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Attention: Chris Fennell

CERTIFICATE OF ANALYSIS

Date of report Generation: 01 April 2022
Customer: Minerex Environmental
Sample Delivery Group (SDG): 220321-23
Your Reference: 1099-COC24
Location: Roscommon
Report No: 640503
Order Number:

We received 14 samples on Friday March 18, 2022 and 15 of these samples were scheduled for analysis which was completed on Friday April 01, 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



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
26001811	AMW1			14/03/2022
26001812	AMW2			14/03/2022
26001813	AMW3			15/03/2022
26001814	AMW4			15/03/2022
26001815	AMW5			15/03/2022
26001816	AMW6			14/03/2022
26001817	AMW7			14/03/2022
26001818	AMW8			14/03/2022
26001819	AMW9			14/03/2022
26001820	AMW11			14/03/2022
26001821	BH105			15/03/2022
26001822	BH107			15/03/2022
26001824	MS1			15/03/2022
26001825	SW104			15/03/2022

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



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Superseded Report:

Results Legend <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; align-items: center;"> Test</div> <div style="display: flex; align-items: center;"> No Determination Possible</div> </div> Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type																						
								26001811	26001812	26001813	26001814																	
								AMW1	AMW2	AMW3	AMW4																	
												H2SO4 (ALE244)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	0.5l glass bottle (ALE227)	Vial (ALE297)	
								UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL
Acetonitrile*	All	NDPs: 0 Tests: 14																										
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 14																										
Alkalinity as CaCO3	All	NDPs: 0 Tests: 14																										
Ammonium Low	All	NDPs: 0 Tests: 14																										
Anions by Kone (w)	All	NDPs: 0 Tests: 14																										
COD Unfiltered	All	NDPs: 0 Tests: 14																										
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 14																										
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 14																										
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 14																										
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14																										
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 14																										
Nitrite by Kone (w)	All	NDPs: 0 Tests: 14																										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 14																										
pH Value	All	NDPs: 0 Tests: 14																										
Phosphate by Kone (w)	All	NDPs: 0 Tests: 14																										

26001817	AMW7			HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			
26001816	AMW6			500ml Plastic (ALE208)	UNL																			
				0.5l glass bottle (ALE227)	UNL																			
				Vial (ALE297)	UNL		X																	
				NaOH (ALE245)	UNL		X																	
				HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			
				500ml Plastic (ALE208)	UNL						X													
				0.5l glass bottle (ALE227)	UNL																			
				Vial (ALE297)	UNL																			
				NaOH (ALE245)	UNL																			
26001815	AMW5			HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			
				500ml Plastic (ALE208)	UNL																			
				0.5l glass bottle (ALE227)	UNL																			
				Vial (ALE297)	UNL																			
				NaOH (ALE245)	UNL																			
				HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			
				500ml Plastic (ALE208)	UNL																			
				0.5l glass bottle (ALE227)	UNL																			
26001814	AMW4			Vial (ALE297)	UNL																			
				NaOH (ALE245)	UNL																			
				HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			
				500ml Plastic (ALE208)	UNL																			
				0.5l glass bottle (ALE227)	UNL																			
				Vial (ALE297)	UNL																			
				NaOH (ALE245)	UNL																			
				HNO3 Filtered (ALE204)	UNL																			
				H2SO4 (ALE244)	UNL																			



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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																							
								0.5l glass bottle (ALEZ27)	500ml Plastic (ALEZ08)	500ml Plastic (ALEZ44)	H2SO4 (ALEZ04)	HNO3 Filtered (ALEZ04)	NaOH (ALEZ45)	Vial (ALEZ97)	0.5l glass bottle (ALEZ27)	500ml Plastic (ALEZ08)	500ml Plastic (ALEZ44)	H2SO4 (ALEZ04)	HNO3 Filtered (ALEZ04)	NaOH (ALEZ45)	Vial (ALEZ97)	0.5l glass bottle (ALEZ27)	500ml Plastic (ALEZ08)	500ml Plastic (ALEZ44)	H2SO4 (ALEZ04)	HNO3 Filtered (ALEZ04)	NaOH (ALEZ45)	Vial (ALEZ97)	
								UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	UNL	
	SVOC MS (W) - Aqueous	All					NDPs: 0 Tests: 14	X							X														
	Total EPH (aq)	All					NDPs: 0 Tests: 14	X							X														
	VOC MS (W)	All					NDPs: 0 Tests: 14							X															

26001817	AMW7			HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL			X	
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
26001815	AMW5			Vial (ALE297)	UNL				
				NaOH (ALE245)	UNL				X
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL				
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
26001814	AMW4			0.5l glass bottle (ALE227)	UNL		X		
				Vial (ALE297)	UNL			X	
				NaOH (ALE245)	UNL				X
				HNO3 Filtered (ALE204)	UNL				



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Acetonitrile*	All	NDPs: 0 Tests: 14																		
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 14																		
Alkalinity as CaCO3	All	NDPs: 0 Tests: 14																		
Ammonium Low	All	NDPs: 0 Tests: 14																		
Anions by Kone (w)	All	NDPs: 0 Tests: 14																		
COD Unfiltered	All	NDPs: 0 Tests: 14																		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 14																		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 14																		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 14																		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14																		
Low Level Hexavalent Chromium (w)	All	NDPs: 0 Tests: 14																		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 14																		
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 14																		
pH Value	All	NDPs: 0 Tests: 14																		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 14																		



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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																											
								NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	500ml Plastic (ALE244)	H2SO4 (ALE204)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE245)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	500ml Plastic (ALE244)	H2SO4 (ALE204)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE245)	NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE208)	500ml Plastic (ALE244)	H2SO4 (ALE204)	HNO3 Filtered (ALE204)	HNO3 Filtered (ALE245)		
		26001817	AMW7			NaOH (ALE245)	UNL																										
		26001818	AMW8			Vial (ALE297)	UNL			X								X															
		26001819	AMW9			Vial (ALE297)	UNL											X															
		26001820	AMW11			Vial (ALE297)	UNL												X														
		26001821	BH105			0.5l glass bottle (ALE227)	UNL													X													
	SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 14							X									X														X
Total EPH (aq)	All	NDPs: 0 Tests: 14						X										X														X	
VOC MS (W)	All	NDPs: 0 Tests: 14					X																		X							X	

26001825	SW104			500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL			X	
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL			X	
				NaOH (ALE245)	UNL				
26001822	BH107			HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL			X	
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
26001821	BH105			Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL			X	
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
				500ml Plastic (ALE208)	UNL				
				0.5l glass bottle (ALE227)	UNL	X			
				Vial (ALE297)	UNL		X		
				NaOH (ALE245)	UNL			X	
				HNO3 Filtered (ALE204)	UNL				
				H2SO4 (ALE244)	UNL				
500ml Plastic (ALE208)	UNL								



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Superseded Report:

Results Legend <input checked="" type="checkbox"/> Test <input checked="" type="checkbox"/> 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)	26001825				
	Customer Sample Reference	SM-104				
	AGS Reference					
	Depth (m)					
	Container	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	
	Sample Type	UNL	UNL	UNL	UNL	
	Acetonitrile*	All	NDPs: 0 Tests: 14			
Alcohols/Acetates MS (W)	All	NDPs: 0 Tests: 14				<input checked="" type="checkbox"/>
Ammonium Low	All	NDPs: 0 Tests: 14	<input checked="" type="checkbox"/>			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 14		<input checked="" type="checkbox"/>		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14				<input checked="" type="checkbox"/>
Nitrite by Kone (w)	All	NDPs: 0 Tests: 14		<input checked="" type="checkbox"/>		
VOC MS (W)	All	NDPs: 0 Tests: 14				<input checked="" type="checkbox"/>



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Superseded Report:

Results Legend		Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6
#	ISU17025 accredited.		Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	14/03/2022
aq	Aqueous / settled sample.		12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.filt	Dissolved / filtered sample.		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
*	Subcontracted - refer to subcontractor report for accreditation status.		26001811	26001812	26001813	26001814	26001815	26001816
**	% 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						
Acetonitrile*	mg/l	SUB	<1	<1	<1	<1	<1	<1
Alkalinity, Total as CaCO3	<2 mg/l	TM043	420	240	645	385	440	360
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0118	0.0229	8.67	3.98	0.977	0.0135
COD, unfiltered	<7 mg/l	TM107	<7	9.84	201	117	28.6	<7
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.727	0.776	1.56	1.14	1.02	0.718
Aluminium (diss.filt)	<10 µg/l	TM152	<10	<10	<10	<10	<10	<10
Antimony (diss.filt)	<1 µg/l	TM152	<1	<1	<1	<1	<1	<1
Barium (diss.filt)	<0.2 µg/l	TM152	31.2	15.5	165	393	392	14.5
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Boron (diss.filt)	<10 µg/l	TM152	21.8	12.5	58.7	13.8	13.2	<10
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5	<0.5	2.77	0.683	0.611	<0.5
Manganese (diss.filt)	<3 µg/l	TM152	<3	<3	306	740	758	7.49
Silver (diss.filt)	<0.5 µg/l	TM152	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sodium (Dis.Filt)	<0.076 mg/l	TM152	79.6	72.6	180	168	171	38.4
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	11.6	9.66	11.3	13.8	14.1	22.2
Potassium (Dis.Filt)	<0.2 mg/l	TM152	2.21	1.56	7.58	3.12	3.2	1.27
Calcium (Dis.Filt)	<0.2 mg/l	TM152	111	101	170	62.8	63.8	99.6
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019	<0.019	26.6	5.98	6.1	<0.019
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100	<100	1160	551	230	<100
Total EPH (C6-C40) (aq)	<100 µg/l	TM172	<100	<100	5700	2530	230	<100
Nitrite as NO2	<0.05 mg/l	TM184	<0.05	<0.05	<0.05	<0.05	0.071	<0.05
Sulphate	<2 mg/l	TM184	23.8	5	<2	<2	11	19.8
Chloride	<2 mg/l	TM184	51.8	160	233	205	137	42.1
Phosphate (Ortho as P)	<0.02 mg/l	TM184	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Nitrate as N	<0.0677 mg/l	TM184	3.92	0.806	0.127	<0.0677	0.199	2.1
pH	<1 pH Units	TM256	7.68	7.81	7.04	7.47	7.8	7.76
Low Level Hexavalent Chromium	<0.003 mg/l	TM331	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003



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Superseded Report:

Results Legend		Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107	
#	ISU17025 accredited.		Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
M	mCERTS accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Recv SDG Ref Lab Sample No.(s) AGS Reference	14/03/2022	14/03/2022	14/03/2022	14/03/2022	15/03/2022	15/03/2022	
aq	Aqueous / settled sample.		12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	
diss.filt	Dissolved / filtered sample.		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	
*	Subcontracted - refer to subcontractor report for accreditation status.		26001817	26001818	26001819	26001820	26001821	26001822	
**	% 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						
Acetonitrile*	mg/l		SUB	<1	<1	<1	<1	<1	<1
Alkalinity, Total as CaCO3	<2 mg/l	TM043	320	325	155	425	330	355	
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.064	0.0136	0.0245	1.85	0.0127	0.0991	
COD, unfiltered	<7 mg/l	TM107	17	15.4	10.5	61.5	9.07	25.4	
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.724	0.762	0.714	0.899	0.62	0.853	
Aluminium (diss.filt)	<10 µg/l	TM152	<10	<10	<10	<10	<10	<10	
Antimony (diss.filt)	<1 µg/l	TM152	<1	<1	<1	<1	<1	<1	
Barium (diss.filt)	<0.2 µg/l	TM152	70.3	33.1	15.6	67.2	25.7	56	
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Boron (diss.filt)	<10 µg/l	TM152	<10	10.4	<10	26.2	<10	<10	
Cobalt (diss.filt)	<0.5 µg/l	TM152	2.64	<0.5	<0.5	<0.5	<0.5	3.1	
Manganese (diss.filt)	<3 µg/l	TM152	866	<3	<3	116	<3	496	
Silver (diss.filt)	<0.5 µg/l	TM152	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	39.3	46.9	99.2	54.9	21.1	66.2	
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	16.7	12.4	4.05	12.4	8.67	11.3	
Potassium (Dis.Filt)	<0.2 mg/l	TM152	1.03	2.14	0.495	3.22	1.25	2.46	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	103	115	49.4	137	121	127	
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.53	<0.019	<0.019	4.7	<0.019	1.14	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	126	<100	<100	404	<100	<100	
Total EPH (C6-C40) (aq)	<100 µg/l	TM172	126	<100	<100	2130	<100	<100	
Nitrite as NO2	<0.05 mg/l	TM184	<0.05	<0.05	<0.05	0.146	<0.05	<0.05	
Sulphate	<2 mg/l	TM184	12.2	16.4	5.2	14.3	10.6	18.5	
Chloride	<2 mg/l	TM184	74.4	77.3	160	88.1	35.1	120	
Phosphate (Ortho as P)	<0.02 mg/l	TM184	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	
Nitrate as N	<0.0677 mg/l	TM184	<0.0677	2.72	0.108	1.18	1.75	0.362	
pH	<1 pH Units	TM256	8	7.7	7.76	7.34	7.84	7.4	
Low Level Hexavalent Chromium	<0.003 mg/l	TM331	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Results Legend		Customer Sample Ref.	MS1	SW104			
# ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M mCERTS accredited.			Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
aq Aqueous / settled sample.			15/03/2022	15/03/2022			
diss.filt Dissolved / filtered sample.			12:00:00	12:00:00			
tot.unfilt Total / unfiltered sample.			18/03/2022	18/03/2022			
* Subcontracted - refer to subcontractor report for accreditation status.			220321-23	220321-23			
** % 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			26001824	26001825			
(F) Trigger breach confirmed							
1.4.3.2 Sample deviation (see appendix)							
Component	LOD/Units		Method				
Acetonitrile*	mg/l	SUB	<1	<1			
Alkalinity, Total as CaCO3	<2 mg/l	TM043	315	310			
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099	0.0103	0.0204			
COD, unfiltered	<7 mg/l	TM107	<7	10.9			
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	0.797	0.771			
Aluminium (diss.filt)	<10 µg/l	TM152	<10	<10			
Antimony (diss.filt)	<1 µg/l	TM152	<1	<1			
Barium (diss.filt)	<0.2 µg/l	TM152	40.1	40.1			
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	<0.1			
Boron (diss.filt)	<10 µg/l	TM152	<10	10.5			
Cobalt (diss.filt)	<0.5 µg/l	TM152	<0.5	<0.5			
Manganese (diss.filt)	<3 µg/l	TM152	<3	29.8			
Silver (diss.filt)	<0.5 µg/l	TM152	<0.5	<0.5			
Sodium (Dis.Filt)	<0.076 mg/l	TM152	57.5	55.8			
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	11.9	11.5			
Potassium (Dis.Filt)	<0.2 mg/l	TM152	2.38	2.26			
Calcium (Dis.Filt)	<0.2 mg/l	TM152	109	109			
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019	0.073			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	115	908			
Total EPH (C6-C40) (aq)	<100 µg/l	TM172	115	908			
Nitrite as NO2	<0.05 mg/l	TM184	<0.05	<0.05			
Sulphate	<2 mg/l	TM184	17.9	21.5			
Chloride	<2 mg/l	TM184	104	100			
Phosphate (Ortho as P)	<0.02 mg/l	TM184	<0.02	<0.02			
Nitrate as N	<0.0677 mg/l	TM184	2.28	2.76			
pH	<1 pH Units	TM256	7.42	7.69			
Low Level Hexavalent Chromium	<0.003 mg/l	TM331	<0.003	<0.003			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Alcohols/Acetates MS (W)

Results Legend			Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6	
#	ISU17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
M	mCERTS accredited.			14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	15/03/2022	14/03/2022
aq	Aqueous / settled sample.			12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.fit	Dissolved / filtered sample.			18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.			220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
+	Subcontracted - refer to subcontractor report for accreditation status.			26001811	26001812	26001813	26001814	26001815	26001816	
**	% 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+3@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Acetone	<25 µg/l	TM232	<25	<25	<25	<25	<25	<25	<25	
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	265	138	22.3	<10	<10	
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	33600	19300	1400	114		
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Alcohols/Acetates MS (W)

Results Legend			Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107
#	IS017025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.			14/03/2022	14/03/2022	14/03/2022	14/03/2022	15/03/2022	15/03/2022
aq	Aqueous / settled sample.			12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.fit	Disolved / filtered sample.			18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.			220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
+	Subcontracted - refer to subcontractor report for accreditation status.			26001817	26001818	26001819	26001820	26001821	26001822
**	% 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								
1-4-3-3	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Methanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100
Ethanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	<100
Acetone	<25 µg/l	TM232	<25	<25	<25	46.9	<25	<25	
iso-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
Methyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
tert-Butyl Alcohol	<10 µg/l	TM232	<10	<10	<10	76.7	<10	<10	
n-Propanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
2-Butanone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
Ethyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
sec-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
Tetrahydrofuran	<100 µg/l	TM232	<100	<100	<100	7290	<100	<100	
iso-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
iso-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Butanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Propyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
Methyl-iso-Butyl ketone	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Pentanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Butyl Acetate	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Hexanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	
n-Heptanol	<100 µg/l	TM232	<100	<100	<100	<100	<100	<100	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Alcohols/Acetates MS (W)

	Results Legend		Customer Sample Ref.	MS1	SW104			
# ISU17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss,flt Dissolved / filtered sample. tot,unflt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4*§§ Sample deviation (see appendix)			Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001824	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001825			
Component	LOD/Units	Method						
Methanol	<100 µg/l	TM232		<100	<100			
Ethanol	<100 µg/l	TM232		<100	<100			
Acetone	<25 µg/l	TM232		<25	<25			
iso-Propanol	<100 µg/l	TM232		<100	<100			
Methyl Acetate	<100 µg/l	TM232		<100	<100			
tert-Butyl Alcohol	<10 µg/l	TM232		<10	<10			
n-Propanol	<100 µg/l	TM232		<100	<100			
2-Butanone	<100 µg/l	TM232		<100	<100			
Ethyl Acetate	<100 µg/l	TM232		<100	<100			
sec-Butanol	<100 µg/l	TM232		<100	<100			
Tetrahydrofuran	<100 µg/l	TM232		<100	<100			
iso-Butanol	<100 µg/l	TM232		<100	<100			
iso-Propyl Acetate	<100 µg/l	TM232		<100	<100			
n-Butanol	<100 µg/l	TM232		<100	<100			
n-Propyl Acetate	<100 µg/l	TM232		<100	<100			
Methyl-iso-Butyl ketone	<100 µg/l	TM232		<100	<100			
n-Pentanol	<100 µg/l	TM232		<100	<100			
n-Butyl Acetate	<100 µg/l	TM232		<100	<100			
n-Hexanol	<100 µg/l	TM232		<100	<100			
n-Heptanol	<100 µg/l	TM232		<100	<100			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

GRO by GC-FID (W)

#	M	aq	diss.filt	tot.unfilt	-	..	(F)	1.4.3.8	Results Legend			Customer Sample Ref.	Analysis Data								
									ISO17025 accredited.	mCERTS accredited.	Aqueous / settled sample.		Depth (m)	AMW7	AMW8	AMW9	AMW11	BH105	BH107		
									Total / unfiltered sample.	Sample Type		Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)		
									Subcontracted - refer to subcontractor report for accreditation status.	Date Sampled	14/03/2022	14/03/2022	14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	15/03/2022	15/03/2022		
									% 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	Sampled Time	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00		
									Trigger breach confirmed	Date Received	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022		
									Sample deviation (see appendix)	SDG Ref	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23		
										Lab Sample No.(s)	26001817	26001818	26001819	26001820	26001821	26001822	26001821	26001822	26001822		
										AGS Reference											
Component	LOD/Units	Method	GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		GRO >C5-C10		
	<10 µg/l	TM245	91	<10	16	5940	<10	11													
	<100 µg/l	TM245	<100	<100	<100	1730	<100	<100													



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

GRO by GC-FID (W)

Table with columns: Component, LOD/Units, Method, MS1, SW104. Includes a Results Legend and sample data for GRO >C5-C10 and EPH (C6-C10).



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

PAH Spec MS - Aqueous (W)

Results Legend			Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6
#	M	aq							
ISO17025 accredited. mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery Trigger breach confirmed Sample deviation (see appendix)			Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL) 14/03/2022 12:00:00 18/03/2022 220321-23 26001811	Unspecified Liquid (UNL) 14/03/2022 12:00:00 18/03/2022 220321-23 26001812	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001813	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001814	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001815	Unspecified Liquid (UNL) 14/03/2022 12:00:00 18/03/2022 220321-23 26001816
Component	LOD/Units	Method							
Naphthalene (aq)	<0.01 µg/l	TM178	<0.01	<0.01	0.131	<0.01	0.0105	<0.01	<0.01
Acenaphthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	0.0157	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Phenanthrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	0.0396	<0.005	<0.005	<0.005	<0.005
Fluorene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	0.0371	0.0062	<0.005	<0.005	<0.005
Chrysene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Pyrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178	<0.082	<0.082	0.223	<0.082	<0.082	<0.082	<0.082



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

PAH Spec MS - Aqueous (W)

Table with columns for Component, LOD/Units, Method, and sample locations (AMW7-AMW11, BH105, BH107). Includes a Results Legend and Customer Sample Ref. section.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

PAH Spec MS - Aqueous (W)

Table with columns: Component, LOD/Units, Method, MS1, SW104. Rows include various PAH compounds like Naphthalene, Acenaphthene, Fluorene, etc., with detection limits and methods.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
M	mCERTS accredited.			14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	15/03/2022	14/03/2022
aq	Aqueous / settled sample.			12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.fit	Disolved / filtered sample.			18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.			220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
*	Subcontracted - refer to subcontractor report for accreditation status.			26001811	26001812	26001813	26001814	26001815	26001815	26001816
**	% 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								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	5.68	<1	<1	<1	<1	
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Methylphenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
Azobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
Acenaphthylene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
Acenaphthene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
Anthracene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	<2	<8	<2	<2	<2	<2	
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	<1	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

Results Legend # ISO17025 accredited. M mCERTS accredited. Aq Aqueous / settled sample. Diss.filt Dissolved / filtered sample. Total / unfiltered sample. tot.unfilt Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1.4.4.6 Sample deviation (see appendix)			Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6
Component	LOD/Units	Method	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	
Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference			14/03/2022 12:00:00 18/03/2022 220321-23 26001811	14/03/2022 12:00:00 18/03/2022 220321-23 26001812	15/03/2022 12:00:00 18/03/2022 220321-23 26001813	15/03/2022 12:00:00 18/03/2022 220321-23 26001814	15/03/2022 12:00:00 18/03/2022 220321-23 26001815	14/03/2022 12:00:00 18/03/2022 220321-23 26001816	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Carbazole (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Chrysene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	<20	<5	<5	<5	
Fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Fluorene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Phenol (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Naphthalene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Isophorone (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	
Pyrene (aq)	<1 µg/l	TM176	<1	<1	<4	<1	<1	<1	



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
diss.fit	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							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	3.84	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	5.66	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107
#	IS017025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
dis.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
..	Subcontracted - refer to subcontractor report for accreditation status.								
	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1.4.4.5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	MS1	SW104			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
M	mCERTS accredited.		15/03/2022	15/03/2022			
aq	Aqueous / settled sample.		12:00:00	12:00:00			
diss.fit	Dissolved / filtered sample.		18/03/2022	18/03/2022			
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23			
*	Subcontracted - refer to subcontractor report for accreditation status.		26001824	26001825			
**	% 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				
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176	<1	<1			
Anthracene (aq)	<1 µg/l	TM176	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2	<2			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	<1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

SVOC MS (W) - Aqueous

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 1.4.4.6 Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	MS1	SW104			
Component	LOD/Units	Method	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<1			
Carbazole (aq)	<1 µg/l	TM176	<1	<1			
Chrysene (aq)	<1 µg/l	TM176	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176	<1	<1			
Fluorene (aq)	<1 µg/l	TM176	<1	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1			
Phenol (aq)	<1 µg/l	TM176	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176	<1	<1			
Isophorone (aq)	<1 µg/l	TM176	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1			
Pyrene (aq)	<1 µg/l	TM176	<1	<1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.		14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	14/03/2022
aq	Aqueous / settled sample.		12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.fit	Dissolved / filtered sample.		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
*	Subcontracted - refer to subcontractor report for accreditation status.		26001811	26001812	26001813	26001814	26001815	26001816
**	% 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	114	116	114	111	120	113
Toluene-d8**	%	TM208	101	102	99	99	98.8	100
4-Bromofluorobenzene**	%	TM208	98.4	96.8	99.2	99.4	97.3	97.7
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	4570	2600	677	56.6
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	3	<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	1.97	<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	1.18	<1	<1
Benzene	<1 µg/l	TM208	<1	<1	1.84	<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	331	1.21	<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



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6
#	IS01/025 accredited.		Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
m	mCERTS accredited.	Depth (m)	14/03/2022	14/03/2022	15/03/2022	15/03/2022	15/03/2022	14/03/2022
aq	Aqueous / settled sample.	Sample Type	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
dis.filt	Dissolved / filtered sample.	Date Sampled	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.	Sampled Time	220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
	Subcontracted - refer to subcontractor report for accreditation status.	Date Received	26001811	26001812	26001813	26001814	26001815	26001816
**	% 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	SDG Ref						
(F)	Trigger breach confirmed	Lab Sample No.(s)						
1.4.4.6	Sample deviation (see appendix)	AGS Reference						
Component	LOD/Units	Method						
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1	11	18.2	2.39	<1
Tetrachloroethene	<1 µg/l	TM208	<1	224	<1	<1	2.94	<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	1.22	1.57	<1	<1
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Ethylbenzene	<1 µg/l	TM208	<1	<1	46.7	<1	2.48	<1
m,p-Xylene	<1 µg/l	TM208	<1	<1	362	42.6	<1	<1
o-Xylene	<1 µg/l	TM208	<1	<1	26.9	<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

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Table with columns: Results Legend, Customer Sample Ref., AMW1-AMW6, Component, LOD/Units, Method. Rows include 1,2,3-Trichlorobenzene, 1,3,5-Trichlorobenzene, and Sum of BTEX.



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.		14/03/2022	14/03/2022	14/03/2022	14/03/2022	15/03/2022	15/03/2022
aq	Aqueous / settled sample.		12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00
diss.fit	Dissolved / filtered sample.		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23	220321-23	220321-23	220321-23	220321-23
*	Subcontracted - refer to subcontractor report for accreditation status.		26001817	26001818	26001819	26001820	26001821	26001822
**	% 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	112	124	122	105	123	126
Toluene-d8**	%	TM208	101	102	98.1	97	101	102
4-Bromofluorobenzene**	%	TM208	100	100	93.3	93.8	101	101
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	2.05	<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	15.9	<3	<3
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	100	<1	13.6	4040	<1	13.4
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1 µg/l	TM208	2.9	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1 µg/l	TM208	66.2	9.66	12.6	<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	1.77	<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	5.35	1.48	4.17	<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	634	<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



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.	AMW7	AMW8	AMW9	AMW11	BH105	BH107
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)
M	mCERTS accredited.			14/03/2022	14/03/2022	14/03/2022	14/03/2022	15/03/2022	15/03/2022
sq	Aqueous / settled sample.		12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	12:00:00	
dis.filt	Dissolved / filtered sample.		18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	18/03/2022	
tot.unfilt	Total / unfiltered sample.		220321-23	220321-23	220321-23	220321-23	220321-23	220321-23	
	Subcontracted - refer to subcontractor report for accreditation status.		26001817	26001818	26001819	26001820	26001821	26001822	
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery								
(F)	Trigger breach confirmed								
1.4.4.6	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	2.68	<1	<1	1.86	<1	<1	
Tetrachloroethene	<1 µg/l	TM208	23.8	207	32.8	<1	<1	1.77	
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	10.4	<1	<1	
m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	59.1	<1	<1	
o-Xylene	<1 µg/l	TM208	<1	<1	<1	2.45	<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

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend		Customer Sample Ref.	MS1	SW104			
#	ISU17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001824	Unspecified Liquid (UNL) 15/03/2022 12:00:00 18/03/2022 220321-23 26001825			
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.fit	Dissolved / filtered sample.						
tot.unfit	Total / unfiltered sample.						
*	Subcontracted - refer to subcontractor report for accreditation status.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
1-439	Sample deviation (see appendix)						
Component	LOD/Units				Method		
Dibromofluoromethane**	%	TM208	110	109			
Toluene-d8**	%	TM208	100	97.8			
4-Bromofluorobenzene**	%	TM208	99.9	98			
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1			
Chloromethane	<1 µg/l	TM208	<1	<1			
Vinyl chloride	<1 µg/l	TM208	<1	<1			
Bromomethane	<1 µg/l	TM208	<1	<1			
Chloroethane	<1 µg/l	TM208	<1	<1			
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1			
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1			
Carbon disulphide	<1 µg/l	TM208	<1	<1			
Dichloromethane	<3 µg/l	TM208	<3	<3			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1			
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1			
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1			
cis-1,2-Dichloroethene	<1 µg/l	TM208	1.61	<1			
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
Bromochloromethane	<1 µg/l	TM208	<1	<1			
Chloroform	<1 µg/l	TM208	1	<1			
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1			
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1			
Carbontetrachloride	<1 µg/l	TM208	<1	<1			
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1			
Benzene	<1 µg/l	TM208	<1	<1			
Trichloroethene	<1 µg/l	TM208	<1	<1			
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
Dibromomethane	<1 µg/l	TM208	<1	<1			
Bromodichloromethane	<1 µg/l	TM208	<1	<1			
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1			
Toluene	<1 µg/l	TM208	<1	<1			
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1			
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. Aq Aqueous / settled sample. Diss. Dissolved / filtered sample. Tot. Total / unfiltered sample. Subcontracted - refer to subcontractor report for accreditation status. % % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.4.6 Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	MS1	SW104			
Component	LOD/Units	Method	Unspecified Liquid (UNL)	Unspecified Liquid (UNL)			
1,3-Dichloropropane	<1 µg/l	TM208	<1	<1			
Tetrachloroethene	<1 µg/l	TM208	26.4	14			
Dibromochloromethane	<1 µg/l	TM208	<1	<1			
1,2-Dibromoethane	<1 µg/l	TM208	<1	<1			
Chlorobenzene	<1 µg/l	TM208	<1	<1			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1			
Ethylbenzene	<1 µg/l	TM208	<1	<1			
m,p-Xylene	<1 µg/l	TM208	<1	<1			
o-Xylene	<1 µg/l	TM208	<1	<1			
Styrene	<1 µg/l	TM208	<1	<1			
Bromoform	<1 µg/l	TM208	<1	<1			
Isopropylbenzene	<1 µg/l	TM208	<1	<1			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	<1			
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	<1			
Bromobenzene	<1 µg/l	TM208	<1	<1			
Propylbenzene	<1 µg/l	TM208	<1	<1			
2-Chlorotoluene	<1 µg/l	TM208	<1	<1			
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	<1			
4-Chlorotoluene	<1 µg/l	TM208	<1	<1			
tert-Butylbenzene	<1 µg/l	TM208	<1	<1			
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	<1			
sec-Butylbenzene	<1 µg/l	TM208	<1	<1			
4-iso-Propyltoluene	<1 µg/l	TM208	<1	<1			
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	<1			
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	<1			
n-Butylbenzene	<1 µg/l	TM208	<1	<1			
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	<1			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1			
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	<1			
Hexachlorobutadiene	<1 µg/l	TM208	<1	<1			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1			
Naphthalene	<1 µg/l	TM208	<1	<1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Table of Results - Appendix

Method No	Reference	Description
SUB		Subcontracted Test
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	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
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS 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
TM232	USEPA Method No. 8260b 'Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC-MS)'	Determination of Volatile Alcohols, Acetates and Ketones in Waters by Headspace GC-MS
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, 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
TM331		Low Level Hexavalent Chromium

NA = not applicable.

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Test Completion Dates

Lab Sample No(s)	26001811	26001812	26001813	26001814	26001815	26001816	26001817	26001818	26001819	26001820
Customer Sample Ref.	AMW1	AMW2	AMW3	AMW4	AMW5	AMW6	AMW7	AMW8	AMW9	AMW11
AGS Ref.										
Depth										
Type	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq
Acetonitrile*	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022
Alcohols/Acetates MS (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Alkalinity as CaCO3	24-Mar-2022	25-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	25-Mar-2022	25-Mar-2022	25-Mar-2022	24-Mar-2022	24-Mar-2022
Ammonium Low	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Anions by Kone (w)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	23-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
COD Unfiltered	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Conductivity (at 20 deg.C)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Dissolved Metals by ICP-MS	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
EPH (DRO) (C10-C40) Aqueous (W)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
GRO by GC-FID (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Low Level Hexavalent Chromium (w)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Nitrite by Kone (w)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	23-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
PAH Spec MS - Aqueous (W)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
pH Value	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Phosphate by Kone (w)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
SVOC MS (W) - Aqueous	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Total EPH (aq)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
VOC MS (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022

Lab Sample No(s)	26001821	26001822	26001824	26001825
Customer Sample Ref.	BH105	BH107	MS1	SW104
AGS Ref.				
Depth				
Type	Unspecified Liq	Unspecified Liq	Unspecified Liq	Unspecified Liq
Acetonitrile*	01-Apr-2022	01-Apr-2022	01-Apr-2022	01-Apr-2022
Alcohols/Acetates MS (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Alkalinity as CaCO3	24-Mar-2022	24-Mar-2022	24-Mar-2022	25-Mar-2022
Ammonium Low	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Anions by Kone (w)	24-Mar-2022	23-Mar-2022	24-Mar-2022	24-Mar-2022
COD Unfiltered	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Conductivity (at 20 deg.C)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Dissolved Metals by ICP-MS	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
EPH (DRO) (C10-C40) Aqueous (W)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
GRO by GC-FID (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
Low Level Hexavalent Chromium (w)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Nitrite by Kone (w)	24-Mar-2022	23-Mar-2022	24-Mar-2022	24-Mar-2022
PAH Spec MS - Aqueous (W)	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
pH Value	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Phosphate by Kone (w)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
SVOC MS (W) - Aqueous	23-Mar-2022	23-Mar-2022	23-Mar-2022	23-Mar-2022
Total EPH (aq)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022
VOC MS (W)	24-Mar-2022	24-Mar-2022	24-Mar-2022	24-Mar-2022



CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

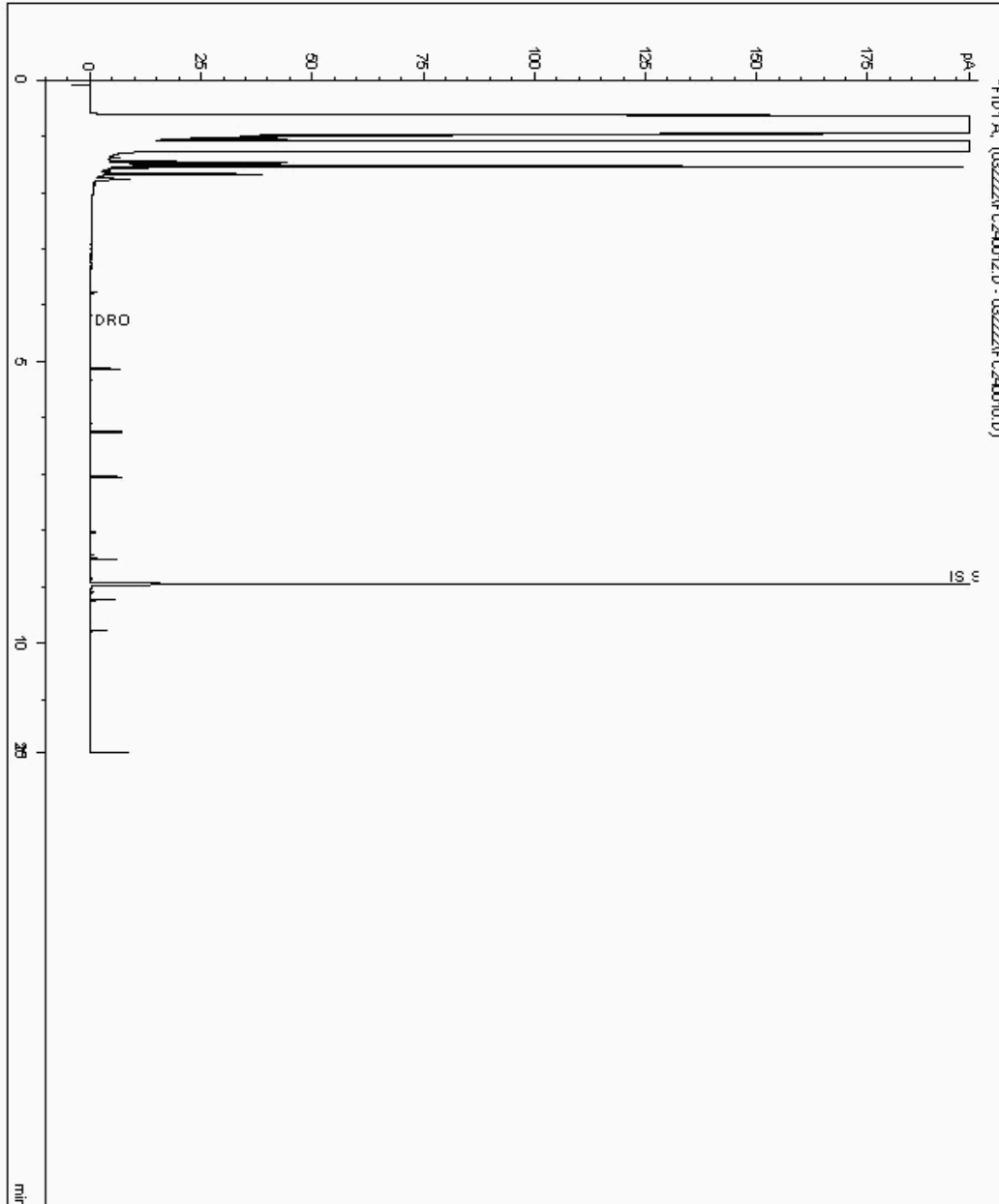
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002641
Sample ID : AMW1

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24268867-
Date Acquired : 22/03/2022 19:58:38 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

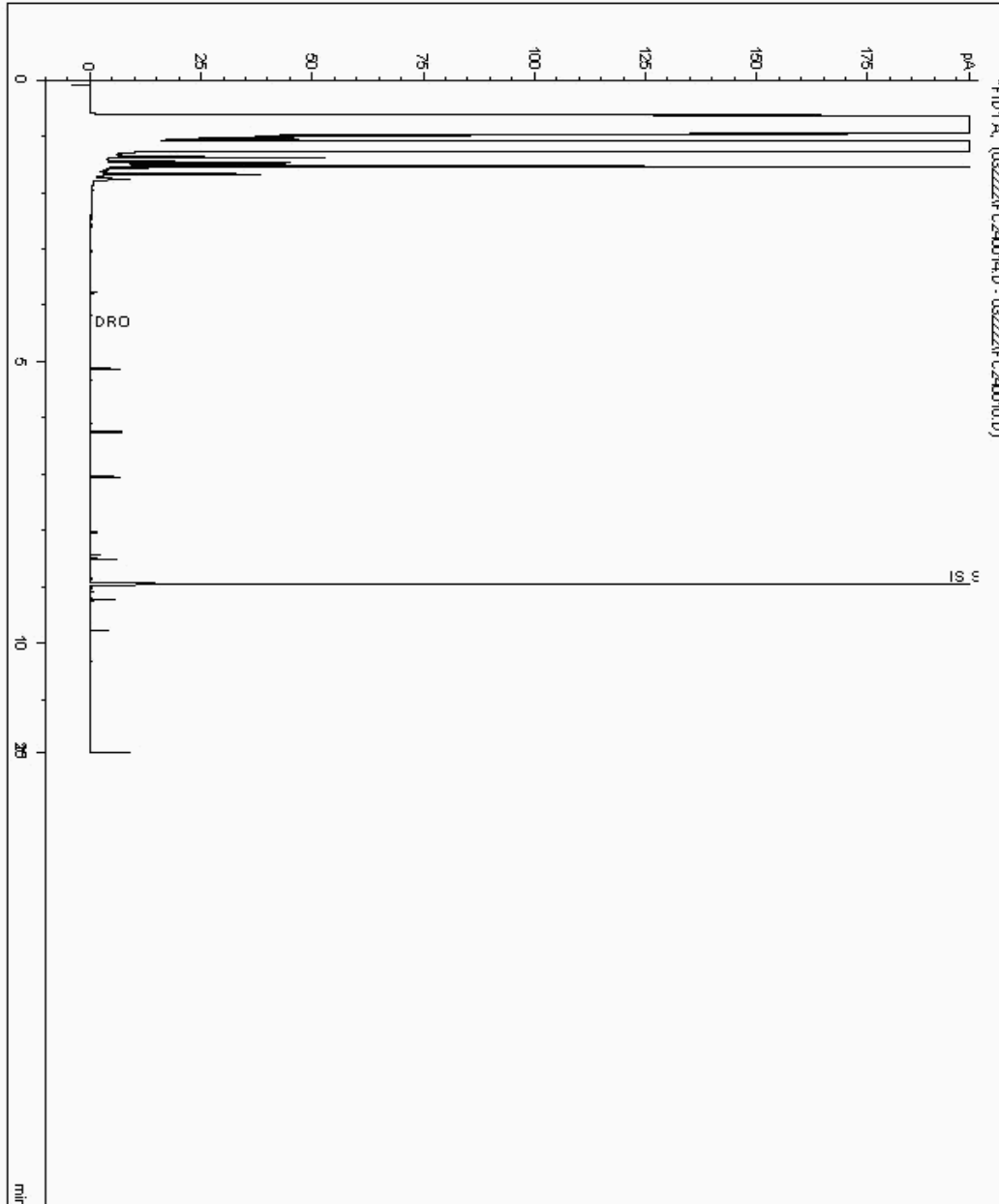
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002645
Sample ID : AMW2

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24268888-
Date Acquired : 22/03/2022 20:46:53 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

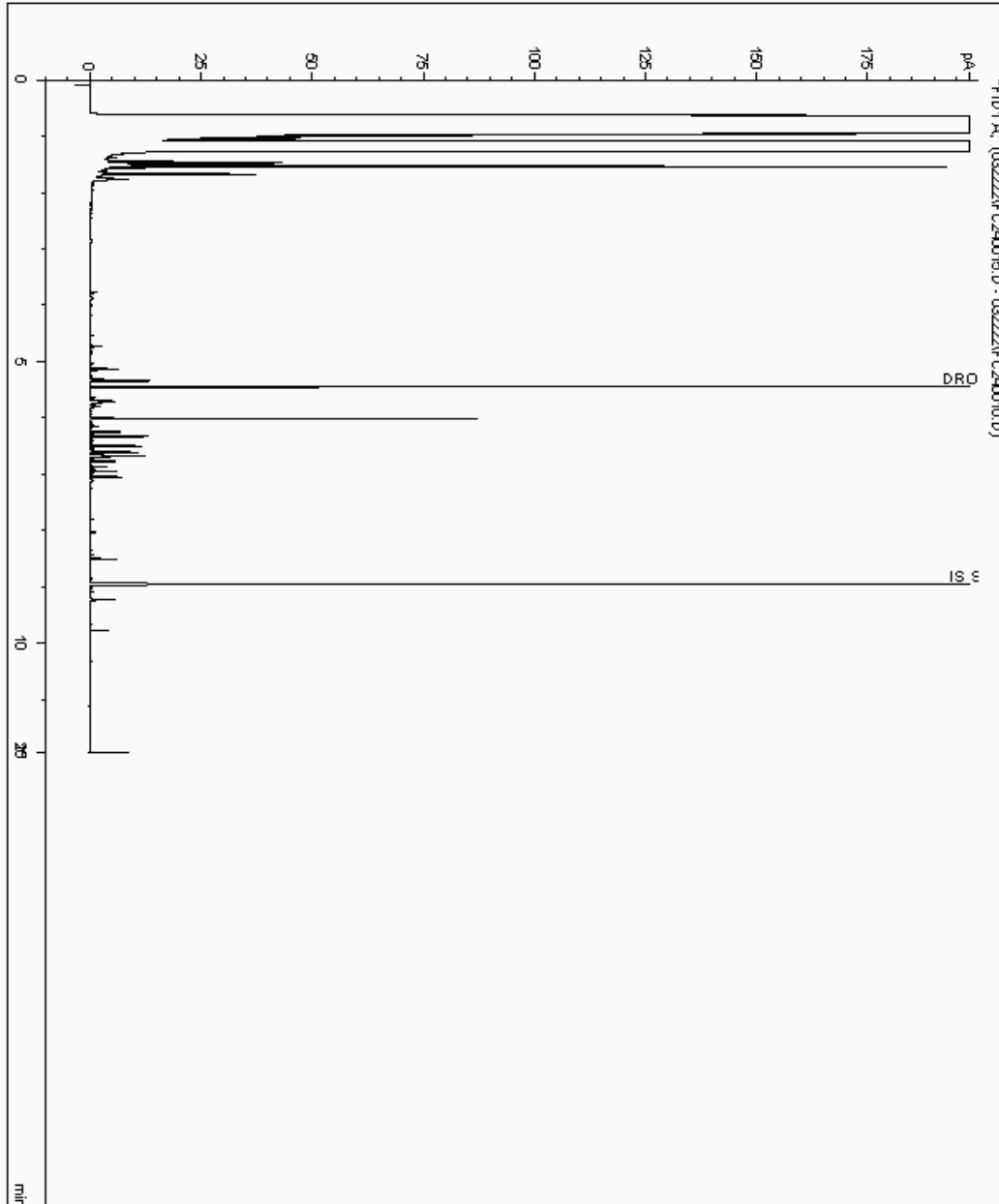
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002726
Sample ID : AMW4

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24268962-
Date Acquired : 22/03/2022 21:11:02 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

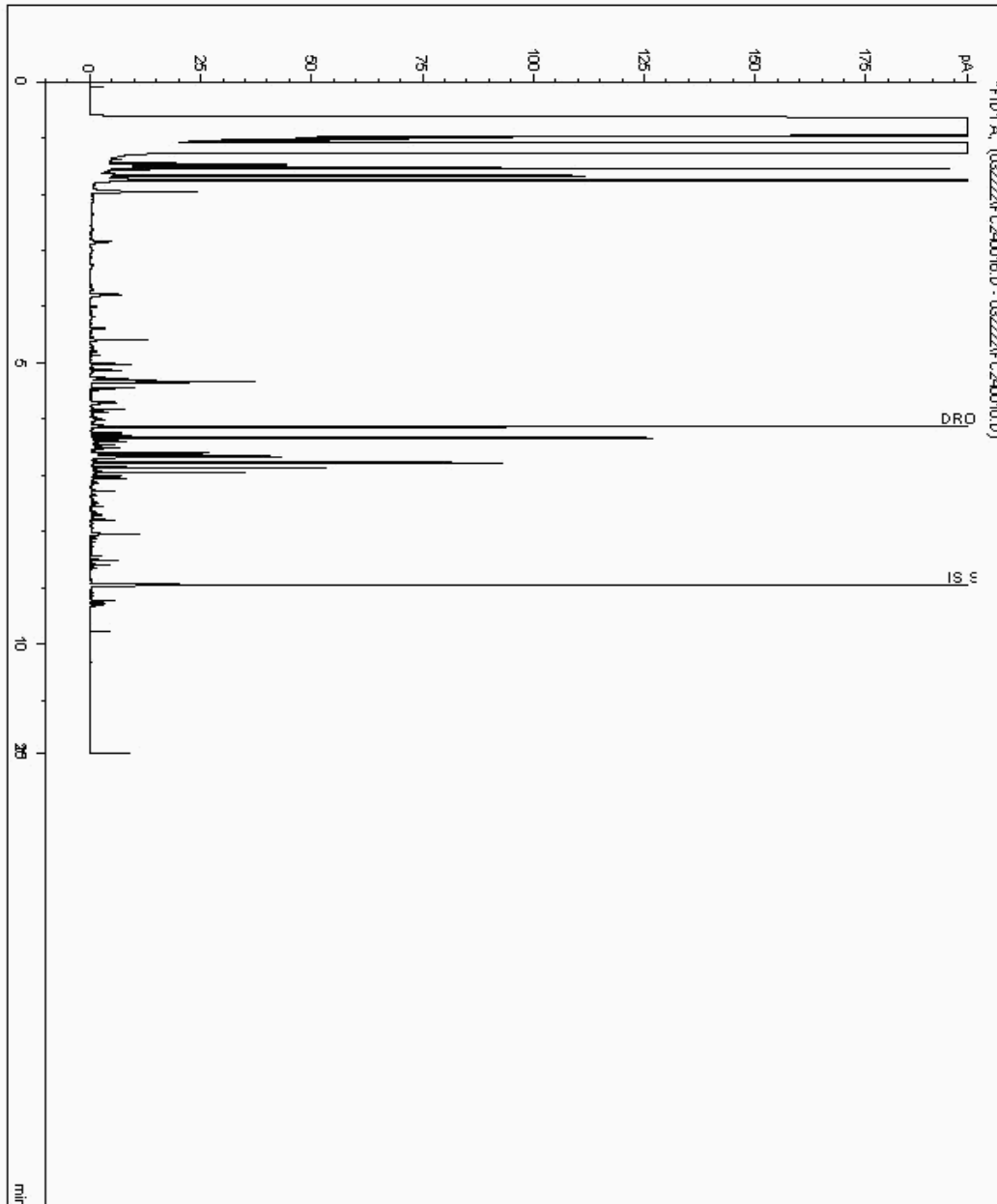
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002730
Sample ID : AMW3

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24268908-
Date Acquired : 22/03/2022 21:35:06 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

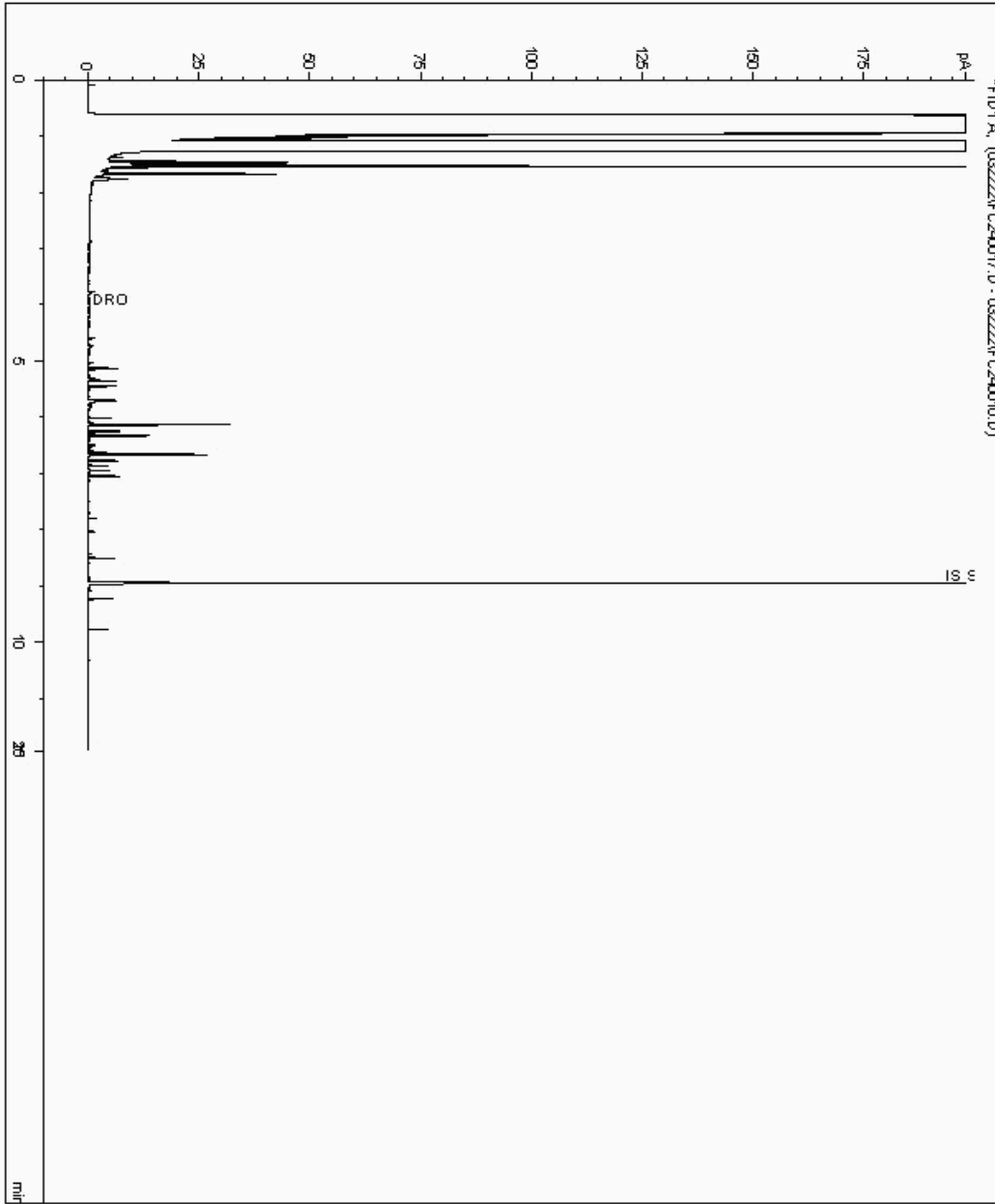
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002745
Sample ID : AMW5

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269000-
Date Acquired : 22/03/2022 21:59:15 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

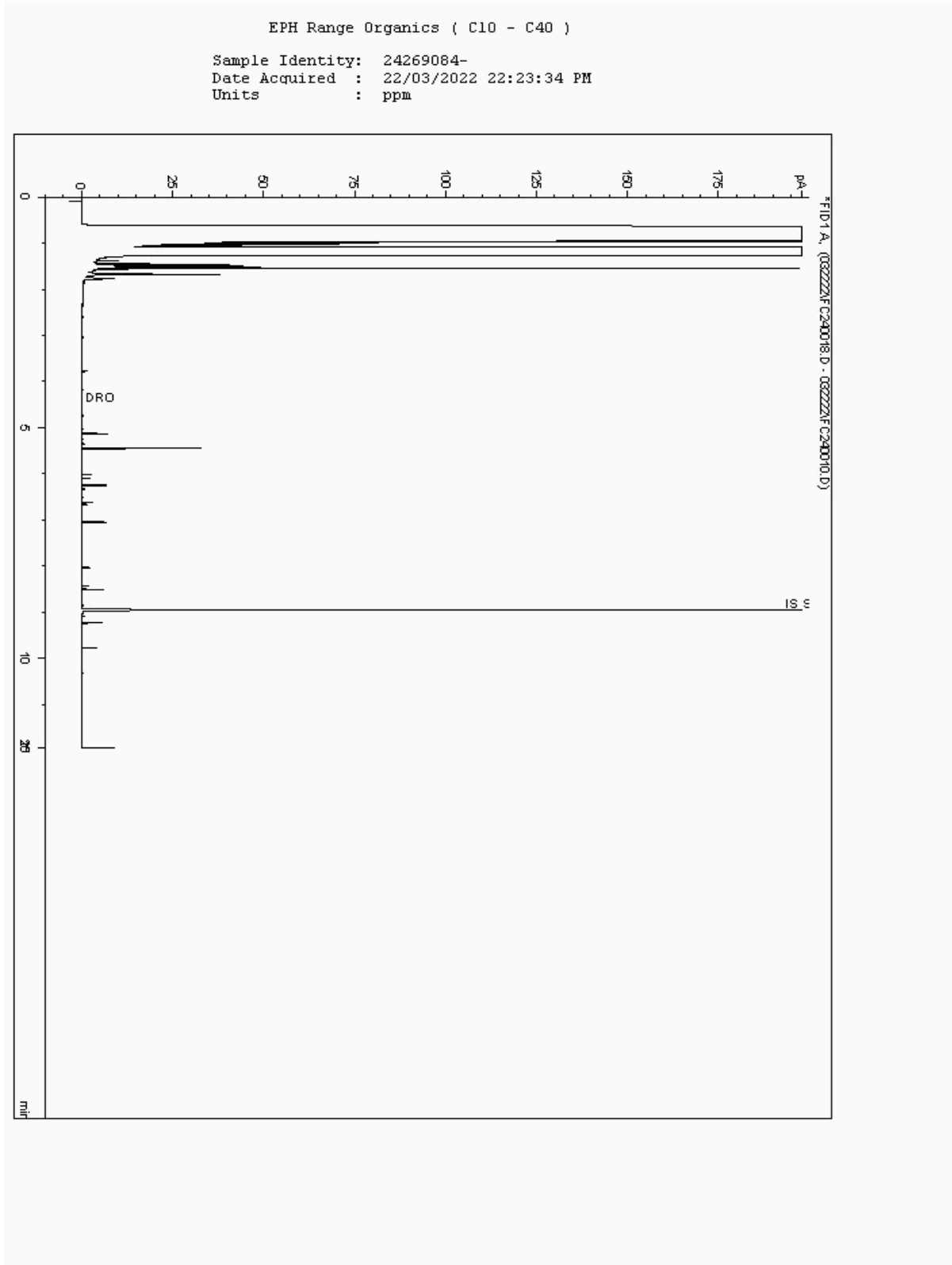
Superseded Report:

Chromatogram

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

Sample No : 26002894
Sample ID : AMW7

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

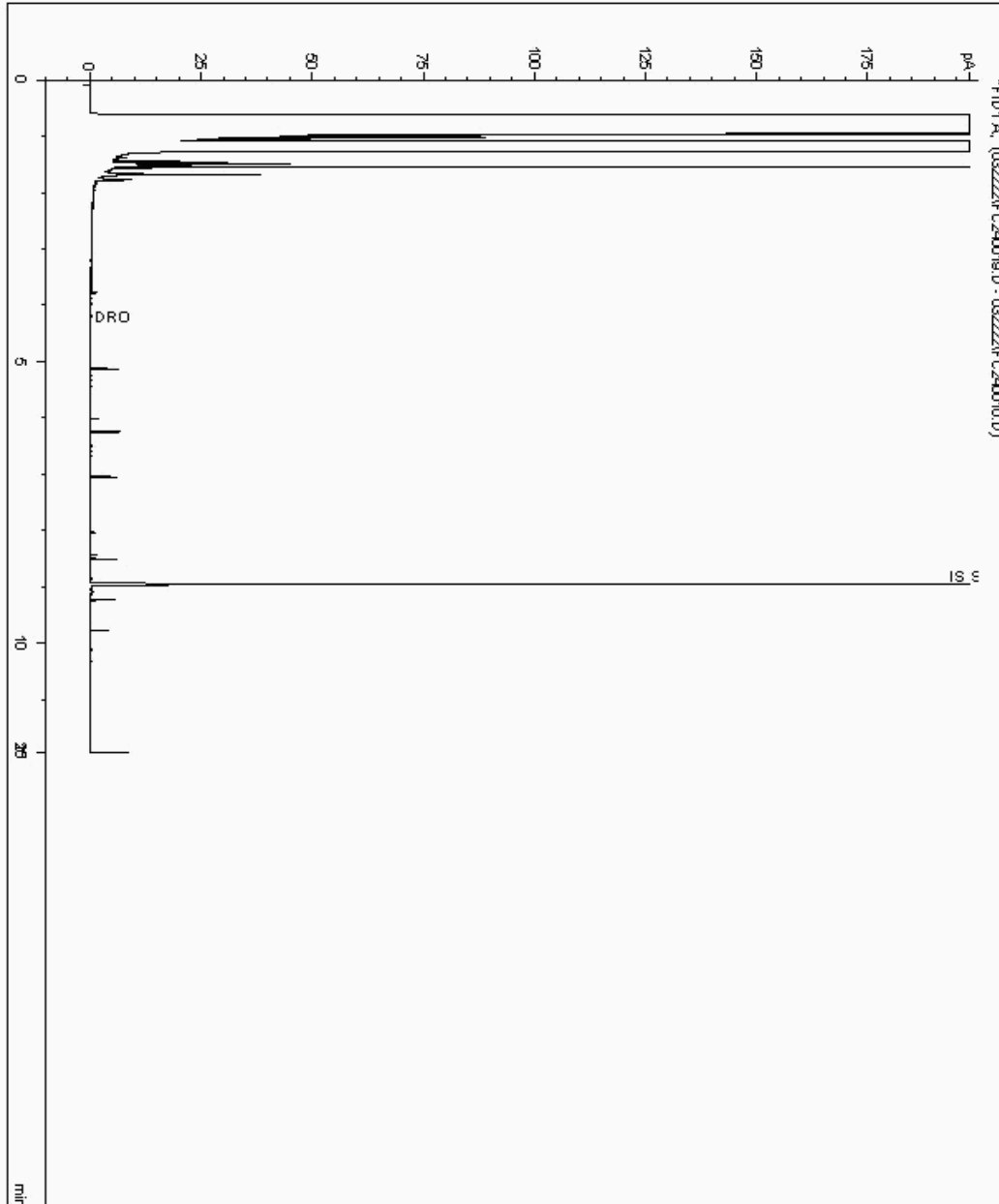
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002898
Sample ID : AMW6

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269043-
Date Acquired : 22/03/2022 22:47:51 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

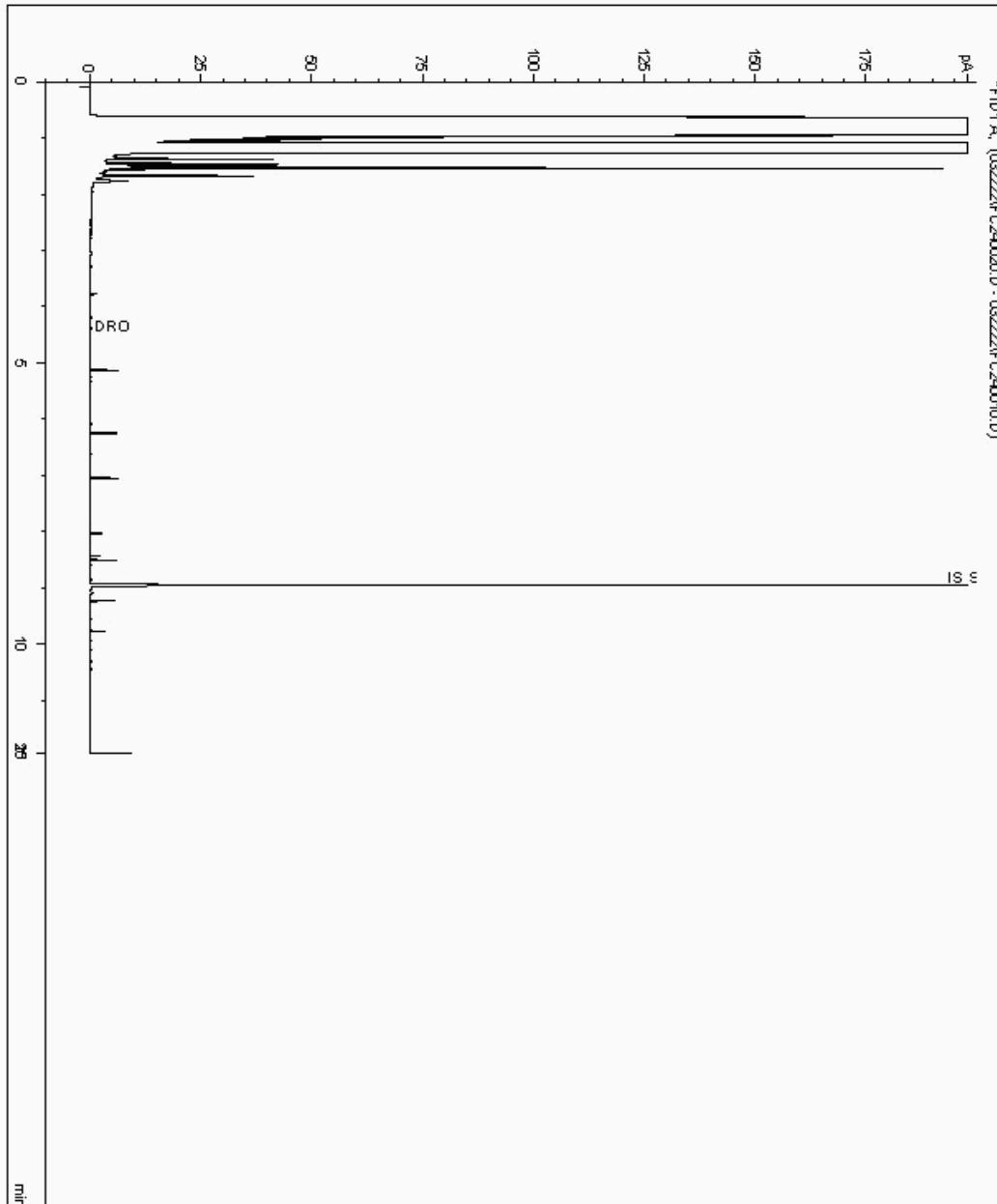
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002904
Sample ID : AMW8

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269115-
Date Acquired : 22/03/2022 23:12:19 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

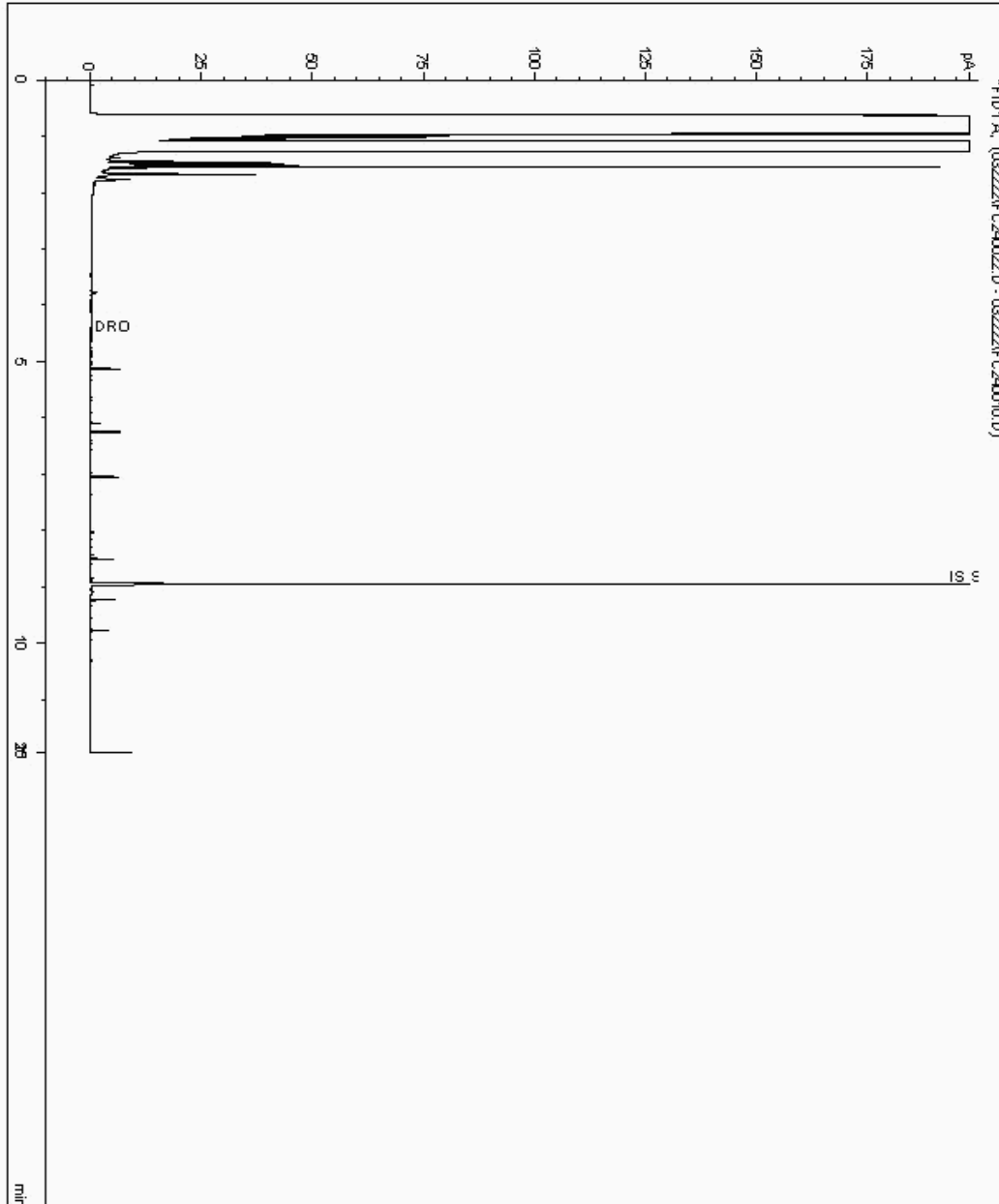
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002956
Sample ID : BH105

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269175-
Date Acquired : 22/03/2022 23:59:22 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

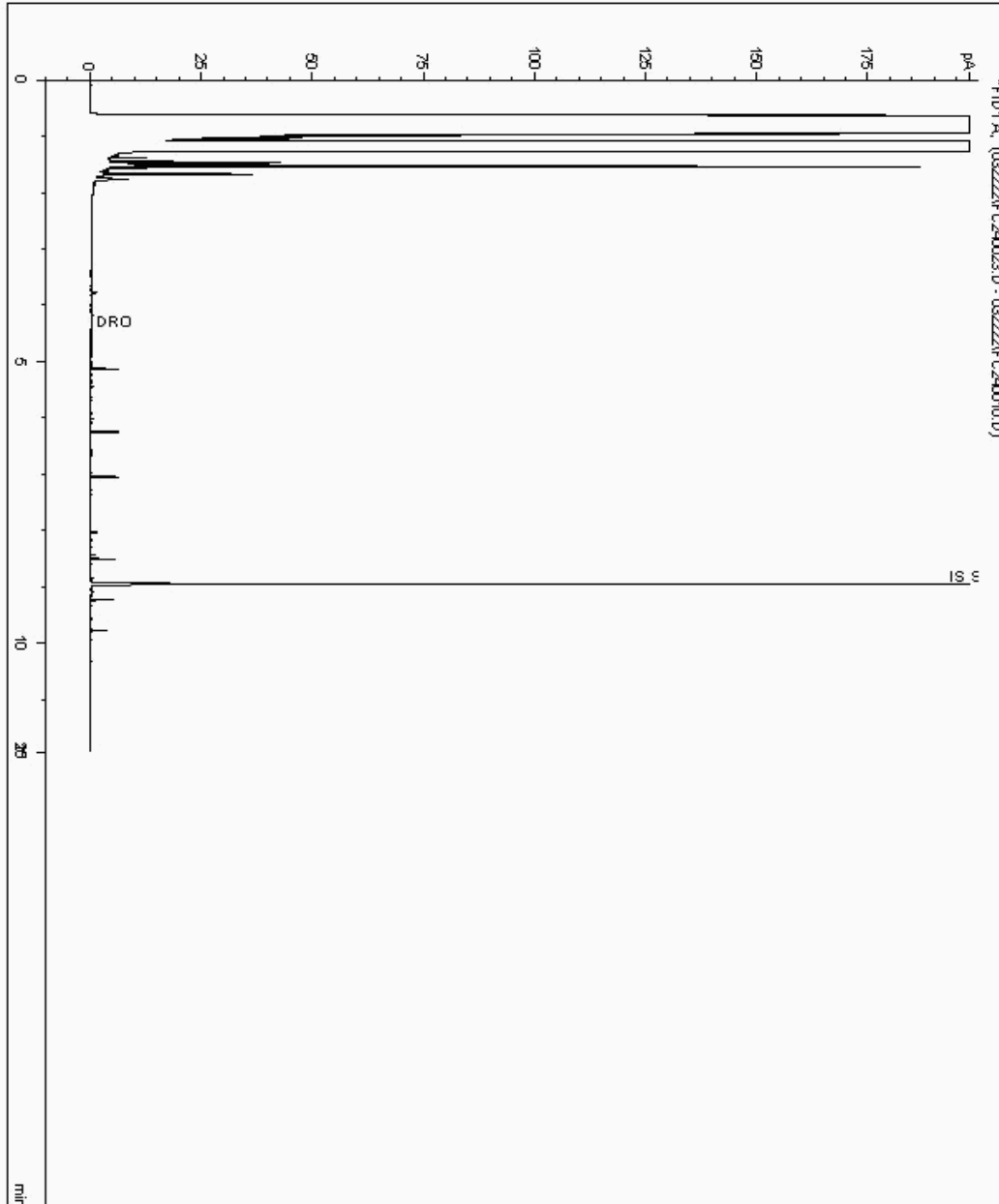
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002960
Sample ID : AMW9

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269135-
Date Acquired : 23/03/2022 00:23:55 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

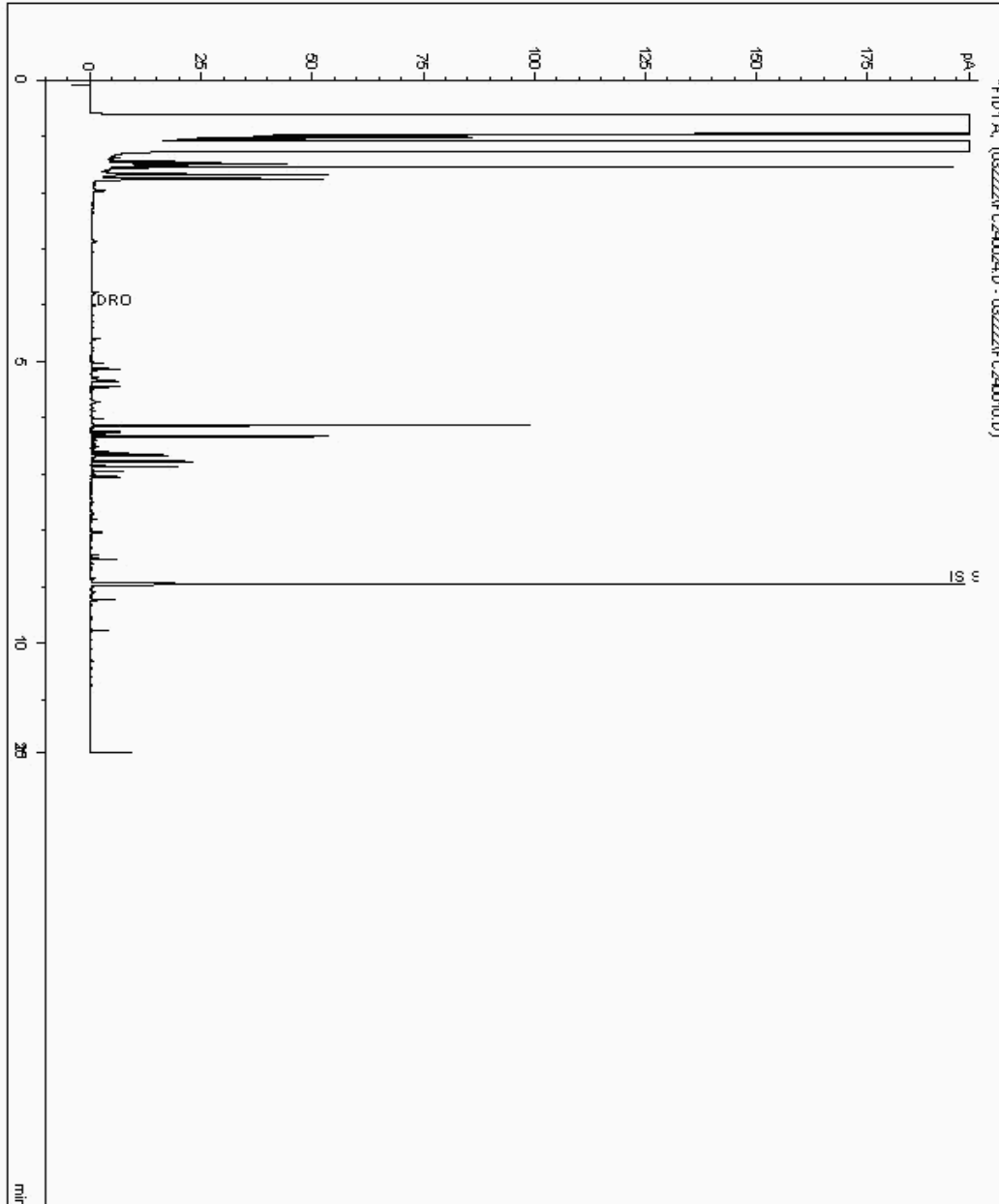
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26002964
Sample ID : AMW11

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269155-
Date Acquired : 23/03/2022 00:48:21 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

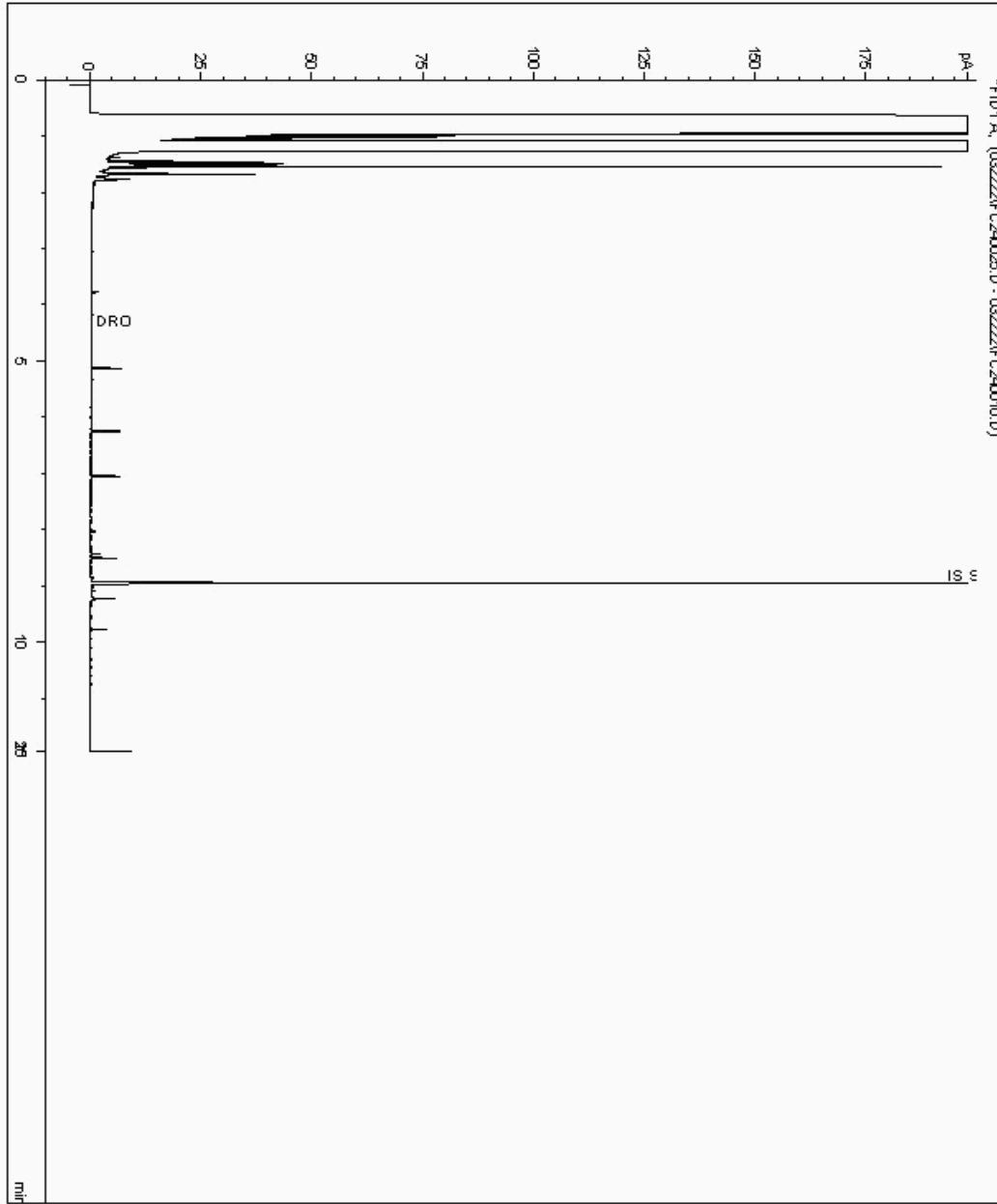
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26003264
Sample ID : BH107

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269195-
Date Acquired : 23/03/2022 01:12:45 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

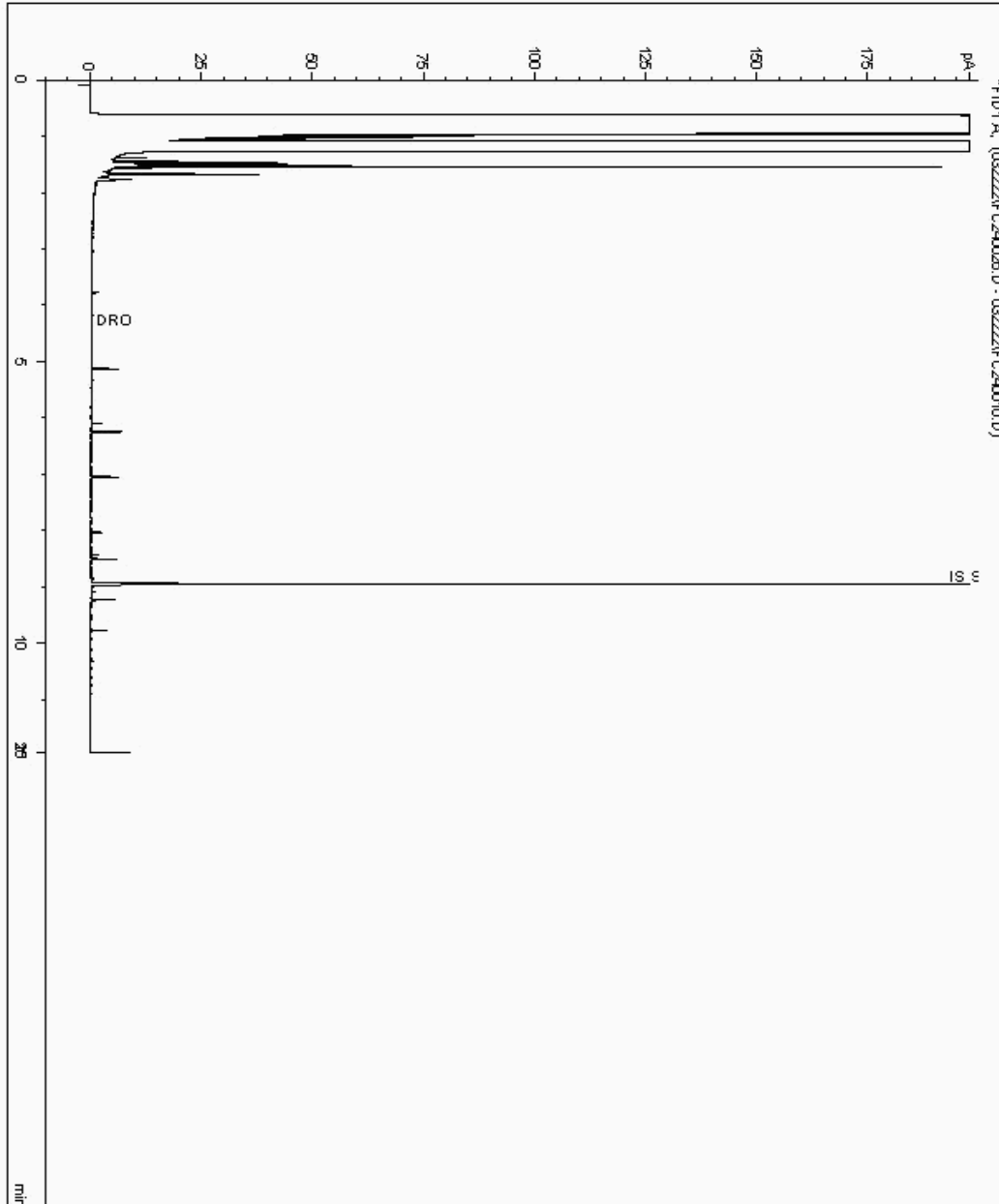
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26003266
Sample ID : MS1

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269218-
Date Acquired : 23/03/2022 01:37:14 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

Superseded Report:

Chromatogram

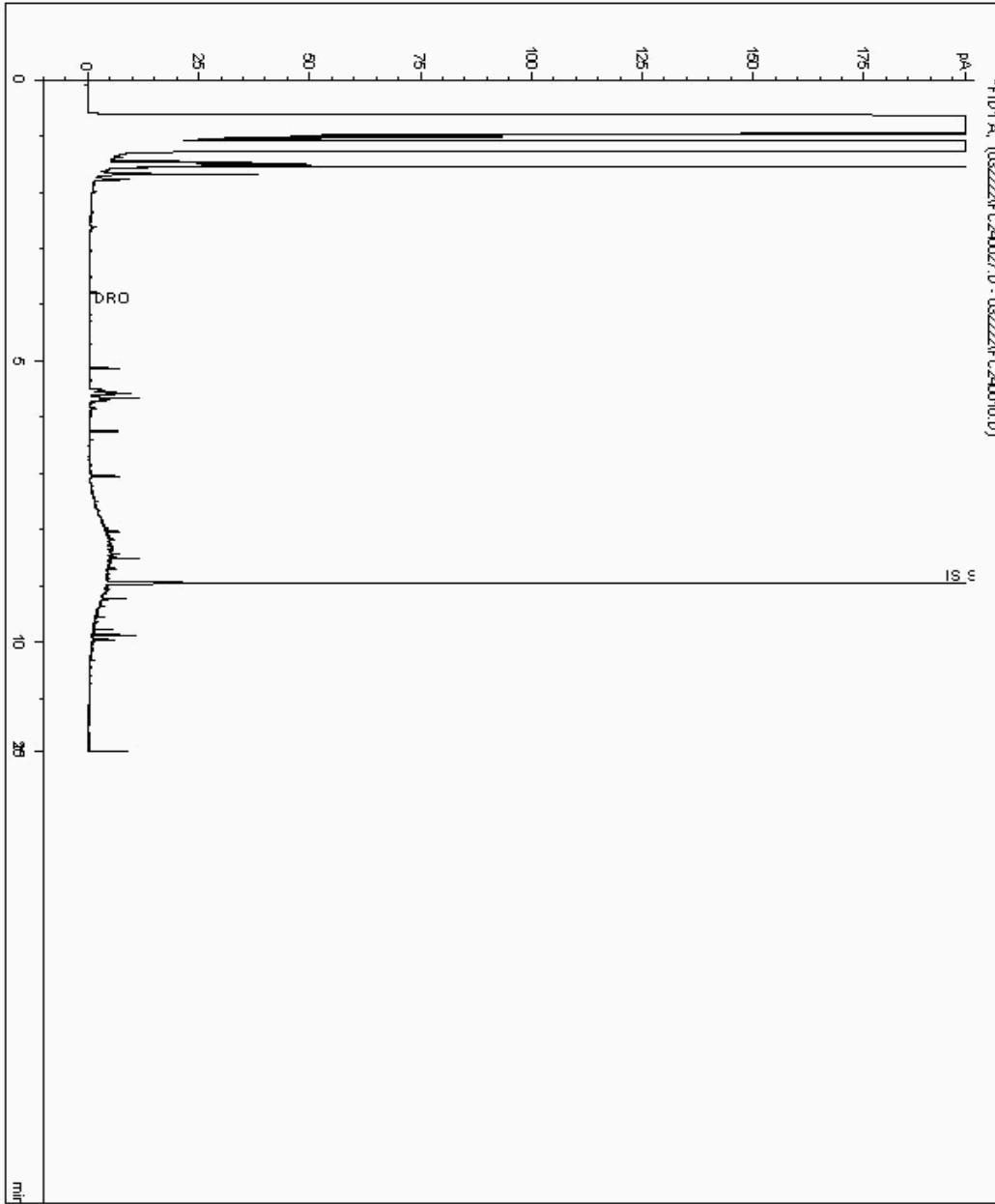
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 26003274
Sample ID : SW104

Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 24269241-
Date Acquired : 23/03/2022 02:01:39 PM
Units : ppm





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

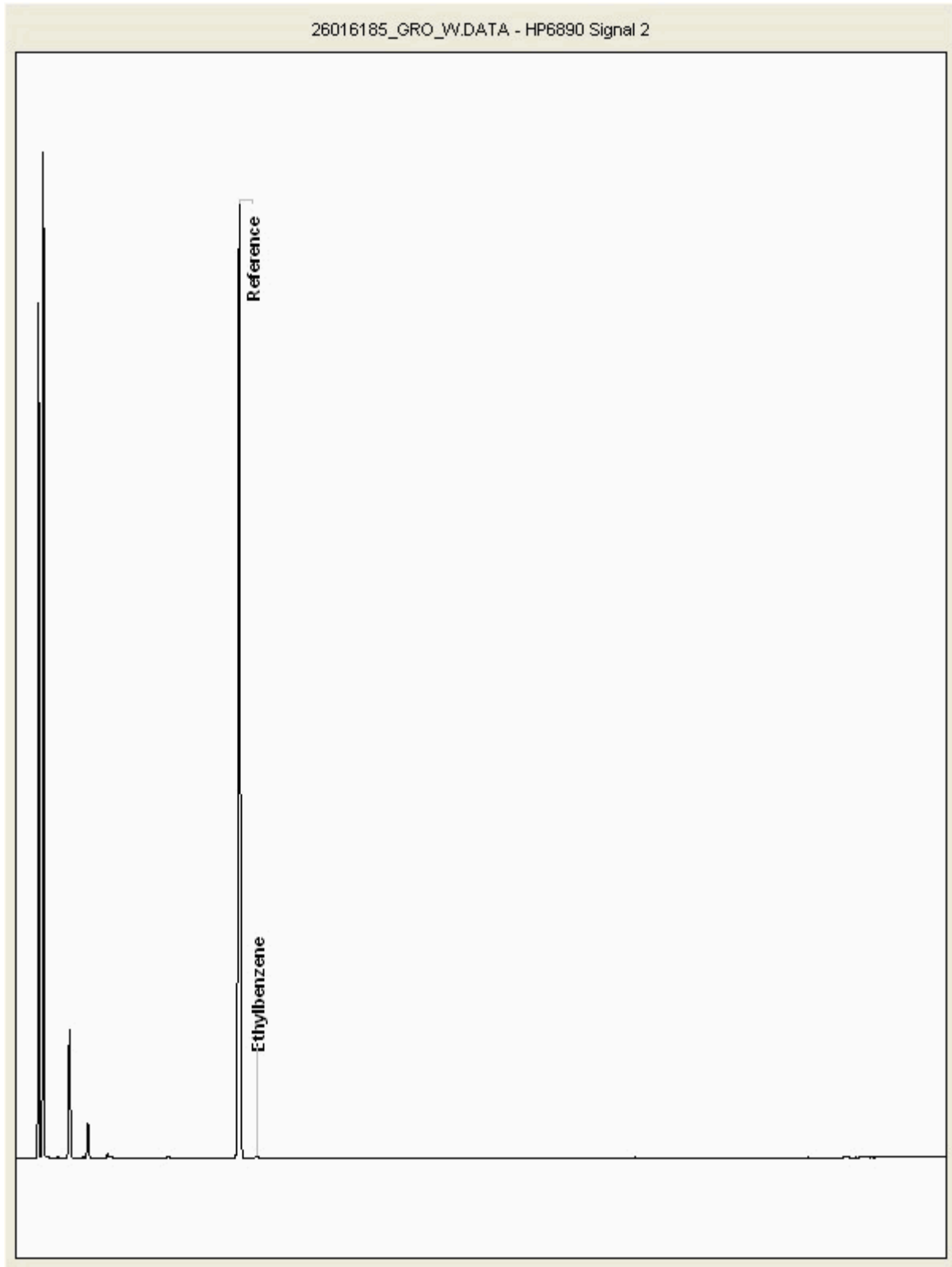
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016185
Sample ID : AMW5

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

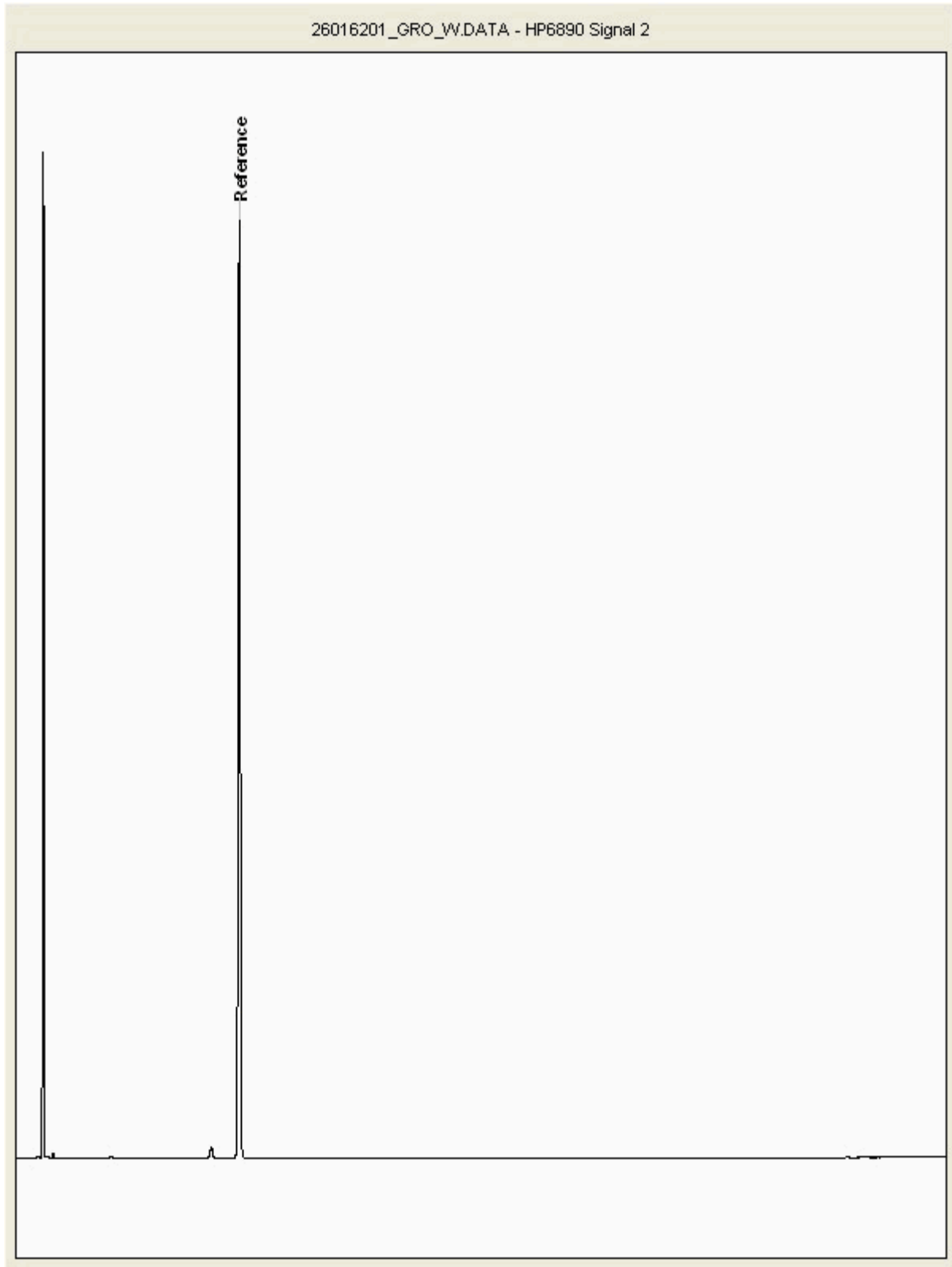
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016201
Sample ID : AMW2

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

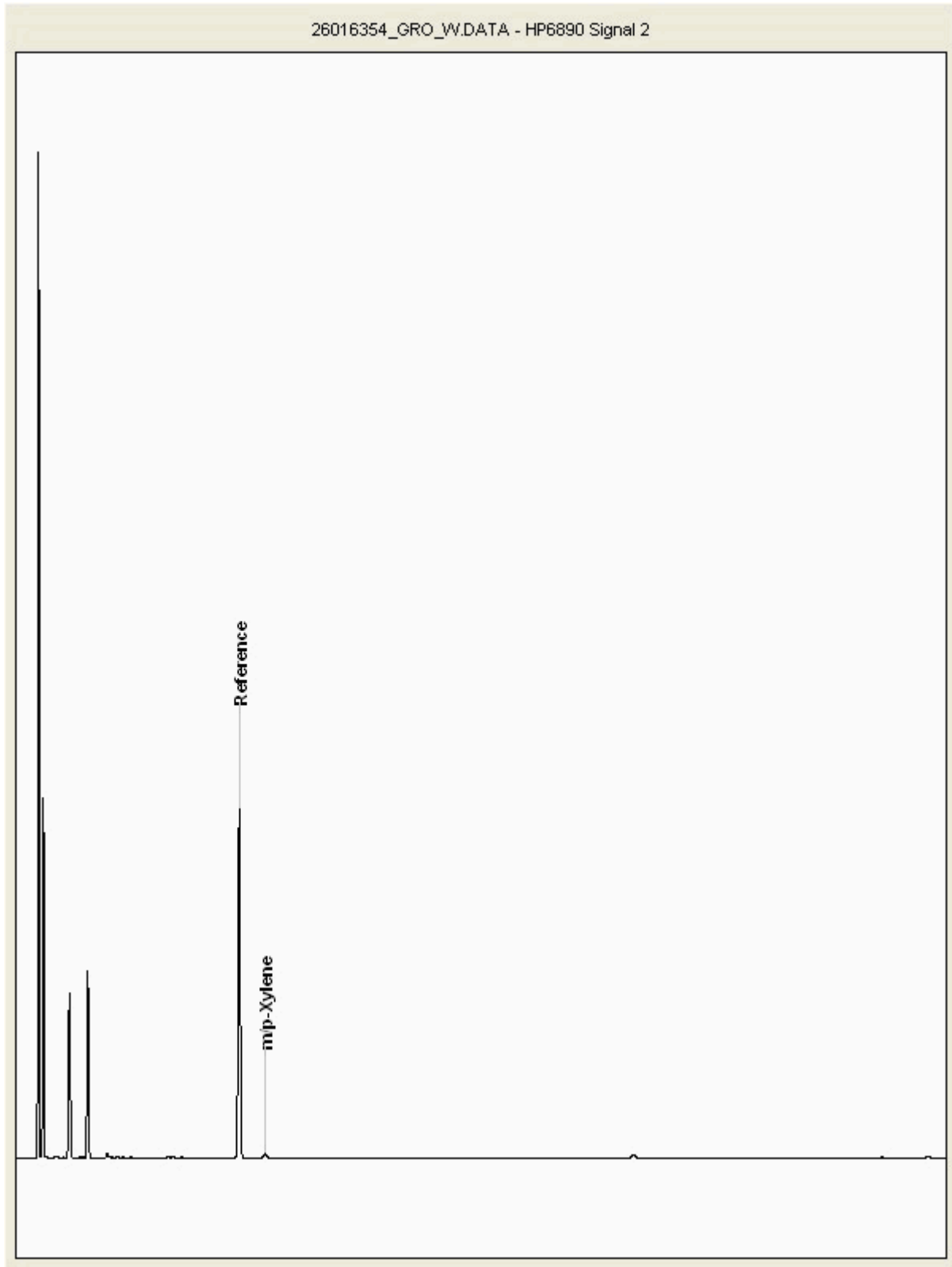
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016354
Sample ID : AMW4

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

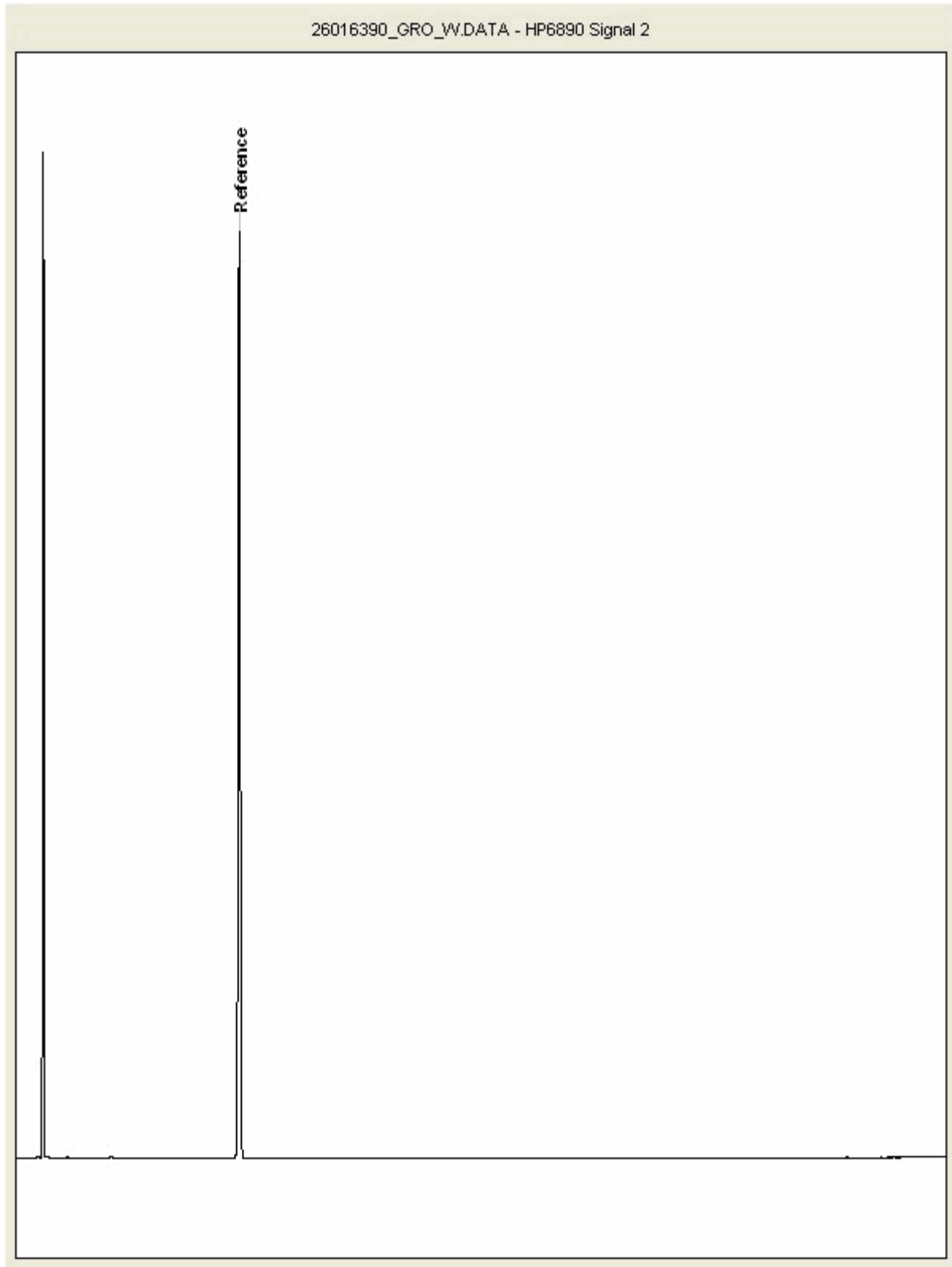
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016390
Sample ID : AMW1

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

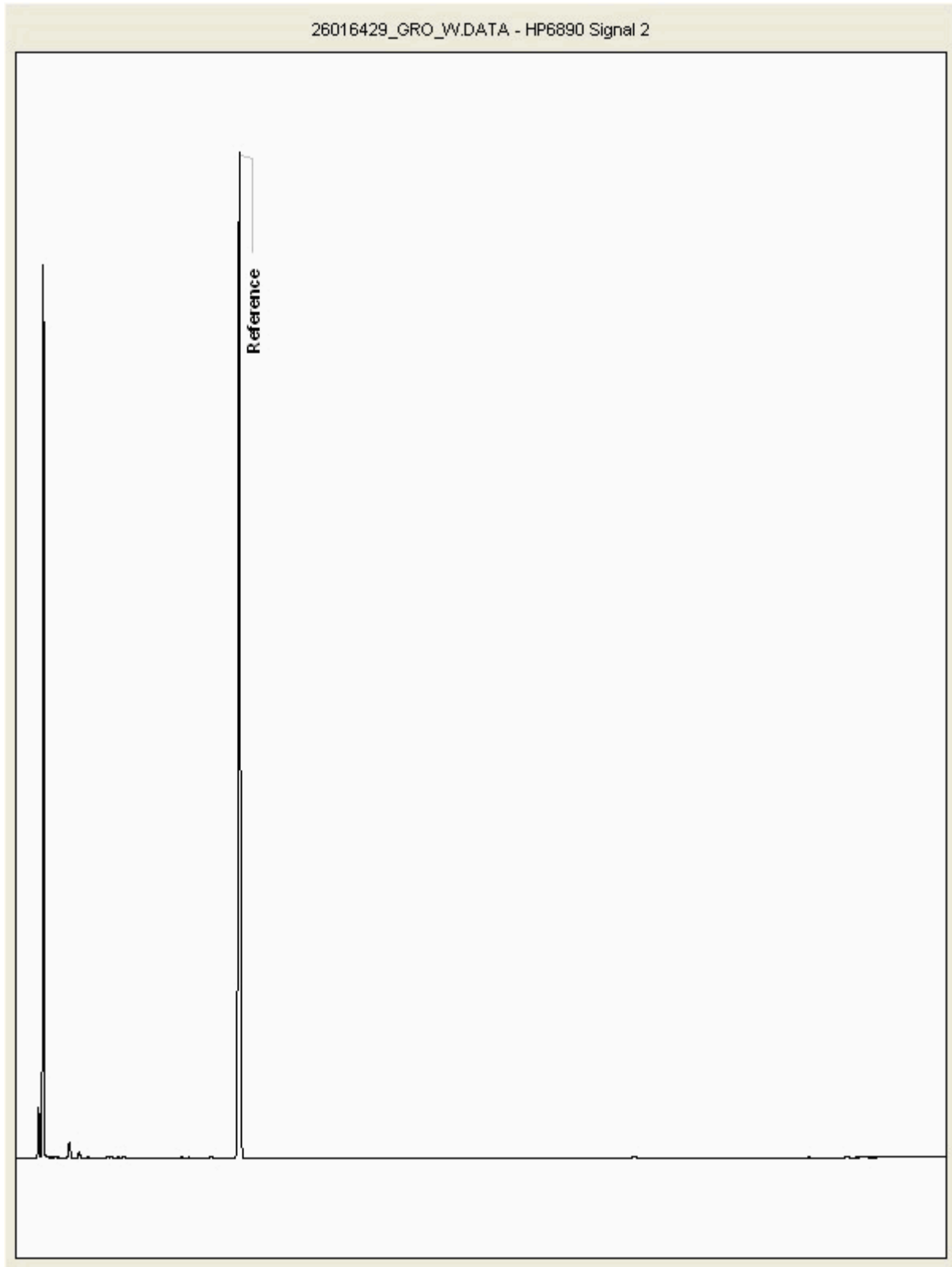
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016429
Sample ID : AMW7

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

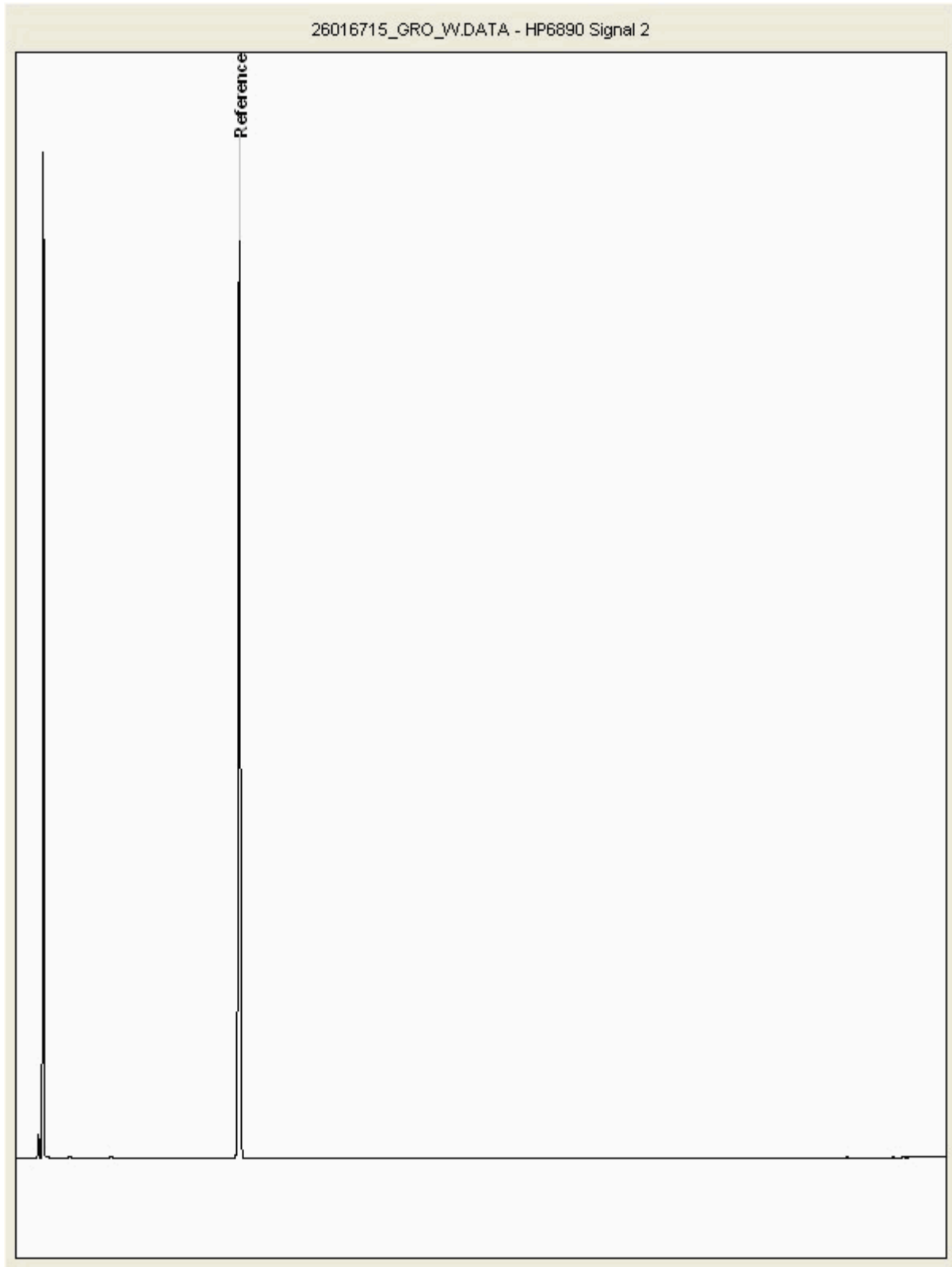
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016715
Sample ID : BH107

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

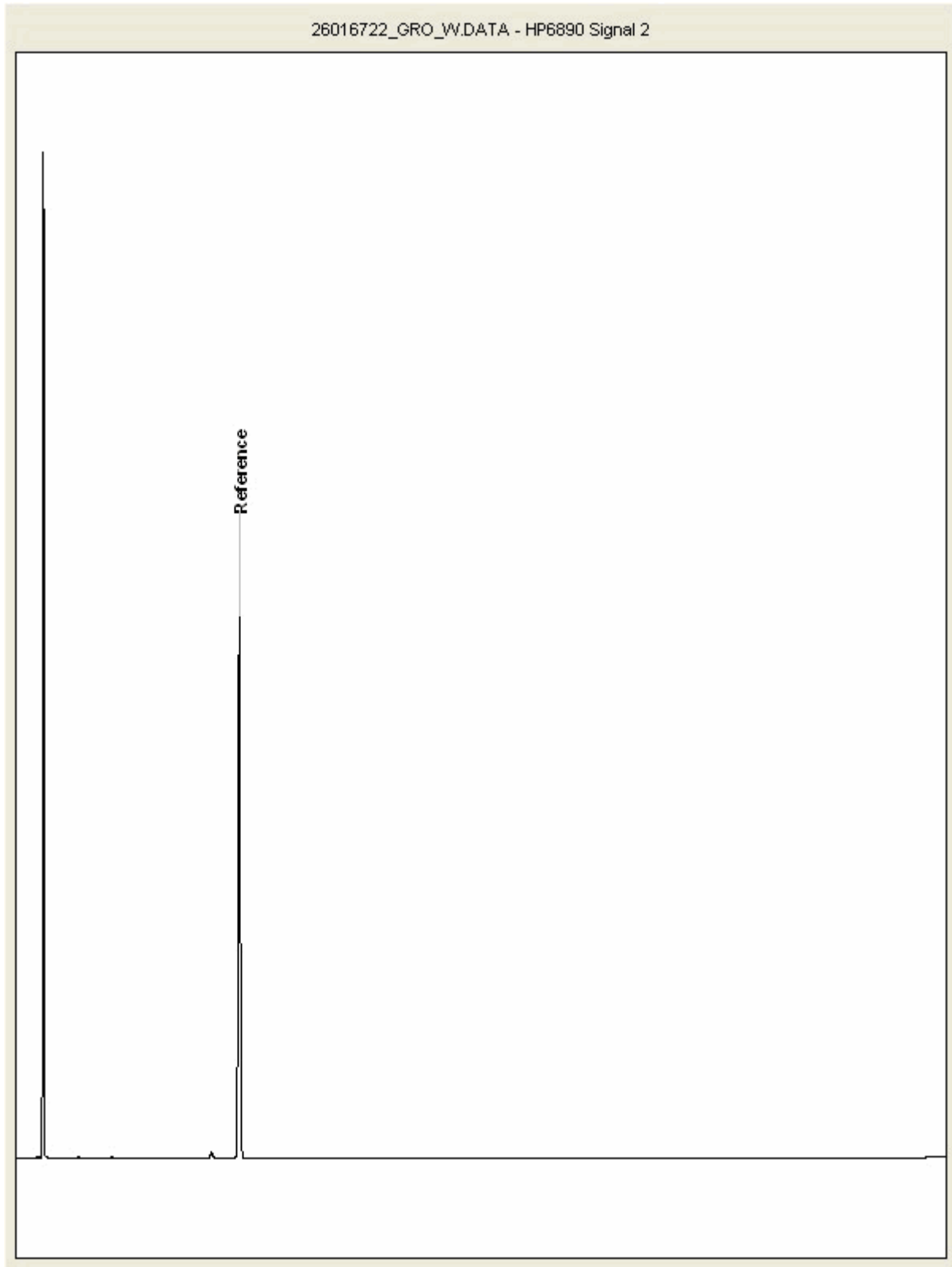
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016722
Sample ID : AMW8

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

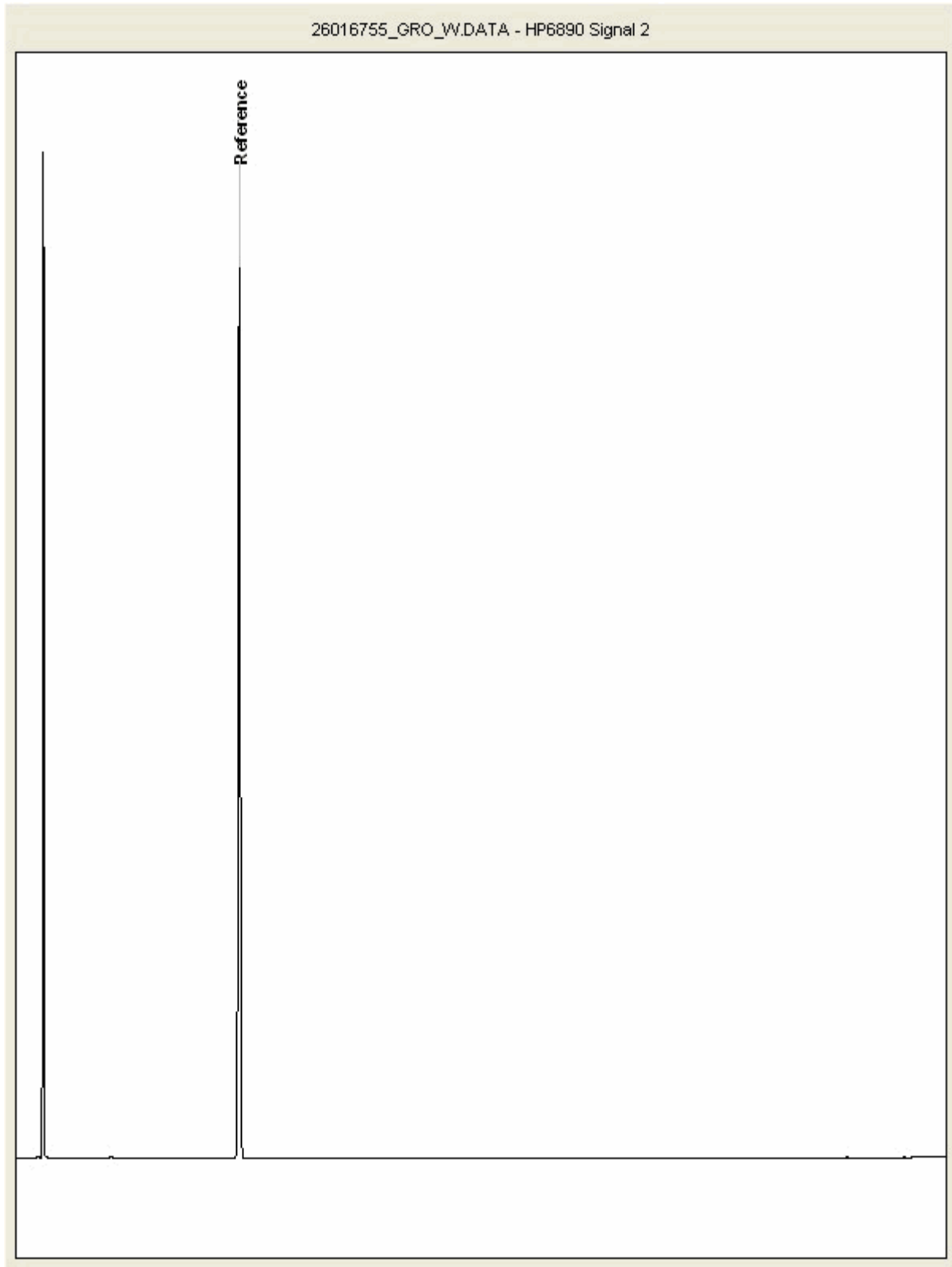
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016755
Sample ID : BH105

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

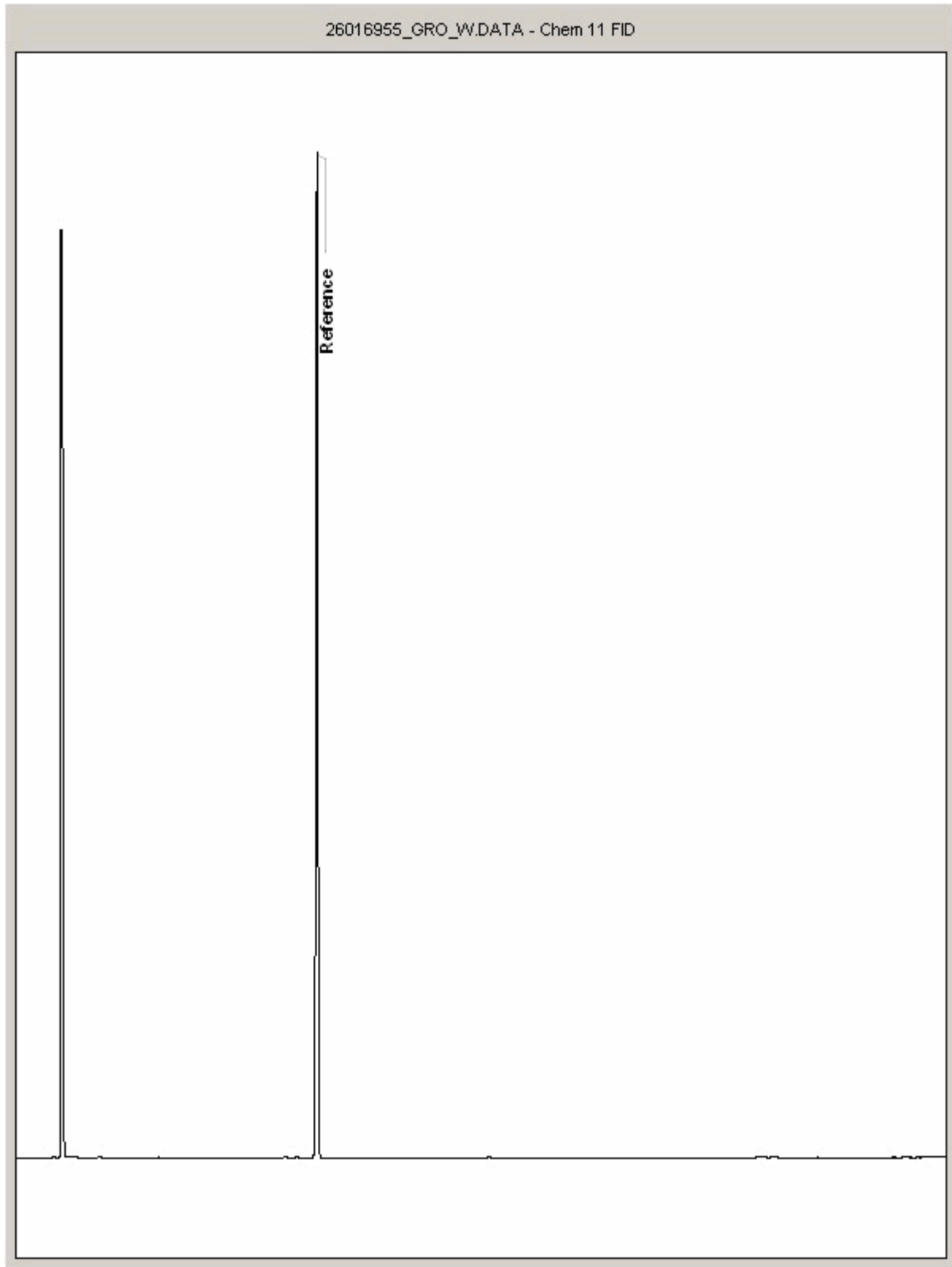
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26016955
Sample ID : SW104

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

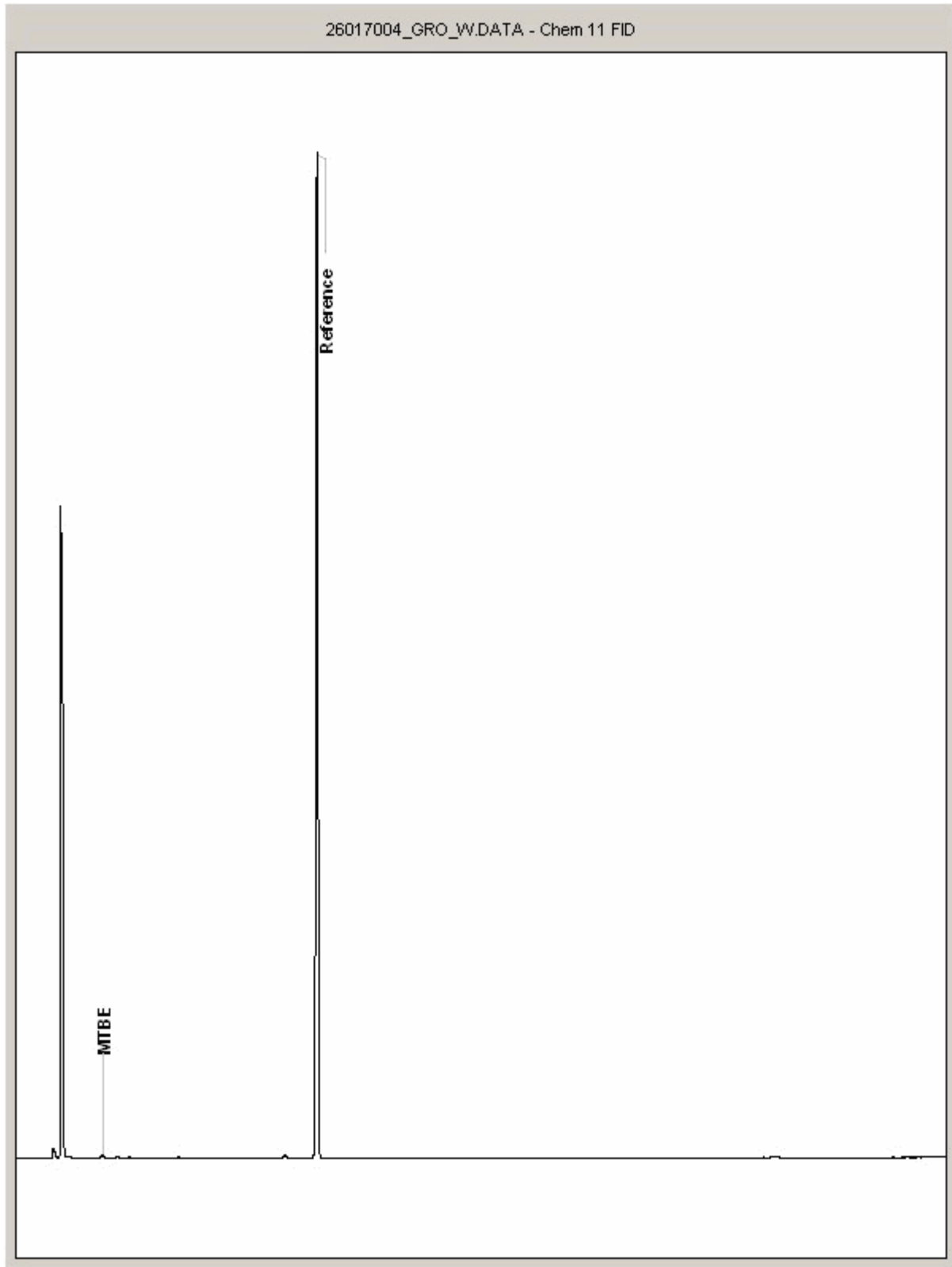
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26017004
Sample ID : AMW9

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

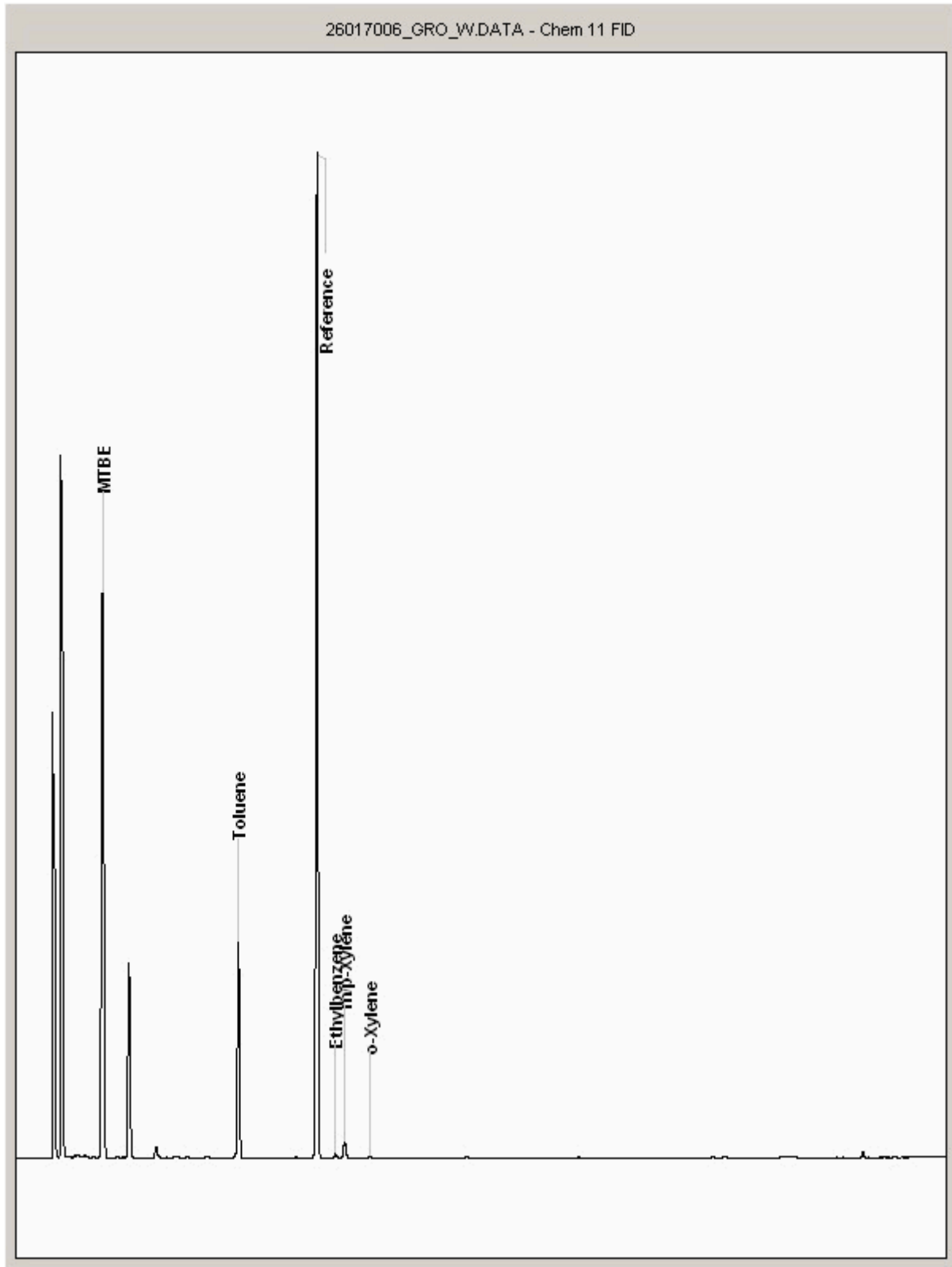
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26017006
Sample ID : AMW11

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

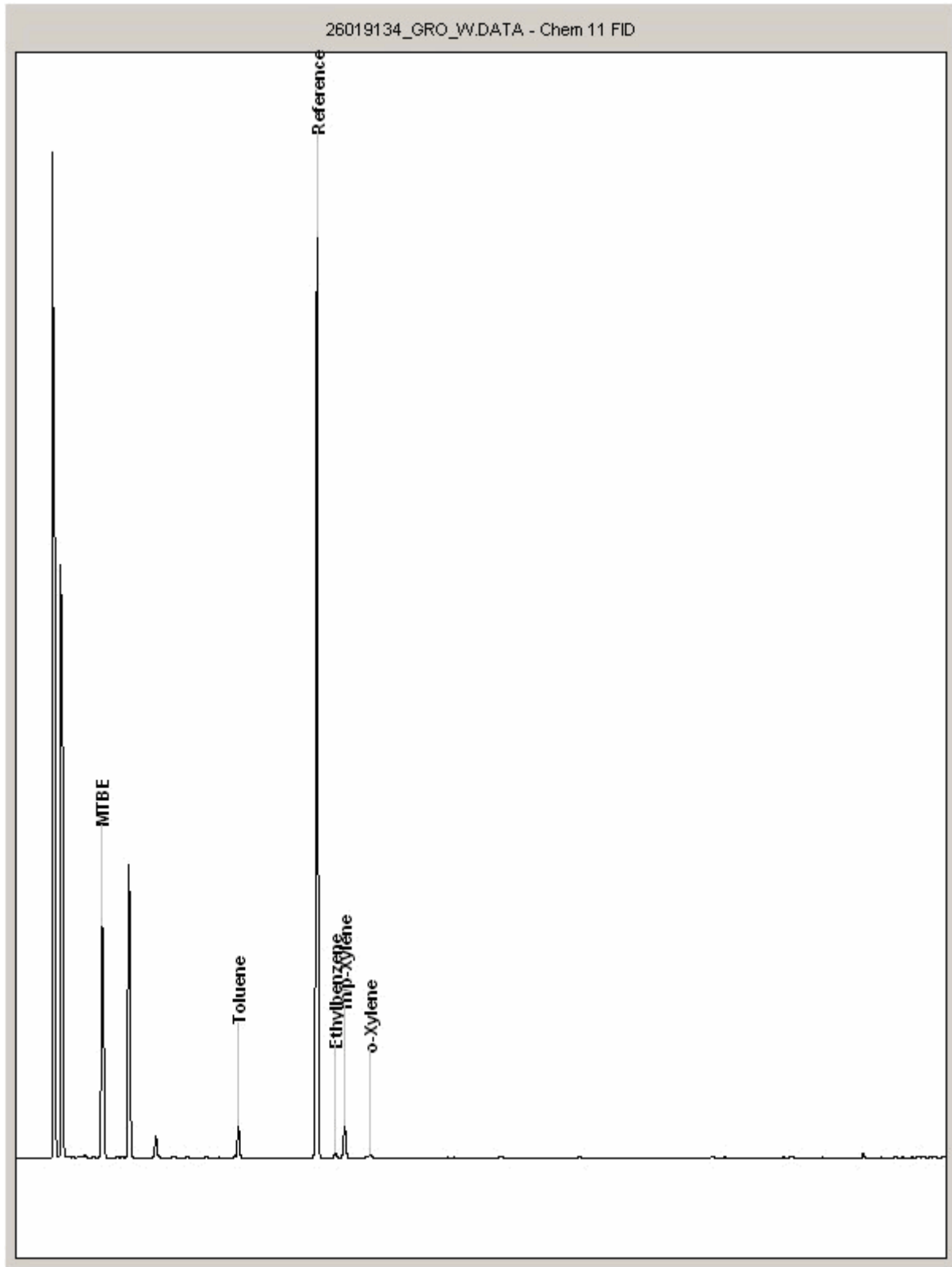
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26019134
Sample ID : AMW3

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

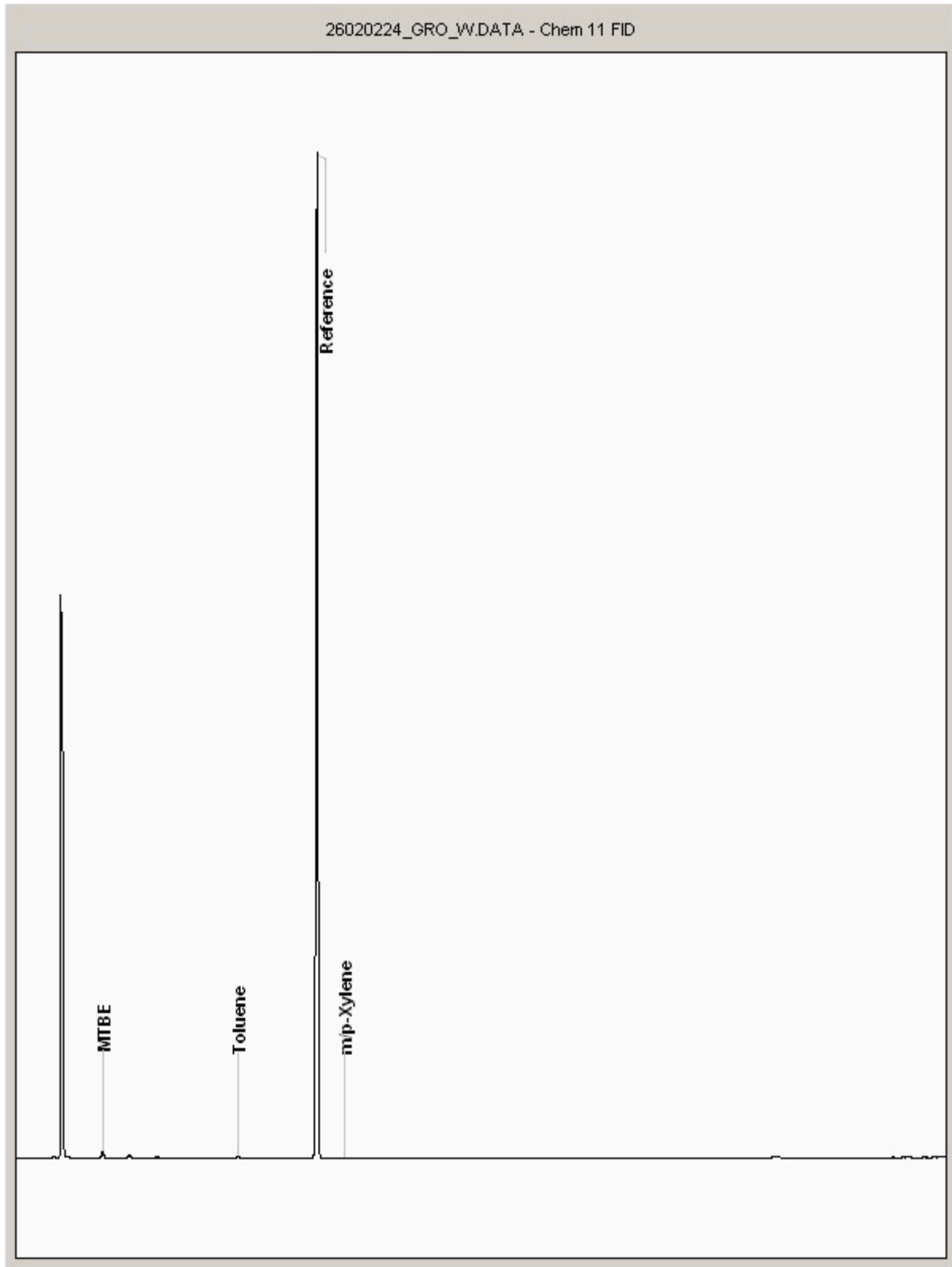
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26020224
Sample ID : AMW6

Depth :





CERTIFICATE OF ANALYSIS

Validated

SDG: 220321-23
Client Ref.: 1099-COC24

Report Number: 640503
Location: Roscommon

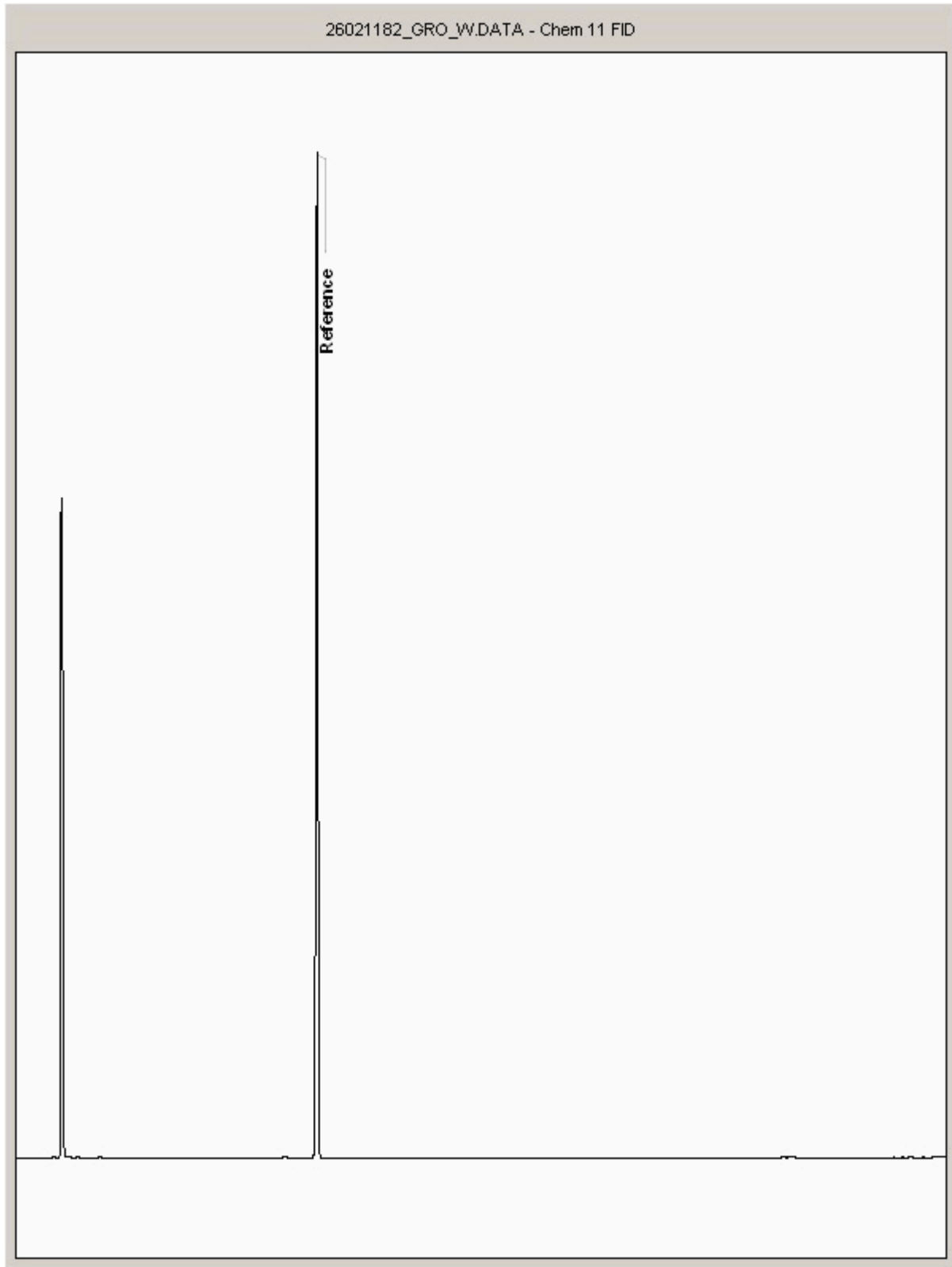
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 26021182
Sample ID : MS1

Depth :



Certificate of Analysis

Report No.: 22-18642-1

Issue No.: 1

Date of Issue 31/03/2022

Customer Details: ALS Life Sciences Limited, Unit7-8, Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US

Customer Contact: Lucinda Bowen

Customer Order No.: 220321-23

Customer Reference: 37539

Quotation Reference: 220316/06

Description: 14 water samples

Date Received: 23/03/2022

Date Started: 28/03/2022

Date Completed: 29/03/2022

Test Methods: Details available on request (refer to SOP code against relevant result/s)

Notes: None



Approved By: Matthew Hickson, Laboratory Manager

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service.

This certificate shall not be reproduced except in full without the prior written approval of the laboratory.

Observations and interpretations are outside of the scope of UKAS accreditation.

Results reported herein relate only to the items supplied to the laboratory for testing.

Results on an Interim Report are not dry-weight corrected.

Where the laboratory is not responsible for the sampling, results apply to the sample(s) as they were received.

The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

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Results Summary

Report No.: 22-18642-1

Customer Reference: 37539

Customer Order No: 220321-23

Customer Sample No	26007672	26007723	26007667	26007682	26007687	26007680	26007673	26007689	26007719	26007753
Customer Sample ID	AMW1	AMW11	AMW2	AMW3	AMW4	AMW5	AMW6	AMW7	AMW8	AMW9
RPS Sample No	486869	486870	486871	486872	486873	486874	486875	486876	486877	486878
Sample Type	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER	WATER
Sampling Date	14/03/2021	14/03/2021	14/03/2021	16/03/2022	15/03/2022	15/03/2022	14/03/2022	14/03/2022	14/03/2022	14/03/2022

Determinand	CAS No	Codes	SOP	Units	RL									
acetonitrile (ACN)	75-05-8	N	in house	mg/l	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Results Summary

Report No.: 22-18642-1

Customer Reference: 37539

Customer Order No: 220321-23

Customer Sample No	26007715	26007727	26007718	26007716
Customer Sample ID	BH1O5	BH1O7	MS1	SW104
RPS Sample No	486879	486880	486881	486882
Sample Type	WATER	WATER	WATER	WATER
Sampling Date	14/03/2021	15/03/2022	15/03/2022	15/03/2022

Determinand	CAS No	Codes	SOP	Units	RL				
acetonitrile (ACN)	75-05-8	N	in house	mg/l	1	< 1.0	< 1.0	< 1.0	< 1.0

Deviating Samples

Report No.: 22-18642-1

Customer Reference: 37539

Customer Order No: 220321-23

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
 RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
 Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
 Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
 Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submission may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
486869	26007672		14/03/2021	40ml Glass Vial	No	
486870	26007723		14/03/2021	40ml Glass Vial	No	
486871	26007667		14/03/2021	40ml Glass Vial	No	
486872	26007682		16/03/2022	40ml Glass Vial	No	
486873	26007687		15/03/2022	40ml Glass Vial	No	
486874	26007680		15/03/2022	40ml Glass Vial	No	
486875	26007673		14/03/2022	40ml Glass Vial	No	
486876	26007689		14/03/2022	40ml Glass Vial	No	
486877	26007719		14/03/2022	40ml Glass Vial	No	
486878	26007753		14/03/2022	40ml Glass Vial	No	
486879	26007715		14/03/2021	40ml Glass Vial	No	
486880	26007727		15/03/2022	40ml Glass Vial	No	
486881	26007718		15/03/2022	40ml Glass Vial	No	
486882	26007716		15/03/2022	40ml Glass Vial	No	

Report No.: 22-18642-1

Key Code	Description
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
F	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
N	Not Accredited Test
O	Marine Management Organisation (MMO) Validated
S	Subcontracted to approved laboratory
US	Subcontracted to approved laboratory UKAS Accredited for the test
MS	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SI	Subcontracted to internal RPS Group laboratory
USI	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
MSI	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
AD (in units)	Results are expressed on an air-dried basis at 30 °C
DW (in units)	Results are expressed on a dry weight basis at 105 °C

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Where the dry solids value of a sample is low (<50%), reporting limits are automatically raised for all determinants analysed on an as-received basis.

Soil Typing	Description
Type 1	Clay - Brown
Type 2	Clay - Grey/Black
Type 3	Sand
Type 4	Top Soil (Standard)
Type 5	Top Soil (High Peat)
Type 6	Made Ground (>50% Clay)
Type 7	Made Ground (>50% Sand)
Type 8	Made Ground (>50% Top Soil)
Type X	Other

Certificate Notes	Description
Note 1	This test report shall not be reproduced except in full, without written approval of the Laboratory.
Note 2	Unless otherwise stated, results are not corrected for analytical recoveries.
Note 3	All samples were received in good condition unless otherwise stated. Results provided by the Laboratory are based on samples submitted by clients. Once submitted, samples requiring analysis are stored at 5 ± 3°C. The Laboratory cannot be held responsible for the storage, condition or preservation of samples prior to arrival.
Note 4	Samples were taken by the customer and, unless otherwise stated, sampling locations were not supplied.
Note 5	Soil descriptions are given in order to provide a log of sample matrices submitted and are not intended as full geological descriptions.
Note 6	Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Note for results expressed on an air-dried basis: Results for soil samples are reported based on the dry weight of soil which has been air-dried in open, shallow trays at temperatures below 30 °C and subsequently ground and sieved to pass through a nominal 710 µm aperture sieve. Prior to any grinding, any material which is retained on a sieve of mesh size 4.75mm is discarded. In most cases, analysis is carried out directly on these prepared soils.

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.



CERTIFICATE OF ANALYSIS

SDG: 220321-23 Client Reference: 1099-COC24 Report Number: 640503
 Location: Roscommon Order Number: Superseded Report:

Appendix

General

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

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

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

12. 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.

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

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.