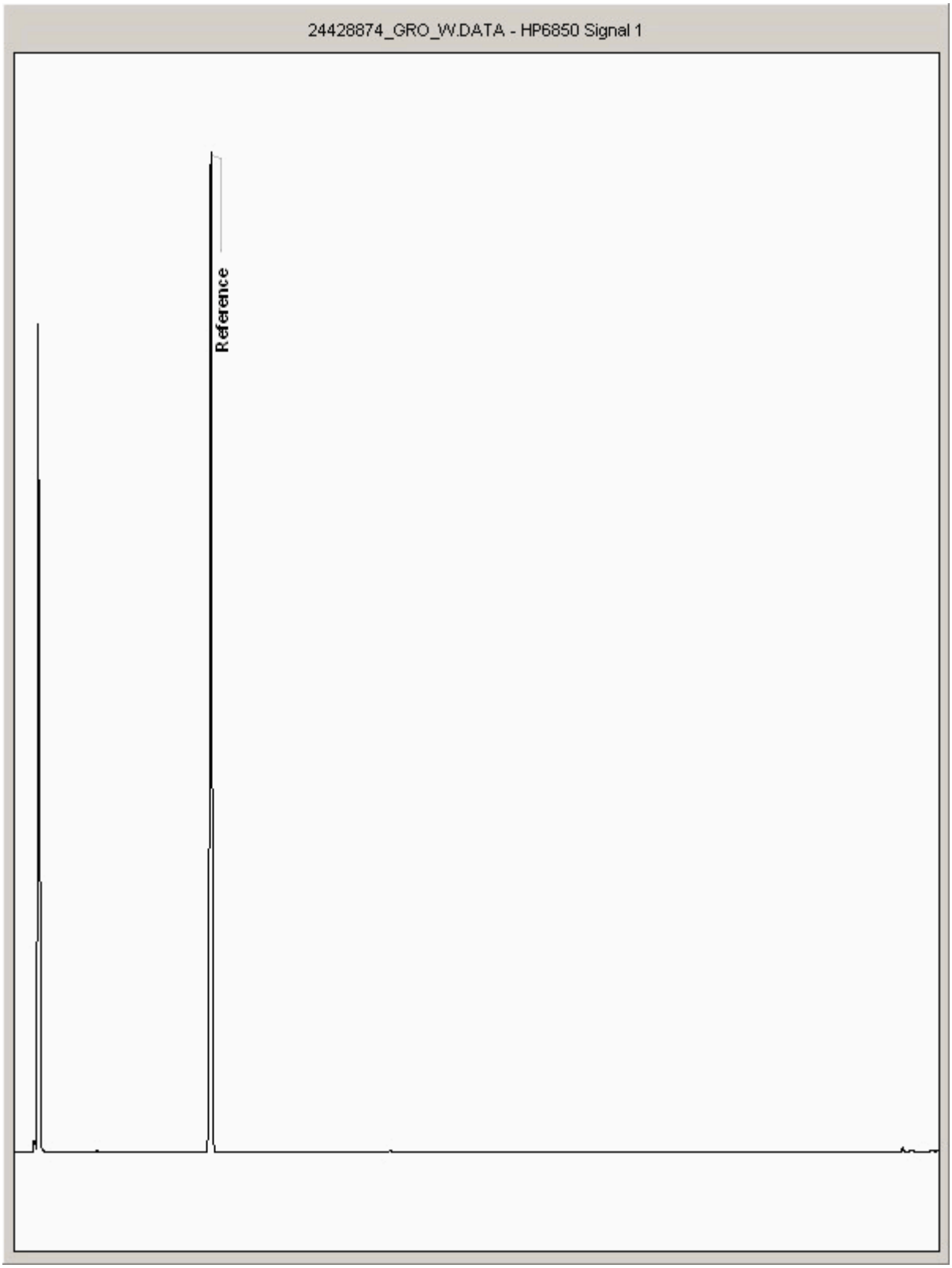
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428874
Sample ID : GW03_09

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

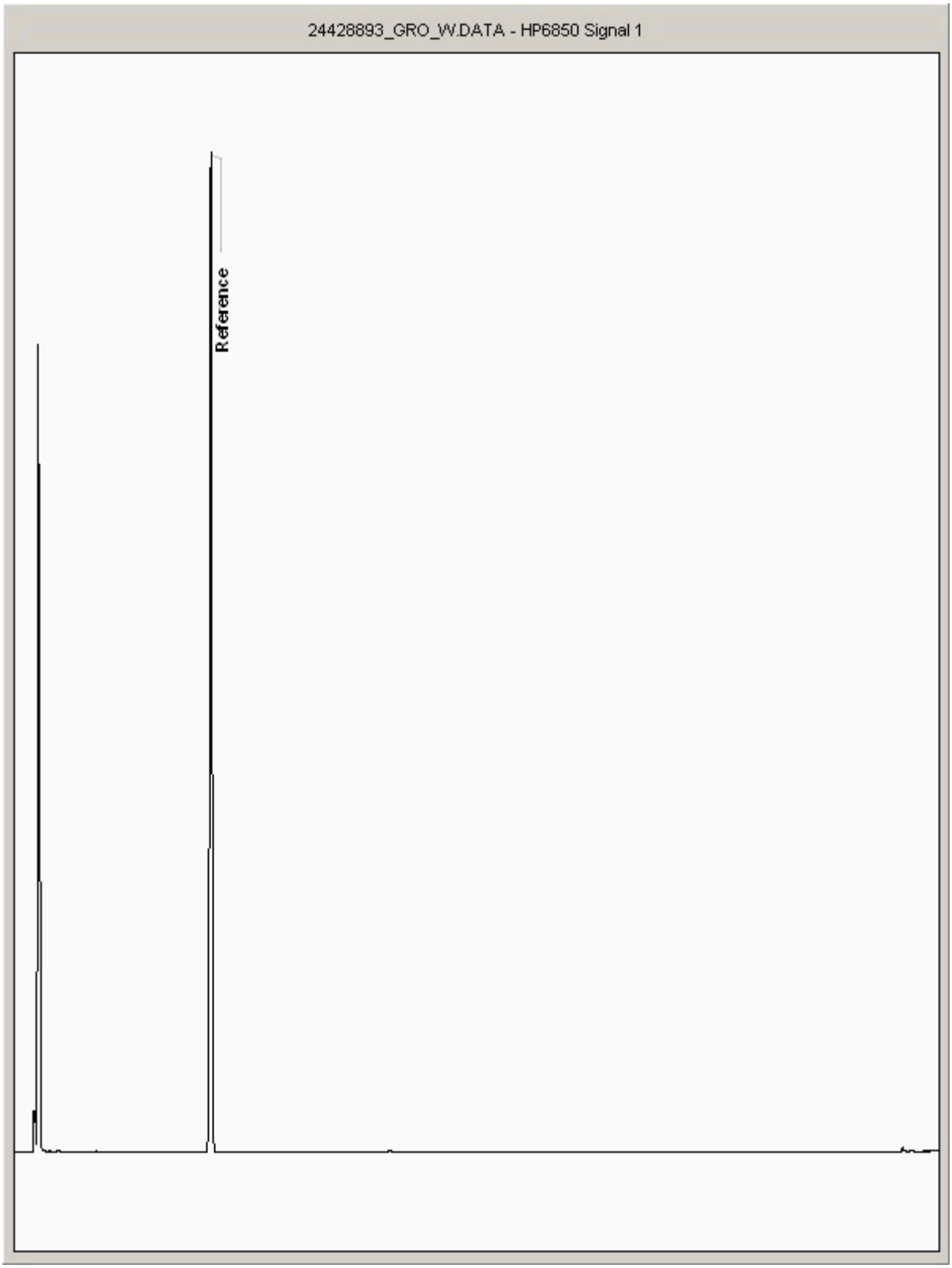
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428893
Sample ID : GW06_39

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

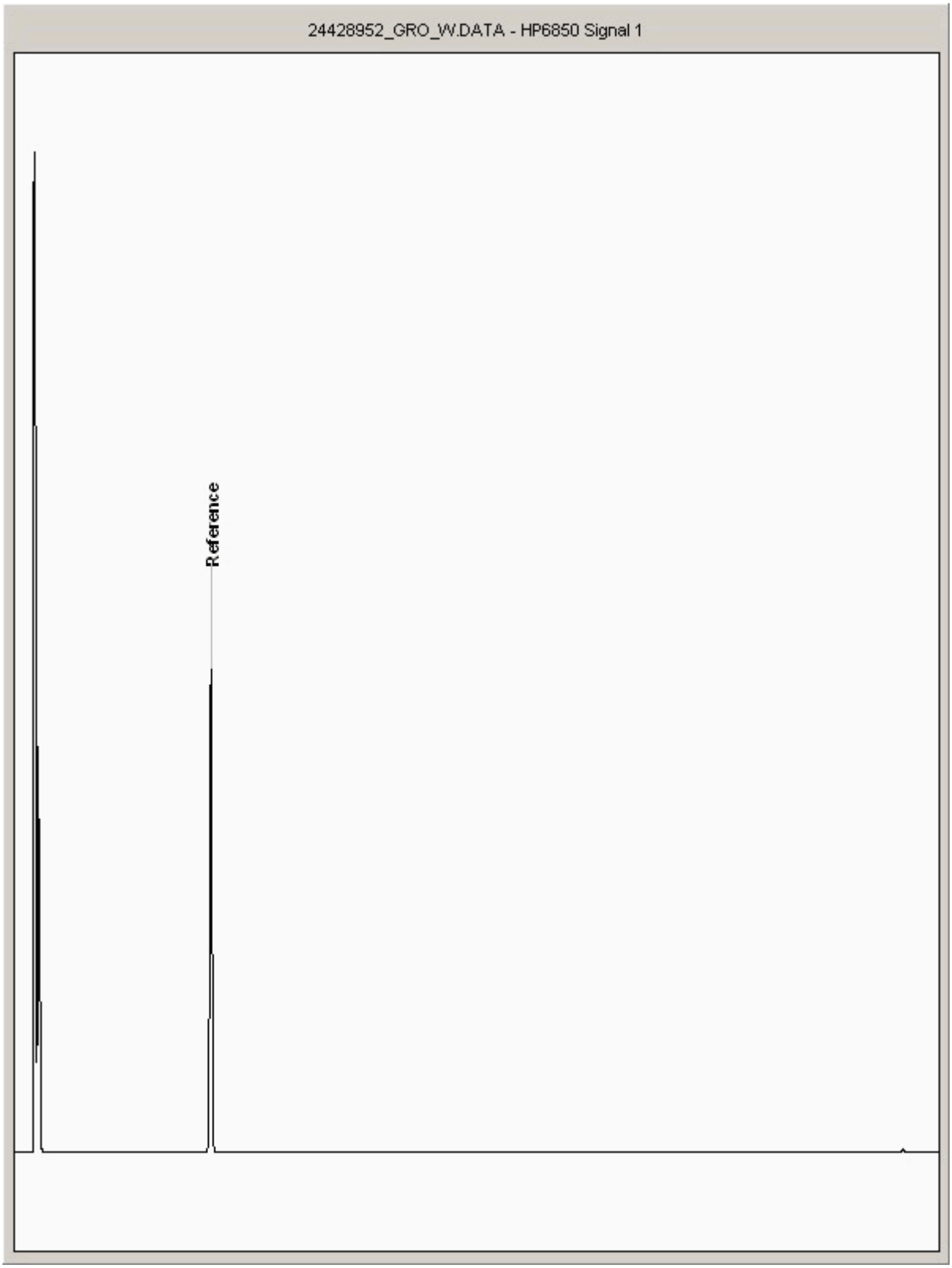
SDG:	210610-80	**Client Reference:**	June GW 2021 P1	**Report Number:**	603948
Location:	Newport landfill	**Order Number:**	700163632	**Superseded Report:**	603585

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 24428952
Sample ID : GW12_33

Depth : 0.00 - 0.00



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www.alsenvironmental.co.uk

Subcon Results
ALS Life Sciences Limited
Torrington Avenue
Tile Hill CV4 9GU

15 June 2021

Test Report: COV/2148286/2021

Dear Subcon Results

Analysis of your sample(s) received on 10 June 2021 is now complete and we have pleasure in enclosing the appropriate test report(s).

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

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

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

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

Yours Sincerely,

Signed:

Name: D. Lewis

Title: Technical Inorganic Manager

Report Summary

ANALYSED BY

Hawarden Subcon Results
ALS Life Sciences Limited
Torrington Avenue
Tile Hill
CV4 9GU

Date of Issue: **15 June 2021**

Report Number: **COV/2148286/2021** Issue **1**

This issue replaces all previous issues

Job Description: 2020 Analysis

Job Location: 210610-80

Number of Samples included in this report **7**

Job Received: **10 June 2021**

Number of Test Results included in this report **7**

Analysis Commenced: **14 June 2021**

Signed:

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

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

Information on the methods of analysis and performance characteristics are available on request.
Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled.
Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.
This test report is not a statement of conformity to any specification or standard.

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527479**	Sample	**1** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426374**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW03_09**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	10.6	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527479: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527480**	Sample	**2** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426761**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW06_39**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	12.3	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527480: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527481**	Sample	**3** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426726**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW07_40**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	13.3	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527481: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527482**	Sample	**4** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426740**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW09_41**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	46.9	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527482: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527483**	Sample	**5** of **7**
Sample Source:	**ALS Life Sciences Limited**		
Sample Point Description:			
Sample Description:	**24426363**		
Sample Matrix:	**Ground Water**		
Sample Date/Time:	**08 June 2021**		
Sample Received:	**10 June 2021**		
Analysis Complete:	**15 June 2021**		
SDG:	**210610-80**		
Sample Reference:	**GW09_32**		

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	6.6	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527483: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527484**	Sample	**6** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426711**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW12_30**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	18.8	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527484: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

Certificate of Analysis

ANALYSED BY

UKAS TESTING 1314

ALS

Report Number:	**COV/2148286/2021**	Issue	**1**
Laboratory Number:	**20527485**	Sample	**7** of **7**

Sample Source:	**ALS Life Sciences Limited**
Sample Point Description:	
Sample Description:	**24426422**
Sample Matrix:	**Ground Water**
Sample Date/Time:	**08 June 2021**
Sample Received:	**10 June 2021**
Analysis Complete:	**15 June 2021**
SDG:	**210610-80**
Sample Reference:	**GW12_33**

Test Description	Result	Units	Analysis Date	Accreditation	Method
TOC (Filtered)	22.5	mg/l	14/06/2021	Y Cov	WAS005

Analyst Comments for 20527485: No Analyst Comment

This issue replaces all previous issues
Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.
Analysed at: CHE = Chester(CH5 3US), COV = Coventry(CV4 9GU), OTT = Otterbourne(SO21 2RU), S = Subcontracted, TRB = Subcontracted to Trowbridge(BA14 0XD), WAK = Wakefield(WF5 9TG), F = Data supplied by customer.
For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.
I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

ANALYST COMMENTS FOR REPORT COV/2148286/2021 Issue 1

This issue replaces all previous issues

Date of Issue: **15 June 2021**

Sample No	Analysis Comments
20527479	
20527480	
20527481	
20527482	
20527483	
20527484	
20527485	

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

DETERMINAND COMMENTS FOR REPORT COV/2148286/2021

ISSUE 1

This issue replaces all previous issues

Date of Issue: 15 June 2021

Sample No	Description	Determinand	Comments

Signed: D. Lewis

Name: **D. Lewis** Date: **15 June 2021**

Title: **Technical Inorganic Manager**

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ALS Environmental, Land	QF.7.5.1 Data Amendments Form (Issue No. 4)
	Date: 03/03/2020
	Issued and Authorised by Quality Manager

SDG	Sample Event	Sample ID	Date Amended	Amendment Reason	Previous Reference	New Reference	Supersedes Report
210610-80	All	All	17/06/2021	Formatting Incorrect	N/A	N/A	602374

ALS Environmental, Land	Issue No. 4
	Date: 03/03/2020
QF.7.5.1 Data Amendments Form	Issued and Authorised by Quality Manager

SDG	Sample Event	Sample ID	Date Amended	Amendment Reason	Analysis/Component	Authorised (Lab Manager)	Previous Value	New Value	Units	Supersedes Report
210610-80	24423913	GW06_39	28/06/2021	Analytical/Quality Issue	Ionic Balance	C Birtwistle	-7.8	-9.35	%	602456
210610-80	24423913	GW06_39	28/06/2021	Analytical/Quality Issue	Filtered Alkalinity	C Birtwistle	875	980	mg/l	602456
210610-80	24423945	GW12_30	28/06/2021	Analytical/Quality Issue	Ionic Balance	C Birtwistle	-2.62	-7.19	%	602456
210610-80	24423945	GW12_30	28/06/2021	Analytical/Quality Issue	Filtered Alkalinity	C Birtwistle	630	740	mg/l	602456
210610-80	24423960	GW09_31	28/06/2021	Analytical/Quality Issue	Ionic Balance	C Birtwistle	4.1	-5.38	%	602456
210610-80	24423960	GW09_31	28/06/2021	Analytical/Quality Issue	Filtered Alkalinity	C Birtwistle	743	1070	mg/l	602456

Appendix General

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

2. If sufficient sample is received a sub sample will be retained free of charge for 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 asbestos present is not determined unless specifically requested.

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.