

APPENDIX F:

Chemical Laboratory Testing



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearn

CERTIFICATE OF ANALYSIS

Date of report Generation:	29 May 2025
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	250517-53
Your Reference:	GWPR6540
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	766145
Order Number:	GWPR6540

We received 2 samples on Saturday May 17, 2025 and 2 of these samples were scheduled for analysis which was completed on Thursday May 29, 2025. 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 Laboratories (UK) Limited 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:

Justin Keeton

Business Unit Leader - Land



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31527954	BH1		0.00 - 0.00	16/05/2025
31527971	BH2		0.00 - 0.00	16/05/2025

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)		31527954		31527971	
	Customer Sample Reference		BH1		BH2	
	AGS Reference					
	Depth (m)		0.00 - 0.00		0.00 - 0.00	
	Container		Vial (ALE297)	0.5l glass bottle (ALE227)	500ml Plastic (ALE244)	500ml Plastic (ALE208)
	Sample Type		GW	GW	GW	GW
			NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	NaOH (ALE245)
Anions by Kone (w)	All	NDPs: 0 Tests: 2				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2				
Dissolved Metals by ICP-MS	All	NDPs: 2 Tests: 0				
EPH and CWG by FID	All	NDPs: 0 Tests: 2				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2				
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2				
Mercury Dissolved	All	NDPs: 2 Tests: 0				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2				
pH Value	All	NDPs: 0 Tests: 2				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2				
TPH CWG (W)	All	NDPs: 0 Tests: 2				
VOC MS (W)	All	NDPs: 0 Tests: 2				

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

[illegible]

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	BH1	BH2			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527954	0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527971			
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						
***	6:2 FTAB (see appendix)						
1-4*5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Chlorophenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Methylphenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Nitroaniline (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
2-Nitrophenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
3-Nitroaniline (aq)	<1 µg/l	TM176	<10	<100			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
4-Chloroaniline (aq)	<1 µg/l	TM176	<10	<100			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
4-Methylphenol (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
4-Nitroaniline (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
4-Nitrophenol (aq)	<1 µg/l	TM176	<10	<100			
Azobenzene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
Acenaphthylene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
Acenaphthene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
Anthracene (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<20 ♦ #	<200 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<10 ♦ #	<100 #			



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH1	BH2			
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527954	0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527971			
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								
***	6:2 FTAB (see appendix)								
1-4+5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<10		<100				
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Carbazole (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Chrysene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Dibenzofuran (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Diethyl phthalate (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<50	◆ #	<500	#			
Fluoranthene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Fluorene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Pentachlorophenol (aq)	<1 µg/l	TM176	<10		<100				
Phenol (aq)	<1 µg/l	TM176	<10		<100				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Hexachloroethane (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Nitrobenzene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Naphthalene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Isophorone (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<10		<100				
Phenanthrene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			
Pyrene (aq)	<1 µg/l	TM176	<10	◆ #	<100	#			



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SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend		Customer Sample Ref.	BH1	BH2			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00			
M	mCERTS accredited.		Ground Water (GW)	Ground Water (GW)			
aq	Aqueous / settled sample.		16/05/2025	16/05/2025			
diss.filt	Dissolved / filtered sample.		00:00	00:00			
tot.unfilt	Total / unfiltered sample.		17/05/2025	17/05/2025			
*	Subcontracted - refer to subcontractor report for accreditation status.		250517-53	250517-53			
**	% 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		31527954	31527971			
***	6:2 FTAB (see appendix)						
1-4*5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	106	103			
Toluene-d8**	%	TM208	98.9	95.8			
4-Bromofluorobenzene**	%	TM208	98.9	84.5			
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	<1	#	#	
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
Bromochloromethane	<1 µg/l	TM208	<1	<1	#	#	
Chloroform	<1 µg/l	TM208	<1	9.67	#	#	
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	2.38	2.01	#	#	
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	#	#	



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Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref.		BH1	BH2			
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527954	0.00 - 0.00 Ground Water (GW) 16/05/2025 00:00 17/05/2025 250517-53 31527971			
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								
***	6:2 FTAB (see appendix)								
1-4*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #					
Tetrachloroethene	<1 µg/l	TM208	15.3 #	61.8 #					
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	<2 #	<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 #					

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Notification of NDPs (No determination possible)

Date Received : 17/05/2025 08:13:22

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
31527954	BH1	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered anal
31527954	BH1	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered anal
31527971	BH2	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered anal
31527971	BH2	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered anal



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



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SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Test Completion Dates

Lab Sample No(s)	31527954	31527971
Customer Sample Ref.	BH1	BH2
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water
Anions by Kone (w)	21-May-2025	21-May-2025
Cyanide Comp/Free/Total/Thiocyanate	27-May-2025	27-May-2025
EPH and CWG by FID	23-May-2025	29-May-2025
GRO by GC-FID (W)	27-May-2025	27-May-2025
Hexavalent Chromium (w)	20-May-2025	20-May-2025
PAH Spec MS - Aqueous (W)	22-May-2025	22-May-2025
pH Value	23-May-2025	23-May-2025
Phenols by HPLC (W)	22-May-2025	22-May-2025
SVOC MS (W) - Aqueous	28-May-2025	22-May-2025
TPH CWG (W)	27-May-2025	29-May-2025
VOC MS (W)	27-May-2025	27-May-2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

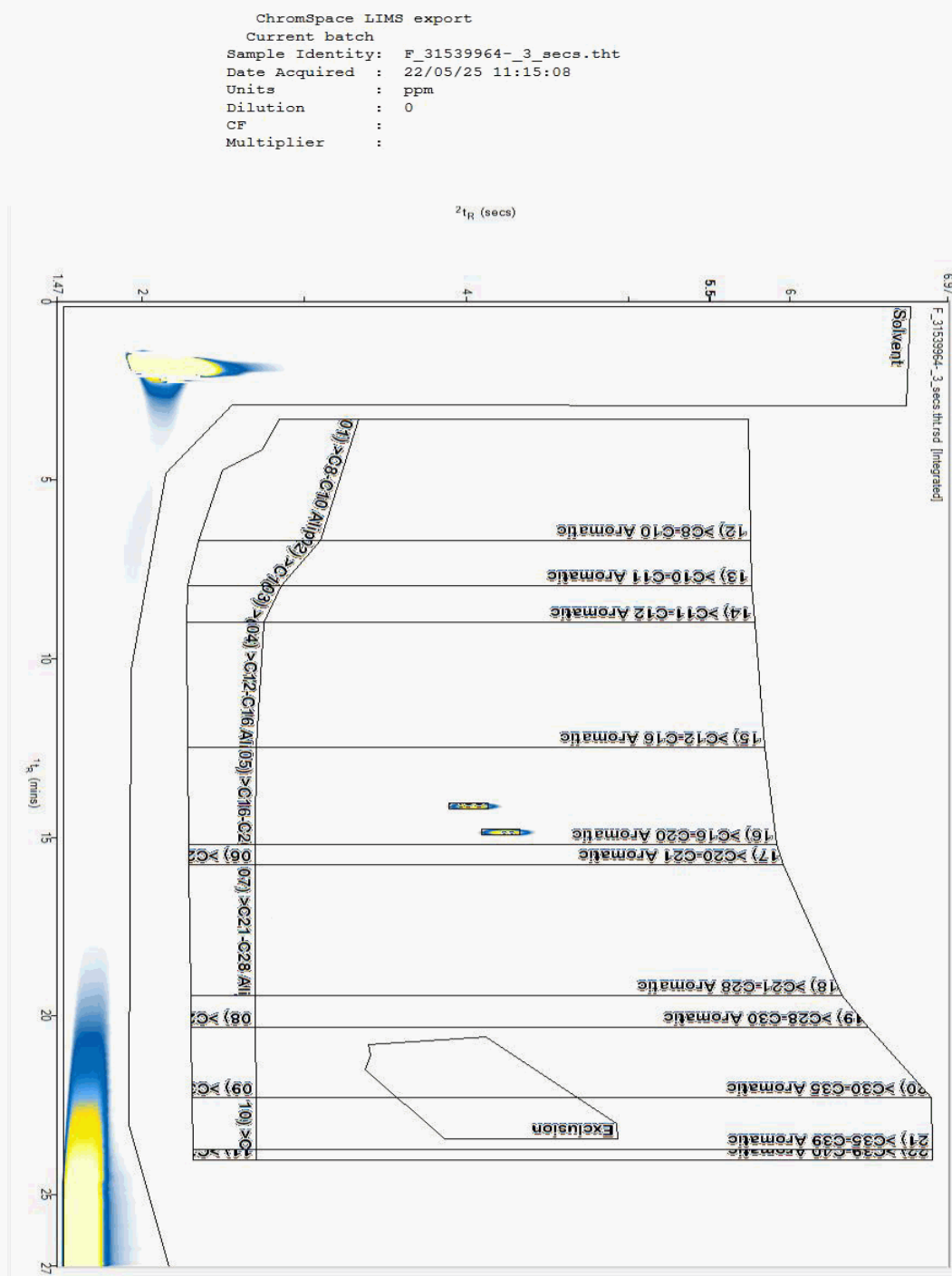
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 31539964
Sample ID : BH1

Depth : 0.00 - 0.00





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Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

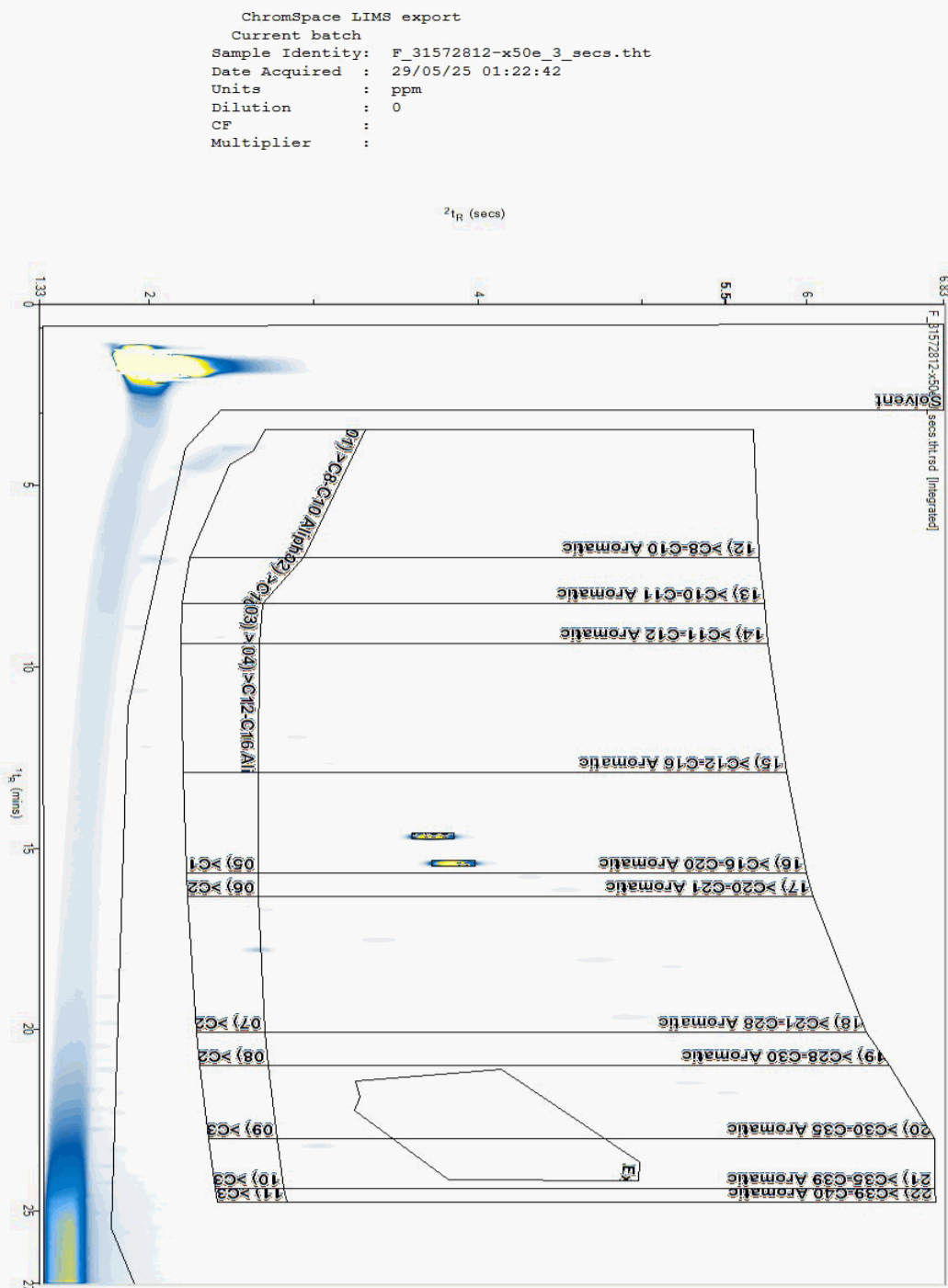
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 31572812
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

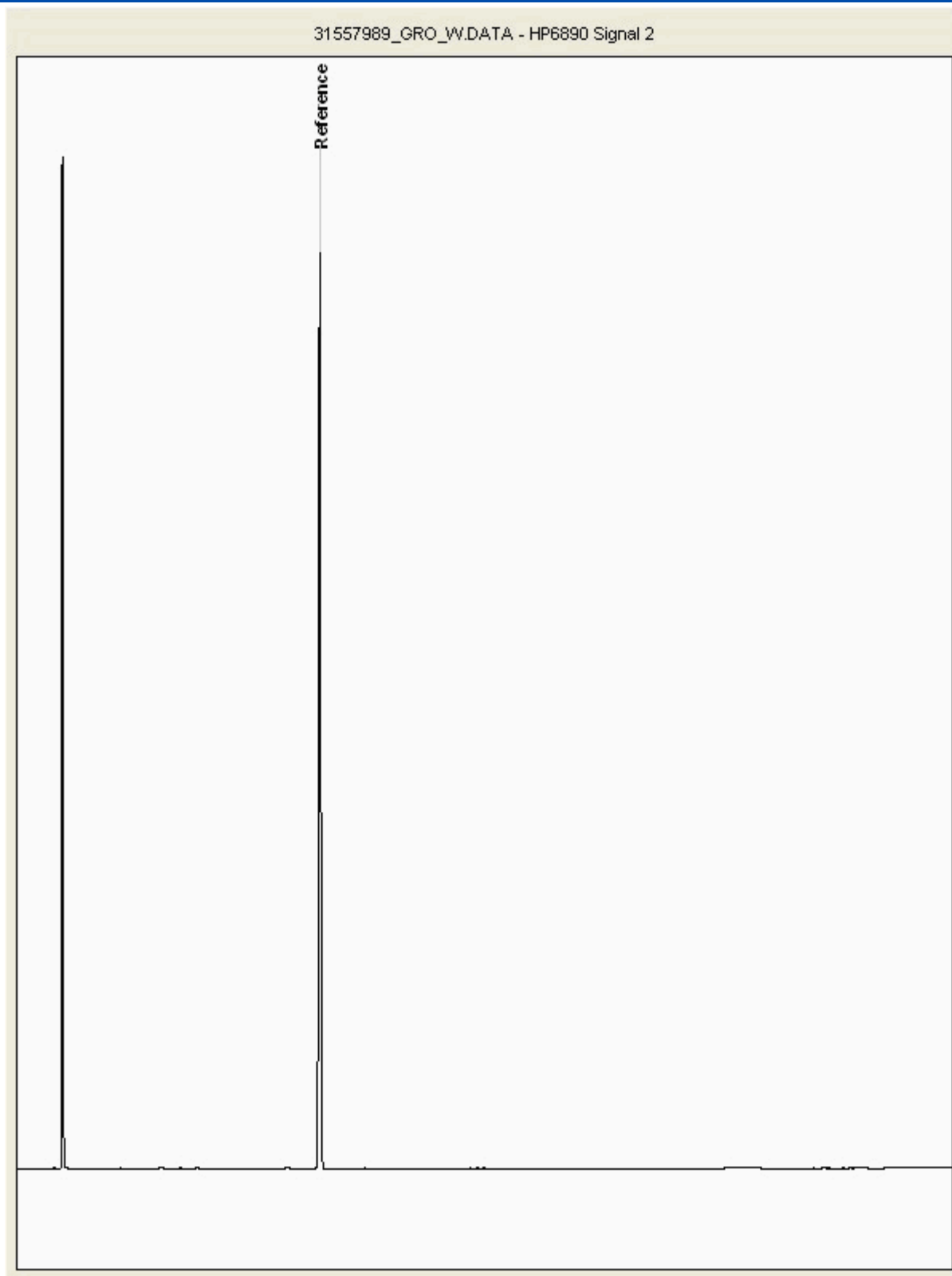
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 31557989
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 250517-53
Client Ref.: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

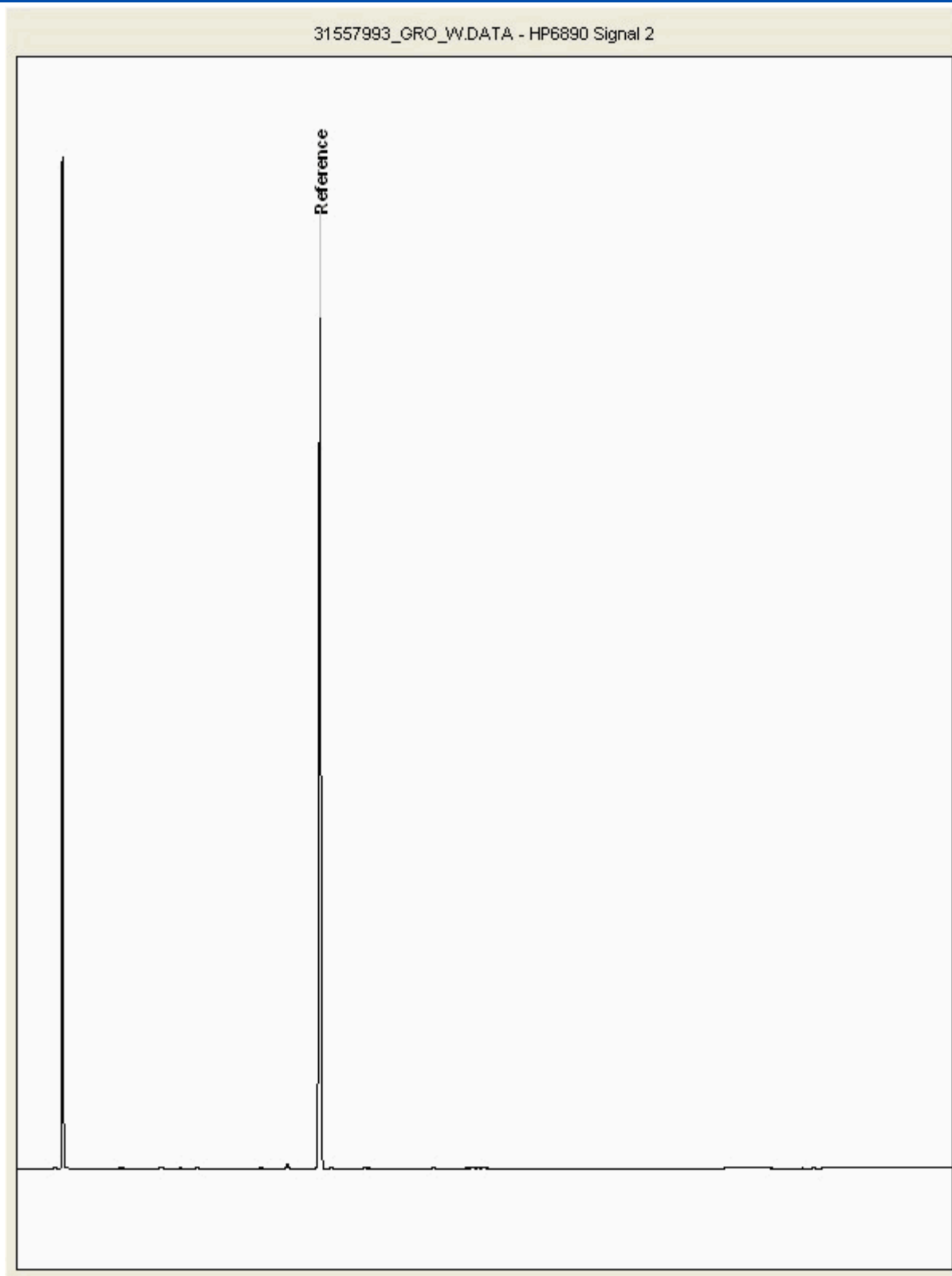
Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 31557993
Sample ID : BH2

Depth : 0.00 - 0.00

31557993_GRO_W.DATA - HP6890 Signal 2





CERTIFICATE OF ANALYSIS

SDG: 250517-53
Client Ref: GWPR6540

Report Number: 766145
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Appendix

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

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

If during the search of the two 'pinch' samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term 'trace asbestos identified' is reported.

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearn

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 June 2025
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	250523-66
Your Reference:	GWPR6540
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	766678
Order Number:	GWPR6540

This report has been revised and directly supersedes 766474 in its entirety.

We received 2 samples on Friday May 23, 2025 and 2 of these samples were scheduled for analysis which was completed on Tuesday June 03, 2025. 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 Laboratories (UK) Limited 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:

Justin Keeton

Business Unit Leader - Land



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
31560773	BH1		0.00 - 0.00	22/05/2025
31560786	BH2		0.00 - 0.00	22/05/2025

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)		31560773		31560786
	Customer Sample Reference		BH1		BH2
	AGS Reference				
	Depth (m)		0.00 - 0.00		0.00 - 0.00
	Container		Vial (ALE297)		Vial (ALE297)
	Sample Type		0.5l glass bottle (ALE227)		0.5l glass bottle (ALE227)
			NaOH (ALE245)		NaOH (ALE245)
Anions by Kone (w)	All	NDPs: 0 Tests: 2			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2			
EPH and CWG by FID	All	NDPs: 0 Tests: 2			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2			
Mercury Dissolved	All	NDPs: 0 Tests: 2			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2			
pH Value	All	NDPs: 0 Tests: 2			
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2			
TPH CWG (W)	All	NDPs: 0 Tests: 2			
VOC MS (W)	All	NDPs: 0 Tests: 2			

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	BH1	BH2			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00			
M	mCERTS accredited.		Ground Water (GW)	Ground Water (GW)			
aq	Aqueous / settled sample.		22/05/2025	22/05/2025			
diss.filt	Dissolved / filtered sample.		00:00	00:00			
tot.unfilt	Total / unfiltered sample.		23/05/2025	23/05/2025			
*	Subcontracted - refer to subcontractor report for accreditation status.		250523-66	250523-66			
**	% 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		31560773	31560786			
***	6:2 FTAB (see appendix)						
1-4*5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #	<40 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Chlorophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Nitroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #			
2-Nitrophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
3-Nitroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Chloroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Methylphenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Nitroaniline (aq)	<1 µg/l	TM176	<100 #	<40 #			
4-Nitrophenol (aq)	<1 µg/l	TM176	<100 #	<40 #			
Azobenzene (aq)	<1 µg/l	TM176	<100 #	<40 #			
Acenaphthylene (aq)	<1 µg/l	TM176	<100 #	<40 #			
Acenaphthene (aq)	<1 µg/l	TM176	<100 #	<40 #			
Anthracene (aq)	<1 µg/l	TM176	<100 #	<40 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<100 #	<40 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<100 #	<40 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<200 #	<80 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<100 #	<40 #			



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH1		BH2					
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GW)					
M	mCERTS accredited.				22/05/2025		22/05/2025					
aq	Aqueous / settled sample.				00:00		00:00					
dis.filt	Dissolved / filtered sample.				23/05/2025		23/05/2025					
tot.unfilt	Total / unfiltered sample.				250523-66		250523-66					
*	Subcontracted - refer to subcontractor report for accreditation status.				31560773		31560786					
**	% 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											
***	6:2 FTAB (see appendix)											
1-4*5@	Sample deviation (see appendix)											
Component	LOD/Units	Method										
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Carbazole (aq)	<1 µg/l	TM176	<100		#		<40		#			
Chrysene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Dibenzofuran (aq)	<1 µg/l	TM176	<100		#		<40		#			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<100		#		<40		#			
Diethyl phthalate (aq)	<1 µg/l	TM176	<100		#		<40		#			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<100		#		<40		#			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<500		#		<200		#			
Fluoranthene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Fluorene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Pentachlorophenol (aq)	<1 µg/l	TM176	<100		#		<40		#			
Phenol (aq)	<1 µg/l	TM176	<100		#		<40		#			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<100		#		<40		#			
Hexachloroethane (aq)	<1 µg/l	TM176	<100		#		<40		#			
Nitrobenzene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Naphthalene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Isophorone (aq)	<1 µg/l	TM176	<100		#		<40		#			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Phenanthrene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<100		#		<40		#			
Pyrene (aq)	<1 µg/l	TM176	<100		#		<40		#			

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

VOC MS (W)

Results Legend		Customer Sample Ref.	BH1	BH2			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00			
M	mCERTS accredited.		Ground Water (GW)	Ground Water (GW)			
aq	Aqueous / settled sample.		22/05/2025	22/05/2025			
diss.filt	Dissolved / filtered sample.		00:00	00:00			
tot.unfilt	Total / unfiltered sample.		23/05/2025	23/05/2025			
*	Subcontracted - refer to subcontractor report for accreditation status.		250523-66	250523-66			
**	% 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		31560773	31560786			
***	6:2 FTAB (see appendix)						
1-4*5@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208	114	112			
Toluene-d8**	%	TM208	99.6	101			
4-Bromofluorobenzene**	%	TM208	96.8	99.8			
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 #	<1 #			
2,2-Dichloropropane	<1 µg/l	TM208	<1	<1			
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #			
Chloroform	<1 µg/l	TM208	5.64 #	4.95 #			
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	1.6 #	1.57 #			
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: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend			Customer Sample Ref.		BH1	BH2			
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Ground Water (GW) 22/05/2025 00:00 23/05/2025 250523-66 31560773	0.00 - 0.00 Ground Water (GW) 22/05/2025 00:00 23/05/2025 250523-66 31560786			
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								
***	6:2 FTAB (see appendix)								
1-4*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #					
Tetrachloroethene	<1 µg/l	TM208	21.6 #	19.4 #					
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 #					

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678

Superseded Report: 766474

Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM152	Analysis of Aqueous Samples by ICP-MS
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

Test Completion Dates

Lab Sample No(s)	31560773	31560786
Customer Sample Ref.	BH1	BH2
AGS Ref.		
Depth	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water
Anions by Kone (w)	28-May-2025	28-May-2025
Cyanide Comp/Free/Total/Thiocyanate	30-May-2025	30-May-2025
Dissolved Metals by ICP-MS	03-Jun-2025	03-Jun-2025
EPH and CWG by FID	30-May-2025	30-May-2025
GRO by GC-FID (W)	02-Jun-2025	02-Jun-2025
Hexavalent Chromium (w)	30-May-2025	30-May-2025
Mercury Dissolved	02-Jun-2025	02-Jun-2025
PAH Spec MS - Aqueous (W)	02-Jun-2025	02-Jun-2025
pH Value	30-May-2025	30-May-2025
Phenols by HPLC (W)	29-May-2025	29-May-2025
SVOC MS (W) - Aqueous	30-May-2025	30-May-2025
TPH CWG (W)	02-Jun-2025	02-Jun-2025
VOC MS (W)	30-May-2025	30-May-2025



CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

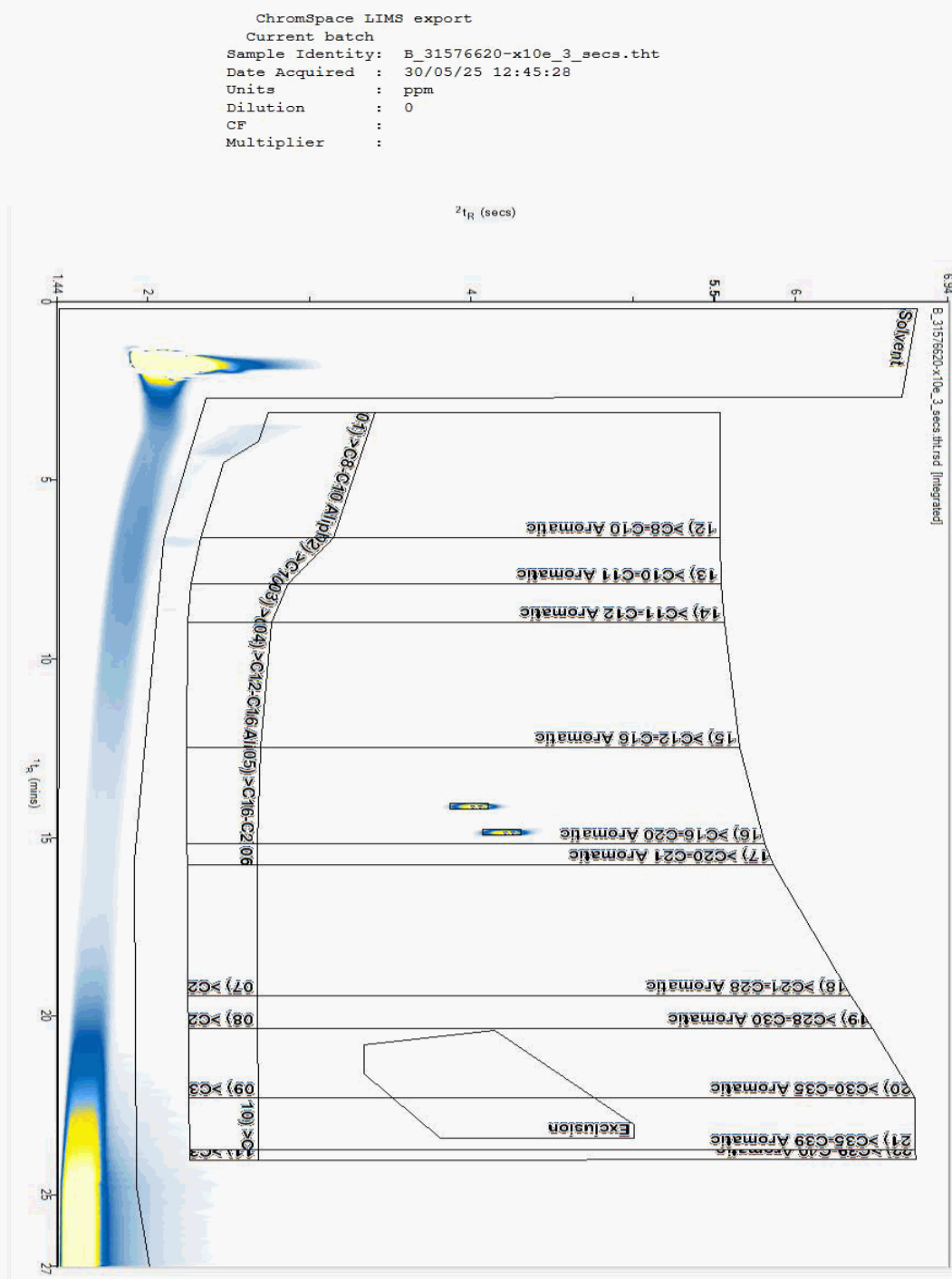
Superseded Report: 766474

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 31576620
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

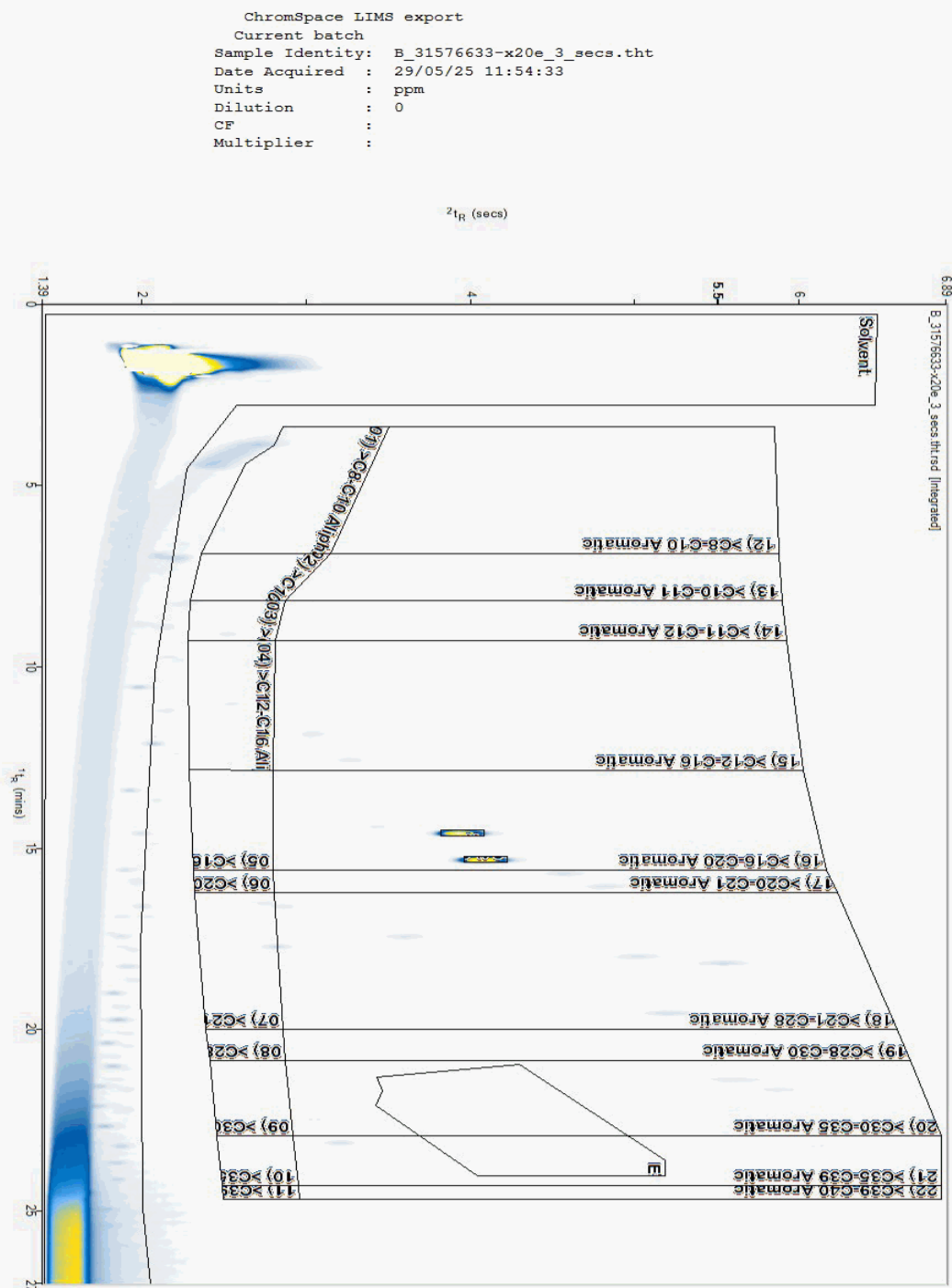
Superseded Report: 766474

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 31576633
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

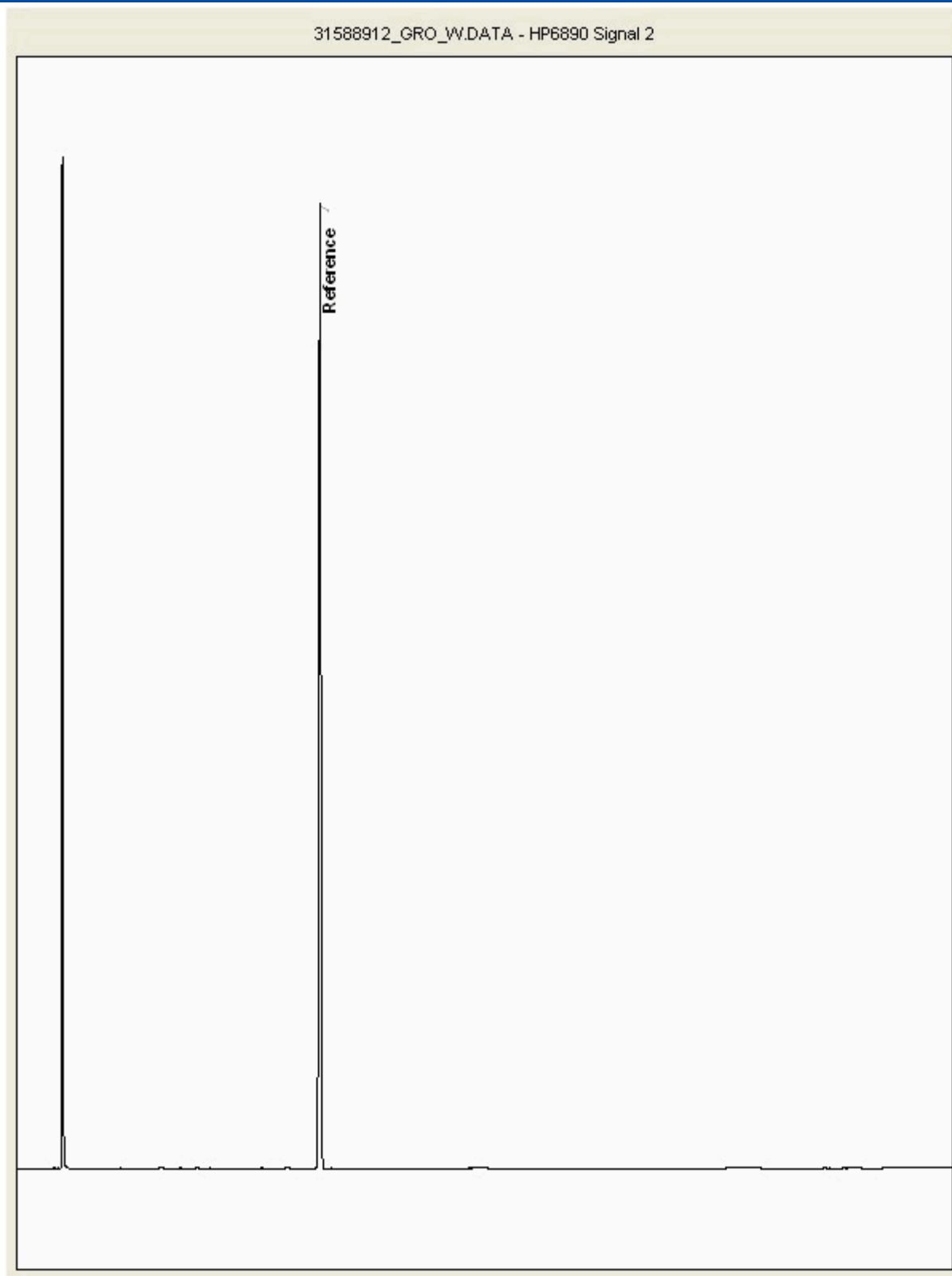
Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 31588912
Sample ID : BH1

Depth : 0.00 - 0.00

31588912_GRO_W.DAT - HP6890 Signal 2





CERTIFICATE OF ANALYSIS

Validated

SDG: 250523-66
Client Ref.: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

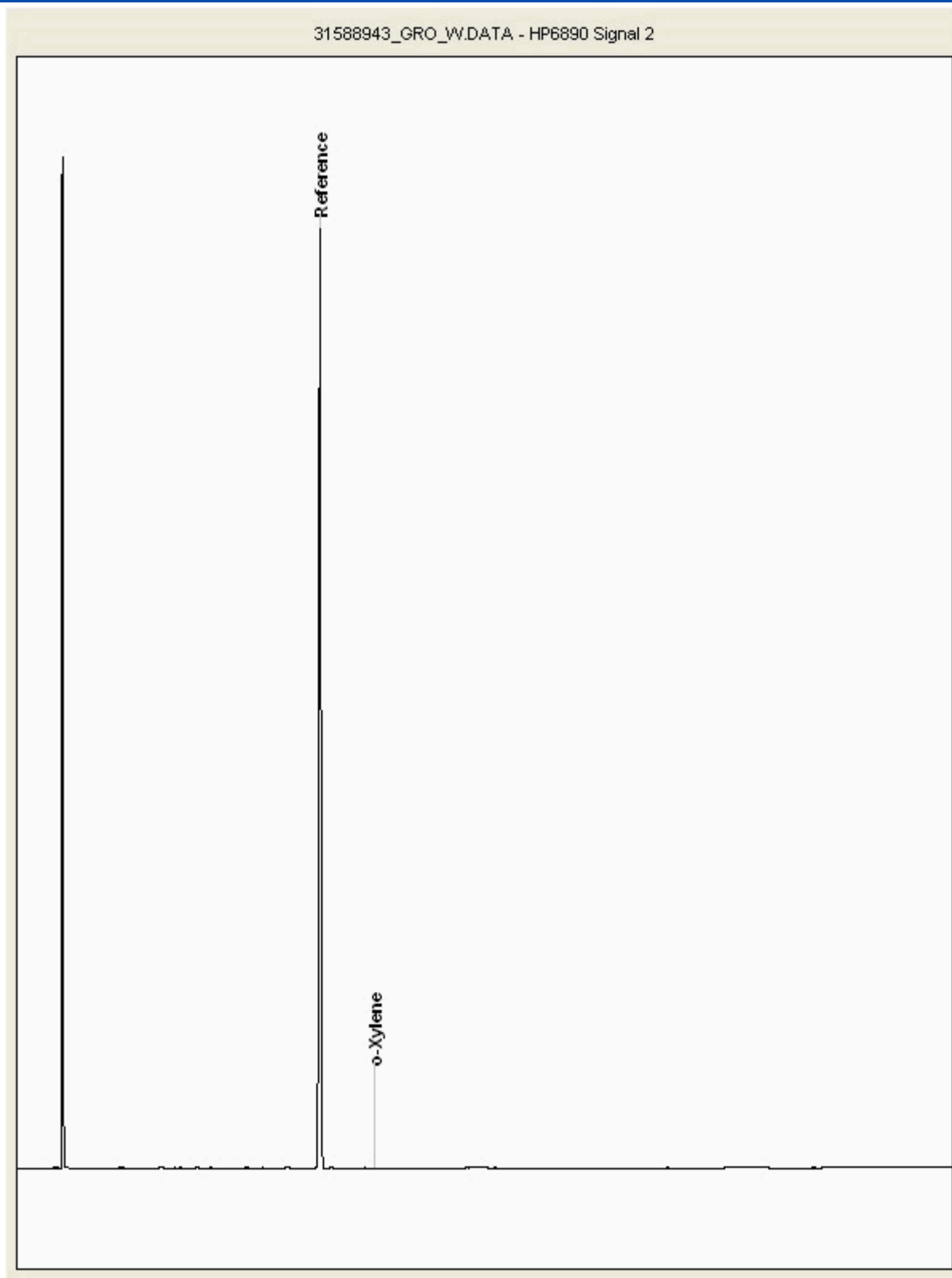
Superseded Report: 766474

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 31588943
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG: 250523-66
Client Ref: GWPR6540

Report Number: 766678
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report: 766474

Appendix

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

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

If during the search of the two 'pinch' samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term 'trace asbestos identified' is reported.

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Ground and Water Ltd
2 The Long Barn
Norton Farm
Selbourne Road
Alton
Hampshire
GU34 3NB

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t:

t: 01923 225404

e: natasha.kearl@groundandwater.co.uk

f: 01923 237404

e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-001905

Project / Site name:	220 Elgar Road South, Reading, RG2 0BW	Samples received on:	15/01/2026
Your job number:	GWPR6817	Samples instructed on/ Analysis started on:	15/01/2026
Your order number:	GWPR6817	Analysis completed by:	28/01/2026
Report Issue Number:	1	Report issued on:	28/01/2026
Samples Analysed:	5 soil samples - 1 leachate sample		



Signed:

Rachel Chappell
Key Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number	802094	802095	802096	802097	802098
Sample Reference	TP206	TP209	TP211	TP213	TP207
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.20	0.20	0.20	0.20
Date Sampled	12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Stone Content	%	0.1	NONE	43.7	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	17	11	7.9	16
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1	1	2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	DSO	DSO	DSO	DSO	DSO
Analysis completed	N/A	N/A	N/A	21/01/2026	21/01/2026	21/01/2026	21/01/2026	21/01/2026

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.5	7.5	8.4	9.2	8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	400	88	74	100	41
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	201	43.9	36.8	51.2	20.2
Organic Matter (automated)	%	0.1	MCERTS	0.8	< 0.1	0.2	0.2	0.2
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	< 0.1	0.1	0.1	0.1

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.16	< 0.05	< 0.05	0.06	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.78	< 0.05	0.1	0.23	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.07	0.07	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	4	< 0.05	0.43	0.86	< 0.05
Pyrene	mg/kg	0.05	MCERTS	3.8	< 0.05	0.43	0.86	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.2	< 0.05	0.23	0.5	< 0.05
Chrysene	mg/kg	0.05	MCERTS	2.4	< 0.05	0.29	0.55	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3	< 0.05	0.29	0.66	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.3	< 0.05	0.13	0.31	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.6	< 0.05	0.23	0.54	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	< 0.05	0.14	0.32	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.26	< 0.05	< 0.05	0.07	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.11	0.29	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	23.5	< 0.80	2.45	5.32	< 0.80
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Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number	802094	802095	802096	802097	802098
Sample Reference	TP206	TP209	TP211	TP213	TP207
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.20	0.20	0.20	0.20
Date Sampled	12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.9	5.7	2.9	2.6	19
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	0.4	0.2	0.3	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	8.5	5.9	5	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	6.7	8.1	6.5	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	42	7	7.9	8.7	11
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	17	7.3	6.1	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	22	17	11	8.7	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	48	26	20	18	51

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	-	-	-	-	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	-	-	-	-	< 8.0
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	-	-	-	-	< 10
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	-	-	-	-	< 10

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	-	-	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	-	-	-	-	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	-	-	-	-	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	-	-	-	-	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	-	-	-	-	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	-	-	-	-	< 10
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	-	-	-	-	< 10
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	-	-	-	-	< 10

TPH Total >EC5 - EC40 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	NONE	-	-	-	-	< 10
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VOCs

Chloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Chloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromomethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Vinyl Chloride	µg/kg	5	NONE	-	-	-	-	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0

Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				802094	802095	802096	802097	802098
Sample Reference				TP206	TP209	TP211	TP213	TP207
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.20	0.20	0.20	0.20	0.20
Date Sampled				12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
2,2-Dichloropropane	µg/kg	5	NONE	-	-	-	-	< 5.0
Chloroform	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-	-	-	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Benzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
Trichloroethene	µg/kg	10	MCERTS	-	-	-	-	< 10
Dibromomethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-	-	-	< 10
Toluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-	-	-	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	-	-	-	-	< 8.0
Styrene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Bromoform	µg/kg	5	MCERTS	-	-	-	-	< 5.0
o-Xylene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-	-	-	< 5.0
Bromobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Butylbenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-	-	-	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-	-	-	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-	-	-	< 5.0

Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number	802094	802095	802096	802097	802098
Sample Reference	TP206	TP209	TP211	TP213	TP207
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	0.20	0.20	0.20	0.20	0.20
Date Sampled	12/01/2026	12/01/2026	12/01/2026	12/01/2026	12/01/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.30
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number	802099			
Sample Reference	TP212			
Sample Number	None Supplied			
Water Matrix	N/A			
Depth (m)	0.20			
Date Sampled	12/01/2026			
Time Taken	None Supplied			
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.5
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	1930
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	2.8
Biochemical Oxygen Demand	mg/l	1	ISO 17025	4.5

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	0.24
Acenaphthylene	µg/l	0.01	NONE	0.02
Acenaphthene	µg/l	0.01	NONE	0.05
Fluorene	µg/l	0.01	NONE	0.03
Phenanthrene	µg/l	0.01	NONE	0.05
Anthracene	µg/l	0.01	NONE	< 0.01
Fluoranthene	µg/l	0.01	NONE	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	NONE	0.39
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	2.5
Boron (dissolved)	µg/l	10	ISO 17025	50
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.17
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	5.9
Copper (dissolved)	µg/l	0.7	ISO 17025	5
Lead (dissolved)	µg/l	1	ISO 17025	1.5
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	11
Zinc (dissolved)	µg/l	0.4	ISO 17025	12

Analytical Report Number: 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				802099
Sample Reference				TP212
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20
Date Sampled				12/01/2026
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10
TPH - Aliphatic >EC5 - EC40 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10
TPH - Aromatic >EC5 - EC40 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10

TPH Total >EC5 - EC40 _{EH+HS_1D_TOTAL_MS}	µg/l	10	NONE	< 10
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0
Benzene	µg/l	1	NONE	< 1.0
Toluene	µg/l	1	NONE	< 1.0
Ethylbenzene	µg/l	1	NONE	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0
o-xylene	µg/l	1	NONE	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
802094	TP206	None Supplied	0.2	Brown clay and sand with gravel and stones
802095	TP209	None Supplied	0.2	Brown sand
802096	TP211	None Supplied	0.2	Brown sand
802097	TP213	None Supplied	0.2	Brown sand
802098	TP207	None Supplied	0.2	Brown clay and sand

Analytical Report Number : 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS

Analytical Report Number : 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Biochemical Oxygen Demand of leachate	Determination of biochemical oxygen demand in leachate (5 days)	In-house method based on standard method 5210B	L086B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in leachate	Determination of total petroleum hydrocarbons in leachate by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	NONE
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate (Summed Bands)	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L070B/L088-PL	W	NONE

Analytical Report Number : 26-001905

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution



Ground and Water Ltd
2 The Long Barn
Norton Farm
Selbourne Road
Alton
Hampshire
GU34 3NB

t:

e: natasha.kearl@groundandwater.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-005368

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Samples received on: 29/01/2026

Your job number: GWPR6817

**Samples instructed on/
Analysis started on:** 03/02/2026

Your order number: GWPR6817

Analysis completed by: 16/02/2026

Report Issue Number: 1

Report issued on: 16/02/2026

Samples Analysed: 1 soil sample - 3 leachate samples

Signed:

Adan Cazas Garcia
Key Account Manager
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number	820084			
Sample Reference	TP201			
Sample Number	None Supplied			
Water Matrix	N/A			
Depth (m)	0.20-0.40			
Date Sampled	19/01/2026			
Time Taken	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Stone Content	%	0.1	NONE	75.2
Moisture Content	%	0.01	NONE	11
Total mass of sample received	kg	0.1	NONE	2
Whole Sample Crushed	N/A	N/A	NONE	Crushed

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	OGR
Analysis completed	N/A	N/A	N/A	13/02/2026

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	190
Water Soluble SO ₄ 16hr extraction (2:1)	mg/l	1.25	MCERTS	96.6
Organic Matter (automated)	%	0.1	MCERTS	2.1
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	0.18
Acenaphthylene	mg/kg	0.05	MCERTS	0.81
Acenaphthene	mg/kg	0.05	MCERTS	0.11
Fluorene	mg/kg	0.05	MCERTS	0.18
Phenanthrene	mg/kg	0.05	MCERTS	3.9
Anthracene	mg/kg	0.05	MCERTS	0.97
Fluoranthene	mg/kg	0.05	MCERTS	9.9
Pyrene	mg/kg	0.05	MCERTS	8.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.5
Chrysene	mg/kg	0.05	MCERTS	4.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	6.9
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	2.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.62
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	56.6
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Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW
Your Order No: GWPR6817

Lab Sample Number				820084
Sample Reference				TP201
Sample Number				None Supplied
Water Matrix				N/A
Depth (m)				0.20-0.40
Date Sampled				19/01/2026
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	70
Lead (aqua regia extractable)	mg/kg	1	MCERTS	65
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	27
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.2
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150

Petroleum Hydrocarbons

TPHCWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 _{HS_1D_AL}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aliphatic >EC16 - EC21 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	26
TPHCWG - Aliphatic >EC35 - EC40 _{EH_CU_1D_AL}	mg/kg	10	NONE	< 10
TPHCWG - Aliphatic >EC5 - EC35 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	26
TPHCWG - Aliphatic >EC5 - EC40 _{EH_CU+HS_1D_AL}	mg/kg	10	NONE	26

TPHCWG - Aromatic >EC5 - EC7 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.01	MCERTS	< 0.010
TPHCWG - Aromatic >EC8 - EC10 _{HS_1D_AR}	mg/kg	0.02	MCERTS	< 0.020
TPHCWG - Aromatic >EC10 - EC12 _{EH_CU_1D_AR}	mg/kg	1	MCERTS	< 1.0
TPHCWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0
TPHCWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	16
TPHCWG - Aromatic >EC21 - EC35 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	46
TPHCWG - Aromatic >EC35 - EC40 _{EH_CU_1D_AR}	mg/kg	10	NONE	< 10
TPHCWG - Aromatic >EC5 - EC35 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	62
TPHCWG - Aromatic >EC5 - EC40 _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	62

TPH Total >EC5 - EC40 _{EH_CU+HS_1D_TOTAL}	mg/kg	10	NONE	88
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VOCs

MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0
Toluene	µg/kg	5	MCERTS	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0
o-Xylene	µg/kg	5	MCERTS	< 5.0

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-005368

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number	820083			820085	820086
Sample Reference	BH201			TP201	TP205
Sample Number	None Supplied			None Supplied	None Supplied
Water Matrix	N/A			N/A	N/A
Depth (m)	0.40			1.00	0.20-0.40
Date Sampled	19/01/2026			19/01/2026	19/01/2026
Time Taken	None Supplied			None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status		

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	8	7.7	7.6
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10
Sulphate as SO ₄	µg/l	45	ISO 17025	-	-	9510
Sulphate as SO ₄	mg/l	0.045	ISO 17025	9.02	3	-
Dissolved Organic Carbon (DOC)	mg/l	0.1	NONE	-	-	5.7
Biochemical Oxygen Demand	mg/l	1	ISO 17025	-	-	9.4

Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	NONE	< 0.01	0.12	0.09
Acenaphthylene	µg/l	0.01	NONE	< 0.01	0.02	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.02	0.03	0.03
Fluorene	µg/l	0.01	NONE	0.02	0.03	0.02
Phenanthrene	µg/l	0.01	NONE	0.04	0.08	0.03
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.1	0.03	0.02
Pyrene	µg/l	0.01	NONE	0.1	0.03	0.02
Benzo(a)anthracene	µg/l	0.01	NONE	0.04	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	0.04	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	NONE	0.35	0.34	0.21
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Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	1.7	4.8	< 1.0
Boron (dissolved)	µg/l	10	ISO 17025	44	48	65
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08
Chromium (hexavalent)	µg/l	5	ISO 17025	18	< 5.0	< 5.0
Chromium (dissolved)	µg/l	0.4	ISO 17025	22	3.5	2.3
Copper (dissolved)	µg/l	0.7	ISO 17025	5.4	13	11
Lead (dissolved)	µg/l	1	ISO 17025	10	9.6	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	3.4	3.1	2.4
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	11	6.8	6.8
Zinc (dissolved)	µg/l	0.4	ISO 17025	34	34	4.8

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			

Petroleum Hydrocarbons

TPH - Aliphatic >EC5 - EC6 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 _{HS_1D_AL}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC12 - EC16 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC16 - EC21 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC21 - EC35 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC35 - EC40 _{EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aliphatic >EC5 - EC40 _{HS+EH_1D_AL_MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH - Aromatic >EC5 - EC7 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 _{HS_1D_AR}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 _{EH_1D_AR_MS}	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC12 - EC16 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC16 - EC21 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC21 - EC35 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC35 - EC40 _{EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10
TPH - Aromatic >EC5 - EC40 _{HS+EH_1D_AR_MS}	µg/l	10	NONE	< 10	< 10	< 10

TPH Total >EC5 - EC40 _{EH+HS_1D_TOTAL_MS}	µg/l	10	NONE	< 10	< 10	< 10
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VOCs

Chloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Chloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Bromomethane	µg/l	3	NONE	< 3.0	< 3.0	-
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0	-
1,1-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Trans 1,2-dichloroethylene	µg/l	3	NONE	< 3.0	< 3.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	NONE	< 3.0	< 3.0	< 3.0
1,1-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Chloroform	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,1-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,1-Dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Cis-1,2-dichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
Benzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Carbontetrachloride	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Trichloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
Dibromomethane	µg/l	3	NONE	< 3.0	< 3.0	-
Bromodichloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Cis-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Trans-1,3-dichloropropene	µg/l	3	NONE	< 3.0	< 3.0	-
Toluene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Test Limit of detection	Test Accreditation Status			
1,1,2-Trichloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
1,3-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
Dibromochloromethane	µg/l	3	NONE	< 3.0	< 3.0	-
Tetrachloroethene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-Dibromoethane	µg/l	3	NONE	< 3.0	< 3.0	-
Chlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,1,1,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0	-
Ethylbenzene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Styrene	µg/l	3	NONE	< 3.0	< 3.0	-
Bromoform	µg/l	3	NONE	< 3.0	< 3.0	-
o-xylene	µg/l	1	NONE	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Bromobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
n-Propylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
2-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	-
4-Chlorotoluene	µg/l	3	NONE	< 3.0	< 3.0	-
1,3,5-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
ter-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,4-Trimethylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
sec-Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,3-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
P-Isopropyltoluene	µg/l	3	NONE	< 3.0	< 3.0	-
1,4-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-dichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Butylbenzene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2-Dibromo-3-chloropropane	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,4-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Hexachlorobutadiene	µg/l	3	NONE	< 3.0	< 3.0	-
1,2,3-Trichlorobenzene	µg/l	3	NONE	< 3.0	< 3.0	-
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0	-

Analytical Report Number: 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Your Order No: GWPR6817

Lab Sample Number				820083	820085	820086
Sample Reference				BH201	TP201	TP205
Sample Number				None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A
Depth (m)				0.40	1.00	0.20-0.40
Date Sampled				19/01/2026	19/01/2026	19/01/2026
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Test Limit of detection	Test Accreditation Status

SVOCs

Aniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Phenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Chlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroethyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,3-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,2-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,4-Dichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroisopropyl)ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachloroethane	µg/l	0.05	NONE	< 0.05	< 0.05	-
Nitrobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Isophorone	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Nitrophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dimethylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bis(2-chloroethoxy)methane	µg/l	0.05	NONE	< 0.05	< 0.05	-
1,2,4-Trichlorobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chloroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachlorobutadiene	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chloro-3-methylphenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4,6-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4,5-Trichlorophenol	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Methylnaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2-Chloronaphthalene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dimethylphthalate	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,6-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	-
2,4-Dinitrotoluene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dibenzofuran	µg/l	0.05	NONE	< 0.05	< 0.05	-
4-Chlorophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
Diethyl phthalate	µg/l	0.05	NONE	0.29	0.42	-
4-Nitroaniline	µg/l	0.05	NONE	< 0.05	< 0.05	-
Azobenzene	µg/l	0.05	NONE	< 0.05	< 0.05	-
Bromophenyl phenyl ether	µg/l	0.05	NONE	< 0.05	< 0.05	-
Hexachlorobenzene	µg/l	0.02	NONE	< 0.02	< 0.02	-
Carbazole	µg/l	0.05	NONE	< 0.05	< 0.05	-
Dibutyl phthalate	µg/l	0.05	NONE	0.86	0.25	-
Anthraquinone	µg/l	0.05	NONE	< 0.05	< 0.05	-
Butyl benzyl phthalate	µg/l	0.05	NONE	< 0.05	< 0.05	-

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected



Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
820084	TP201	None Supplied	0.20-0.40	Brown loam and sand with gravel and stones

Analytical Report Number : 26-005368

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by GC-MS in leachate	Determination of total petroleum hydrocarbons in leachate by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile organic compounds in leachate	Determination of volatile organic compounds in leachate by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	NONE
Hexavalent chromium in leachate	Determination of hexavalent chromium in leachate by acidification, addition of 1,5 diphenylcarbazine followed by colorimetry	In-house method	L080-PL	W	ISO 17025
Monohydric phenols in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in leachate	Determination of total petroleum hydrocarbons in leachate by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	NONE
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
Total petroleum hydrocarbons with carbon banding by GC-MS/GC-MS HS in leachate (Summed Bands)	Determination of total petroleum hydrocarbons in leachate by GC-MS/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L070B/L088-PL	W	NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE
Asbestos identification in Soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques	In-house method based on HSG 248, 2021	A001B	D	ISO 17025
Whole Sample Crushed	Either: Client specific preparation instructions - sample(s) crushed whole prior to analysis OR Sample unsuitable for standard preparation and therefore crushed whole prior to analysis	In house method, applicable to dry samples only	L019B	D	NONE
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE

Analytical Report Number : 26-005368

Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Dissolved Organic Carbon in leachate	Determination of dissolved organic carbon in leachate by the measurement on a non-dispersive infrared analyser of carbon dioxide released by acidification	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037B	W	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L038B	D	MCERTS
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099-PL	D	MCERTS

Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Biochemical Oxygen Demand of leachate	Determination of biochemical oxygen demand in leachate (5 days)	In-house method based on standard method 5210B	L086B	W	ISO 17025

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).
For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).
For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution



Analytical Report Number : 26-005368
Project / Site name: 220 Elgar Road South, Reading, RG2 0BW

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP201	N/A	S	820084	bc	Asbestos identification in Soil	A001B	b
TP201	N/A	S	820084	bc	BTEX and/or Volatile organic compounds in soil	L073B	c
TP201	N/A	S	820084	bc	Monohydric phenols in soil	L080-PL	c
TP201	N/A	S	820084	bc	Speciated PAHs and/or Semi-volatile organic compounds in soil	L064B	c
TP201	N/A	S	820084	bc	Total cyanide in soil	L080-PL	c
TP201	N/A	S	820084	bc	Total petroleum hydrocarbons with carbon banding by GC-FID in soil	L076B	c
TP201	N/A	S	820084	bc	Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	L088-PL	c
TP201	N/A	S	820084	bc	pH in soil (automated)	L099-PL	c



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearn

CERTIFICATE OF ANALYSIS

Date of report Generation:	18 February 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260206-67
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	792230
Order Number:	GWPR6817

We received 6 samples on Friday February 06, 2026 and 6 of these samples were scheduled for analysis which was completed on Wednesday February 18, 2026. 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 Laboratories (UK) Limited 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:

Justin Keeton

Business Unit Leader - Land



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32857431	BH1		0.00 - 0.00	05/02/2026
32857440	BH2		0.00 - 0.00	05/02/2026
32857449	BH201		0.00 - 0.00	05/02/2026
32857458	BH202		0.00 - 0.00	05/02/2026
32857467	BH203 (d)		0.00 - 0.00	05/02/2026
32857422	BH203 (s)		0.00 - 0.00	05/02/2026

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
	32857431	BH1		0.00 - 0.00	H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
	32857440	BH2		0.00 - 0.00	H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
	32857449	BH201		0.00 - 0.00	H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
	32857458	BH202		0.00 - 0.00	H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
					H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
					H2SO4 (ALE244) 500ml Plastic (ALE208) 0.5l glass bottle (ALE227) Vial (ALE297)	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 6				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6				
Dissolved Metals by ICP-MS	All	NDPs: 1 Tests: 5				
EPH and CWG by FID	All	NDPs: 0 Tests: 6				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6				
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6				
Mercury Dissolved	All	NDPs: 1 Tests: 5				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6				
pH Value	All	NDPs: 0 Tests: 6				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6				
TPH CWG (W)	All	NDPs: 0 Tests: 6				
VOC MS (W)	All	NDPs: 0 Tests: 6				

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

[illegible]

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.		05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
diss.filt	Dissolved / filtered sample.		00:00	00:00	00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.		06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.		260206-67	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
**	% 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		32857431	32857440	32857449	32857458	32857467	32857467	32857467	32857422
***	6:2 FTAB (see appendix)									
1-4*5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Chlorophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Methylphenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Nitroaniline (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
2-Nitrophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
3-Nitroaniline (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Chloroaniline (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Methylphenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Nitroaniline (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
4-Nitrophenol (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
Azobenzene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
Acenaphthylene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
Acenaphthene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
Anthracene (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<80	#	<100	#	<8	#	<8	#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<40	#	<50	#	<4	#	<4	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
diss.filt	Dissolved / filtered sample.			00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.			06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.			260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
**	% 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			32857431	32857440	32857449	32857458	32857467	32857422
***	6:2 FTAB (see appendix)								
1-4*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<40 #	51.9 #	<4 #	<4 #	<10 #	<20 #	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<40 #	113 #	<4 #	<4 #	<10 #	<20 #	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<40 #	76.8 #	<4 #	<4 #	<10 #	<20 #	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<40 #	82.1 #	<4 #	<4 #	<10 #	<20 #	
Carbazole (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Chrysene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Dibenzofuran (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Diethyl phthalate (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<200 #	<250 #	<20 #	<20 #	<50 #	<100 #	
Fluoranthene (aq)	<1 µg/l	TM176	<40 #	69.4 #	<4 #	<4 #	<10 #	<20 #	
Fluorene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Pentachlorophenol (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Phenol (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Hexachloroethane (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Nitrobenzene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Naphthalene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Isophorone (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Phenanthrene (aq)	<1 µg/l	TM176	<40 #	<50 #	<4 #	<4 #	<10 #	<20 #	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<40 #	61.2 #	<4 #	<4 #	<10 #	<20 #	
Pyrene (aq)	<1 µg/l	TM176	<40 #	64.8 #	<4 #	<4 #	<10 #	<20 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend		Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.		Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.		05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
diss.filt	Dissolved / filtered sample.		00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.		06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026	06/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.		260206-67	260206-67	260206-67	260206-67	260206-67	260206-67
**	% 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		32857431	32857440	32857449	32857458	32857467	32857422
***	6:2 FTAB (see appendix)							
1-4*5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	106	106	108	106	107	106
Toluene-d8**	%	TM208	101	99.6	102	102	101	102
4-Bromofluorobenzene**	%	TM208	95	89.5	97.5	98	98.1	97.2
Dichlorodifluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Vinyl chloride	<1 µg/l	TM208	<1	<1	<1	2.04	<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	2.5	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3	<3	<3
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	1.19	<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	1.01	10.1	<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	8.99	<1	<1	<1	<1
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Trichloroethene	<1 µg/l	TM208	<1	1.77	<1	<1	<1	<1
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Toluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857431	0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857440	0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857449	0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857458	0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857467	0.00 - 0.00 Ground Water (GW) 05/02/2026 00:00 06/02/2026 260206-67 32857422
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									
***	6:2 FTAB (see appendix)									
1-4*5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Tetrachloroethene	<1 µg/l	TM208	1.49	#	59.7	#	<1	#	<1	#
Dibromochloromethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2-Dibromoethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Chlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Ethylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
m,p-Xylene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
o-Xylene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Styrene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Bromoform	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Isopropylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Bromobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Propylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
2-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
4-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
tert-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
sec-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
4-iso-Propyltoluene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
n-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Hexachlorobutadiene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Naphthalene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#



Location: 220 Elgar Road South, Reading RG2 0BW



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Notification of NDPs (No determination possible)

Date Received : 06/02/2026 12:22:23

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
32857458	BH202	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered anal
32857458	BH202	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered anal



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Table of Results - Appendix

Method No	Description
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids
TM152	Analysis of Aqueous Samples by ICP-MS
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.
Depth
Type

32857431	32857440	32857449	32857458	32857467	32857422
BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	11-Feb-2026	11-Feb-2026	10-Feb-2026	11-Feb-2026	11-Feb-2026
Cyanide Comp/Free/Total/Thiocyanate	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026
Dissolved Metals by ICP-MS	11-Feb-2026	11-Feb-2026	11-Feb-2026	11-Feb-2026	11-Feb-2026
EPH and CWG by FID	17-Feb-2026	18-Feb-2026	18-Feb-2026	13-Feb-2026	18-Feb-2026
GRO by GC-FID (W)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026
Hexavalent Chromium (w)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026
Mercury Dissolved	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026	13-Feb-2026
PAH Spec MS - Aqueous (W)	16-Feb-2026	16-Feb-2026	15-Feb-2026	16-Feb-2026	16-Feb-2026
pH Value	10-Feb-2026	10-Feb-2026	10-Feb-2026	10-Feb-2026	10-Feb-2026
Phenols by HPLC (W)	12-Feb-2026	12-Feb-2026	12-Feb-2026	12-Feb-2026	12-Feb-2026
SVOC MS (W) - Aqueous	16-Feb-2026	16-Feb-2026	16-Feb-2026	11-Feb-2026	16-Feb-2026
TPH CWG (W)	17-Feb-2026	18-Feb-2026	18-Feb-2026	13-Feb-2026	18-Feb-2026
VOC MS (W)	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026	09-Feb-2026



CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

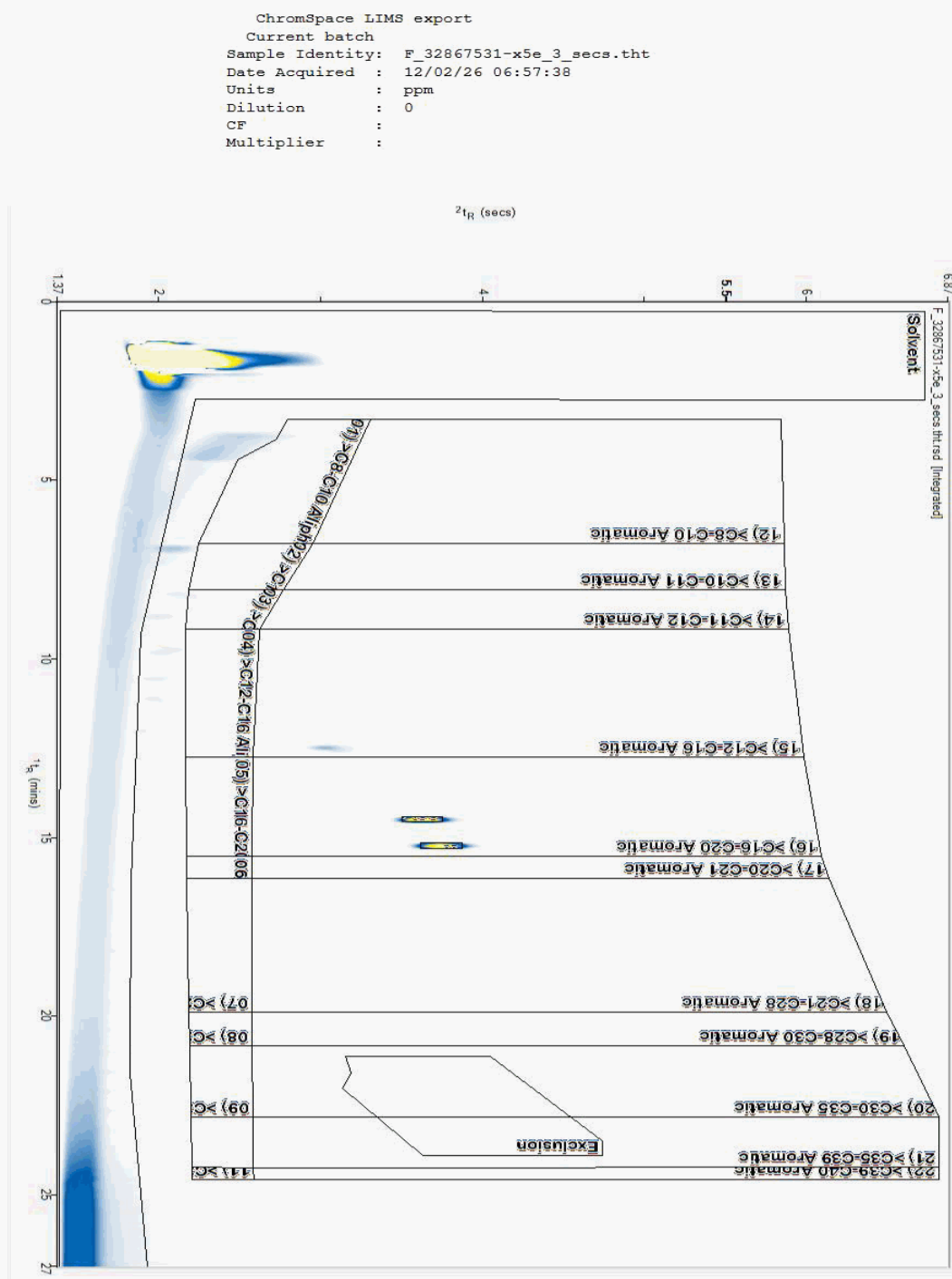
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32867531
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

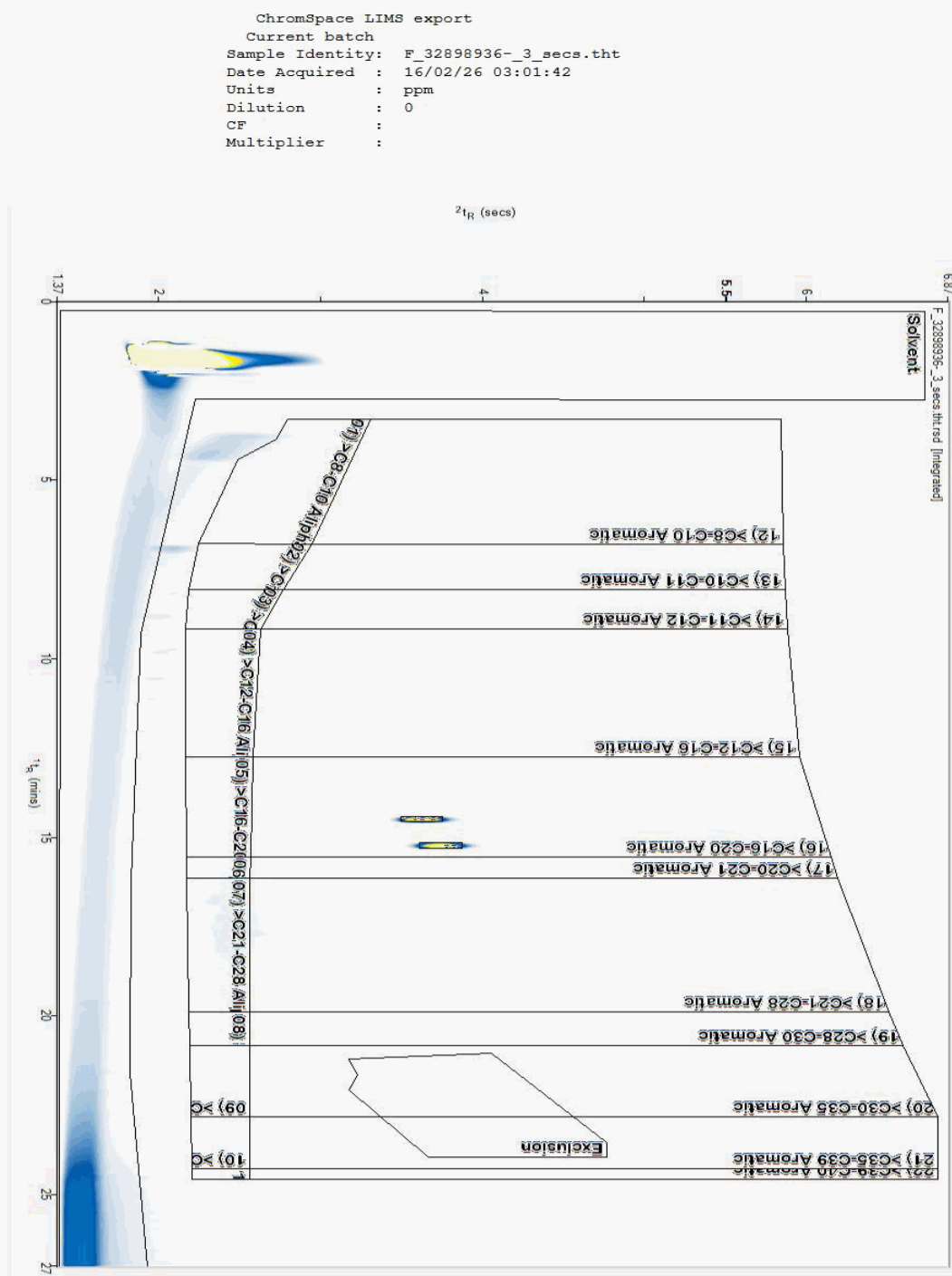
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32898936
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

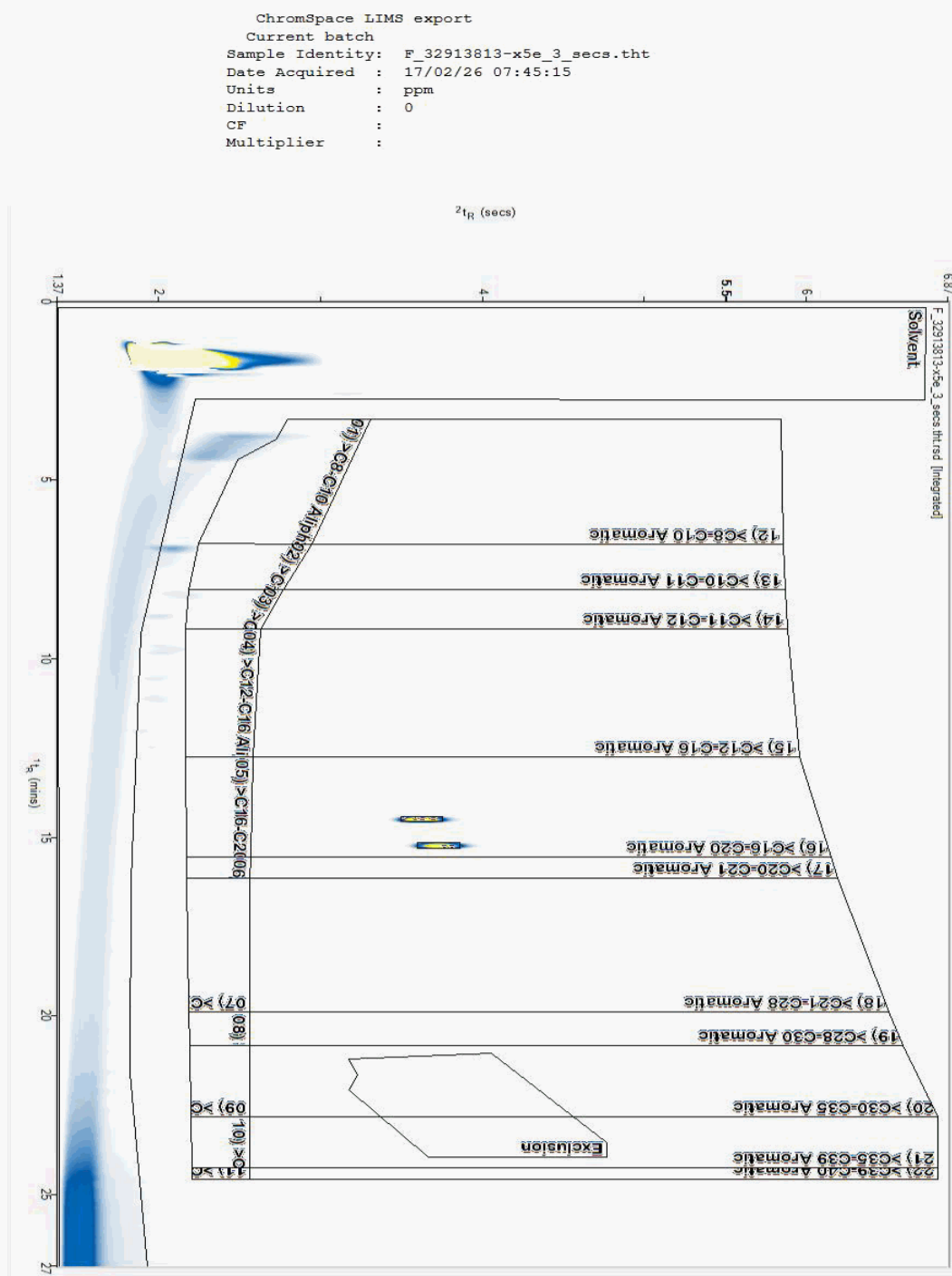
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32913813
Sample ID : BH203 (d)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

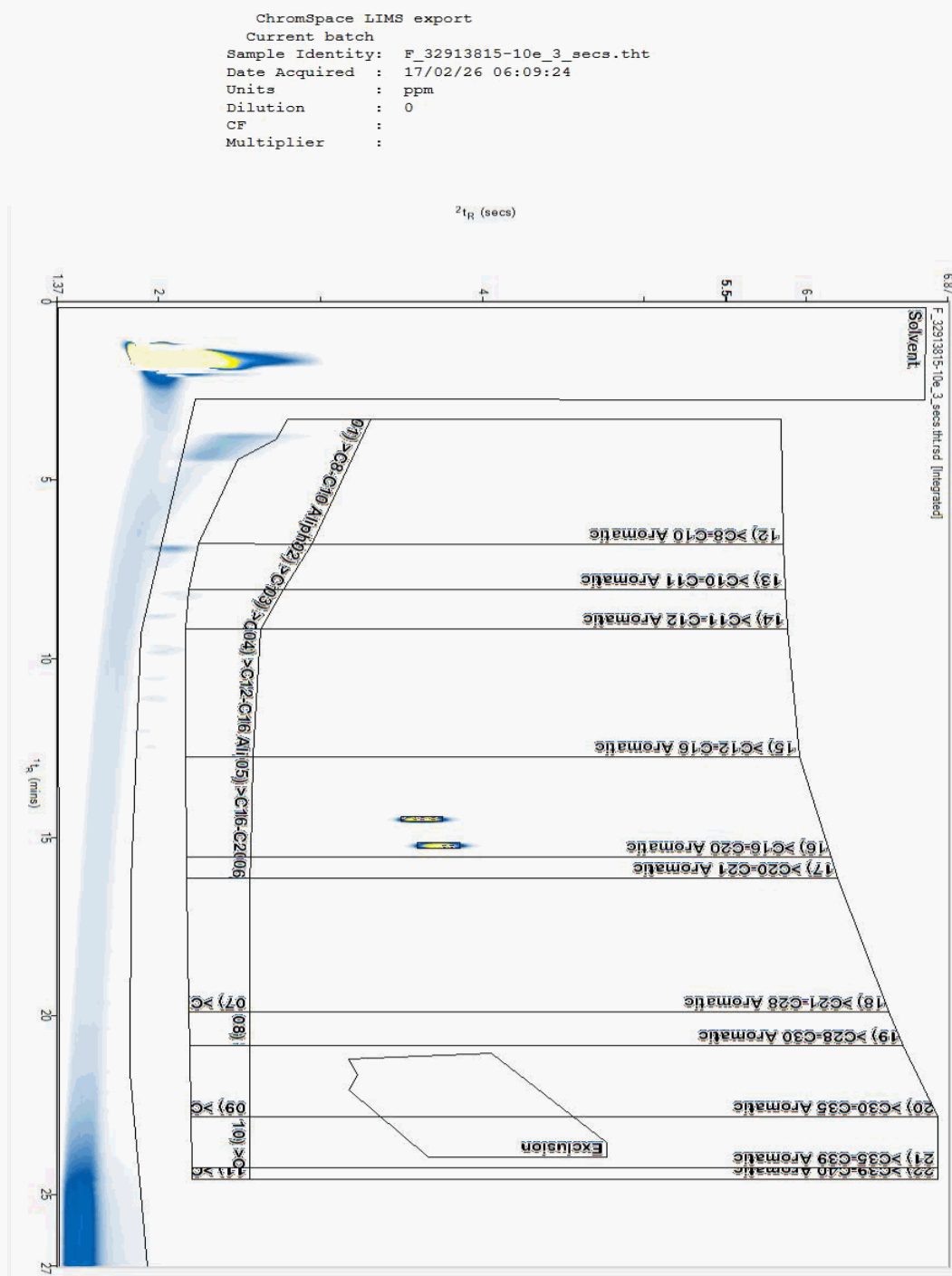
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32913815
Sample ID : BH203 (s)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

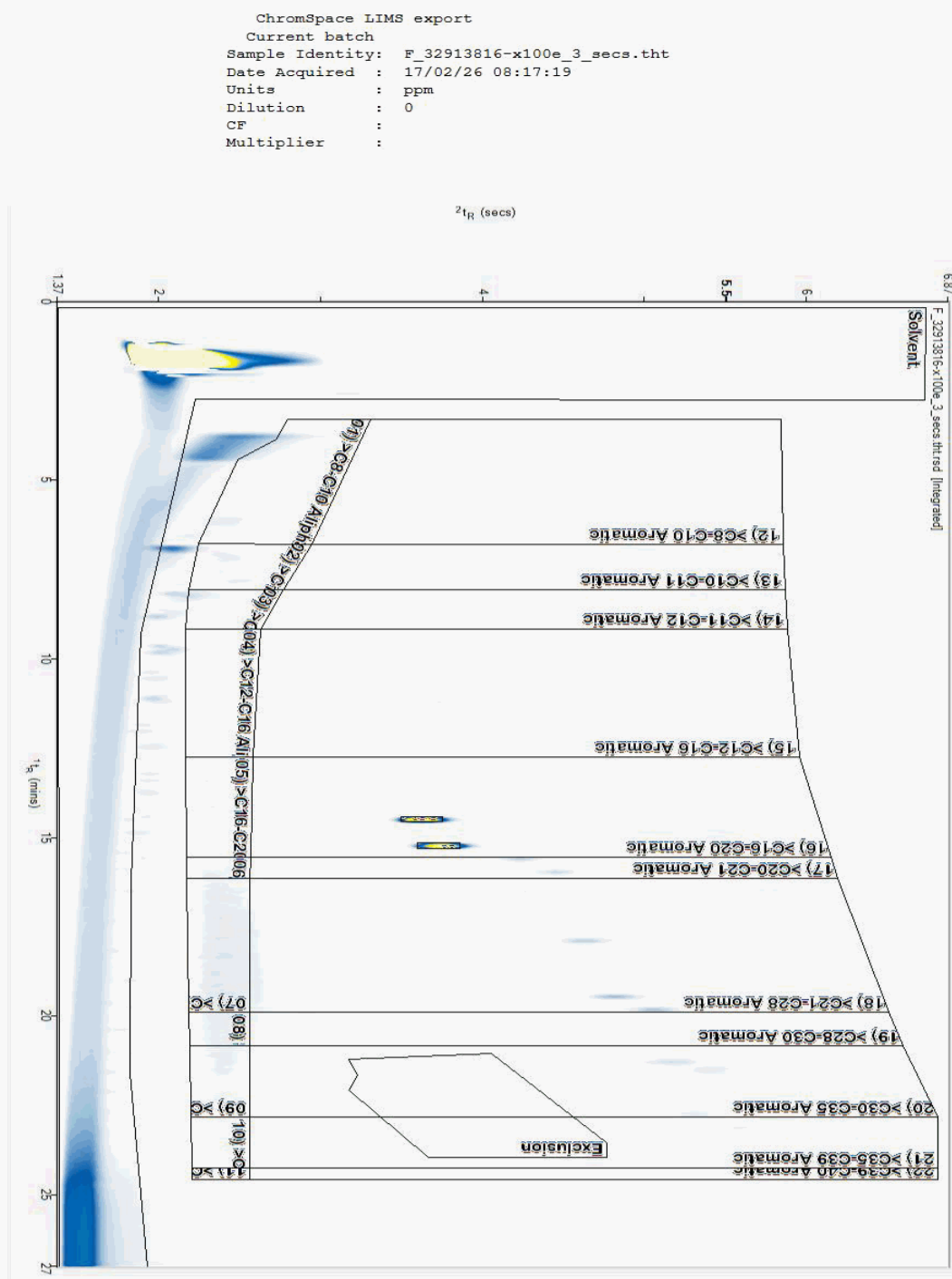
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32913816
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

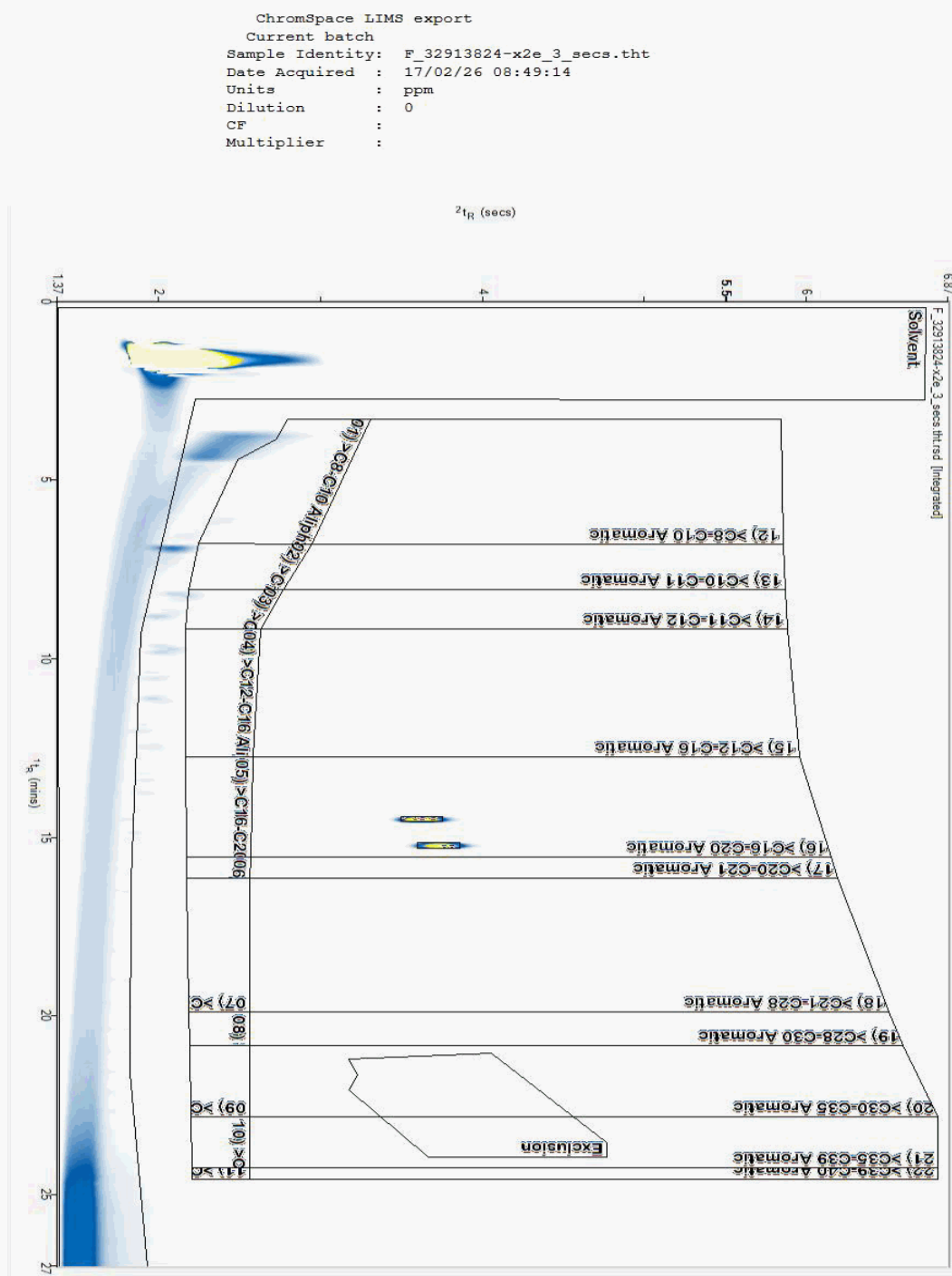
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32913824
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

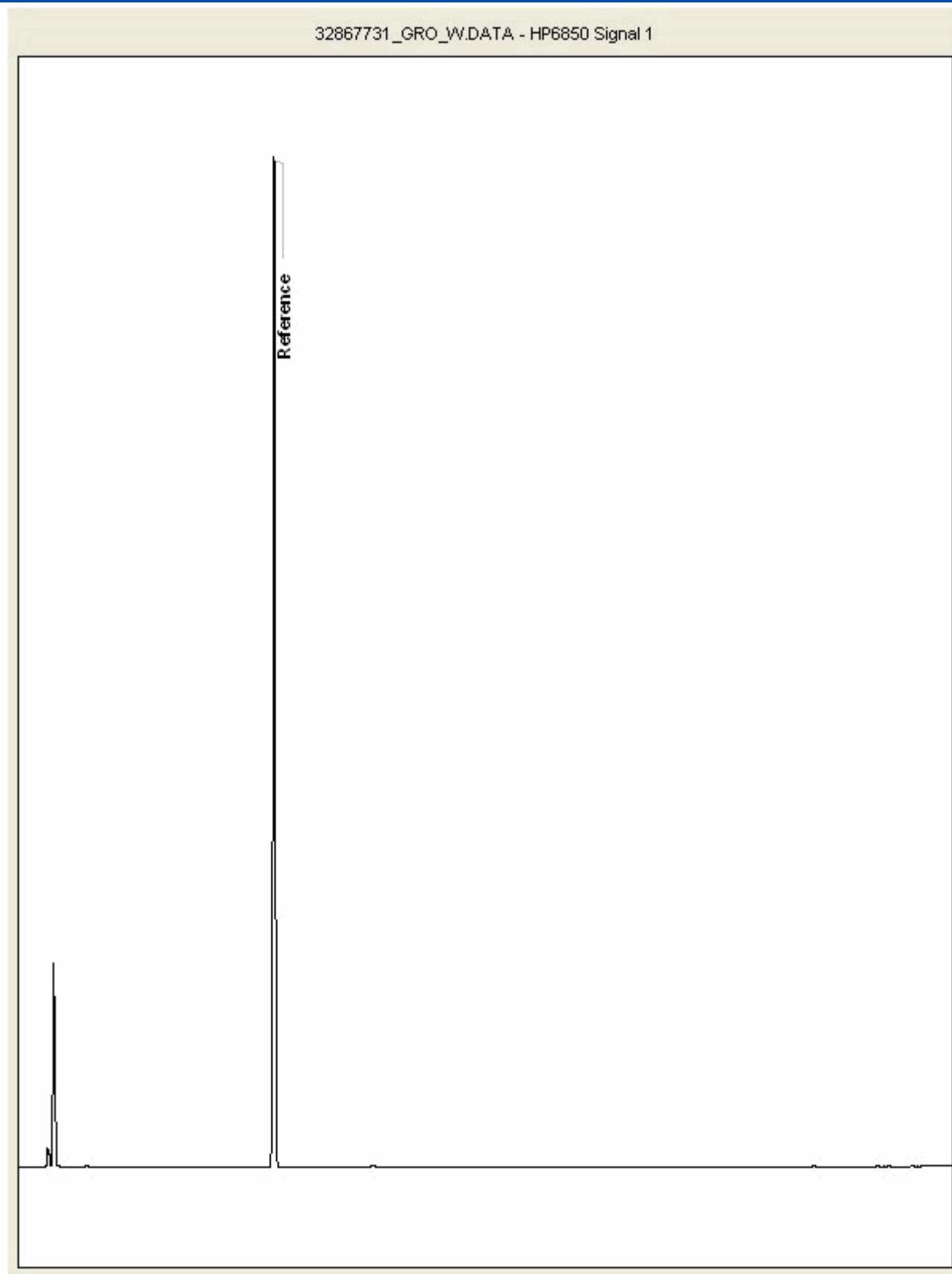
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867731
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230

Location: 220 Elgar Road South, Reading RG2 0BW

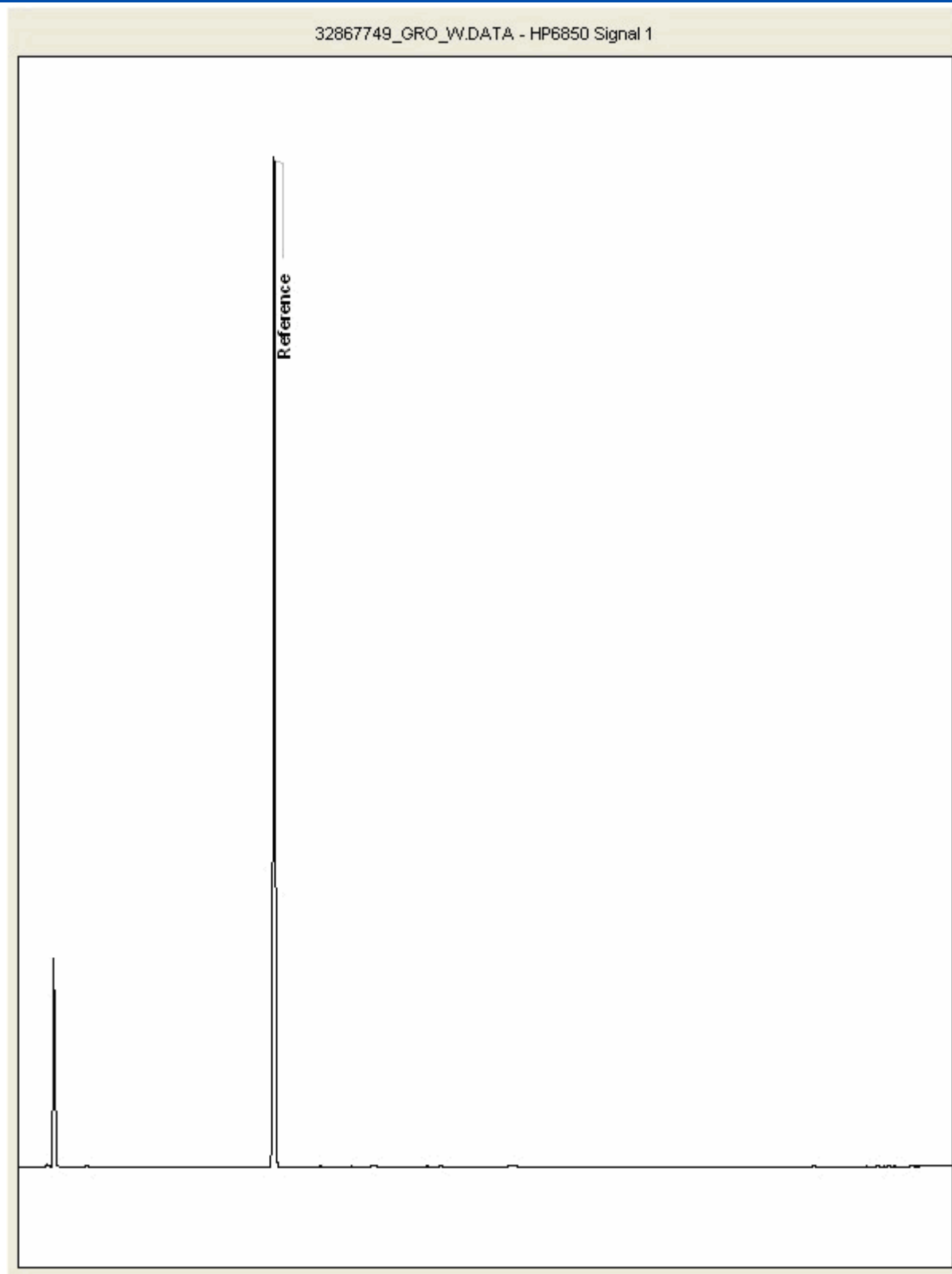
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867749
Sample ID : BH203 (s)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

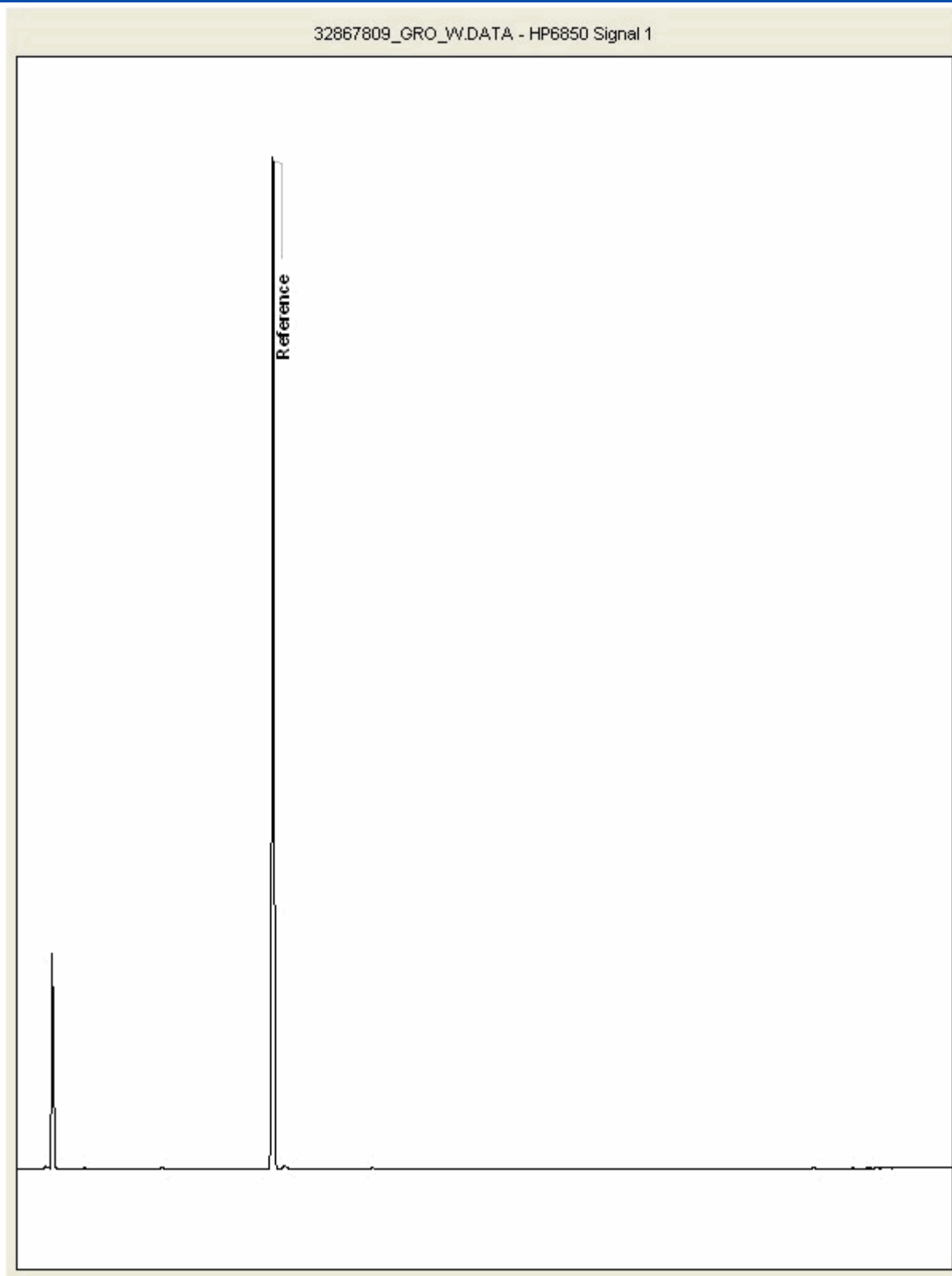
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867809
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

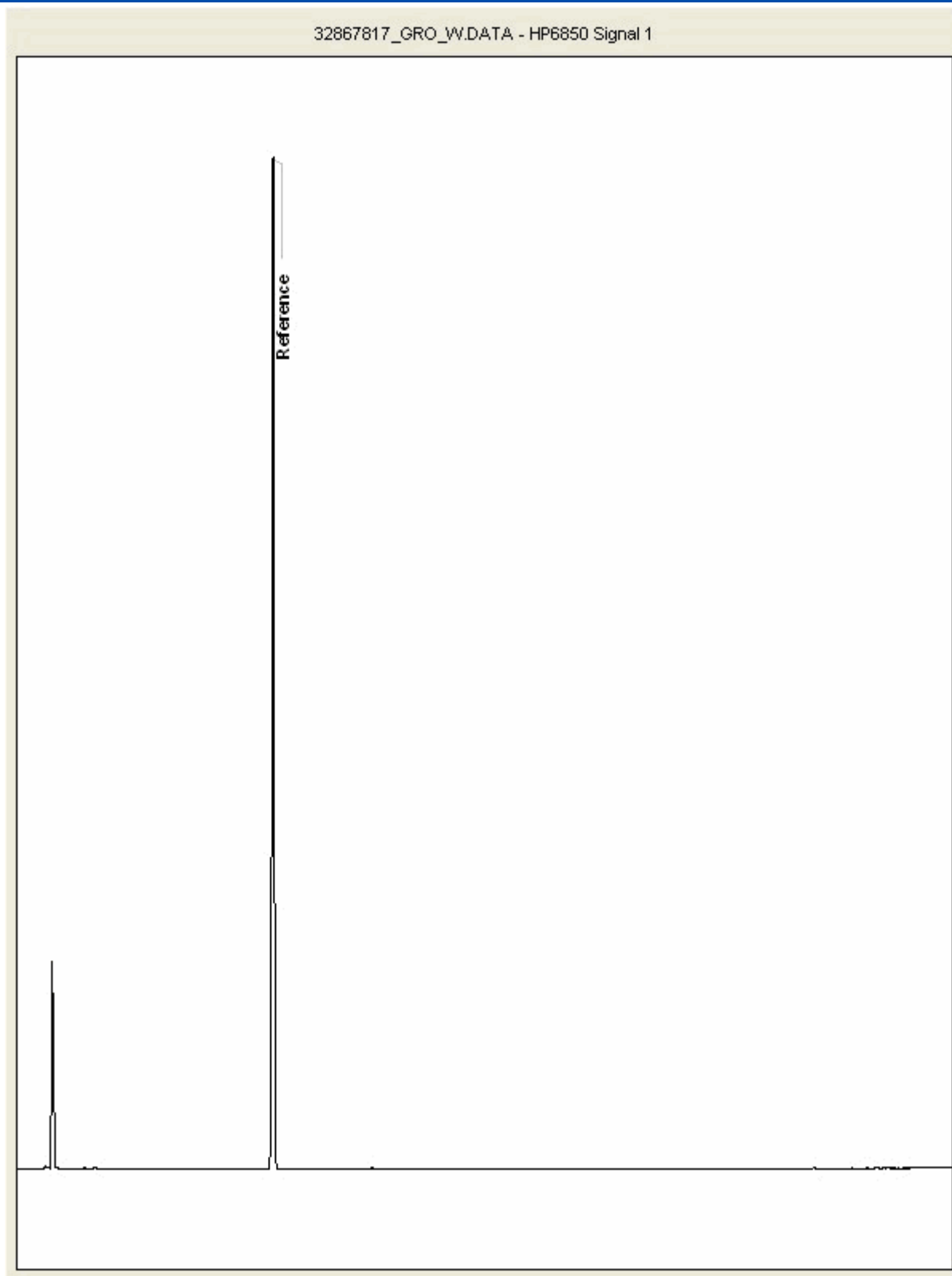
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867817
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

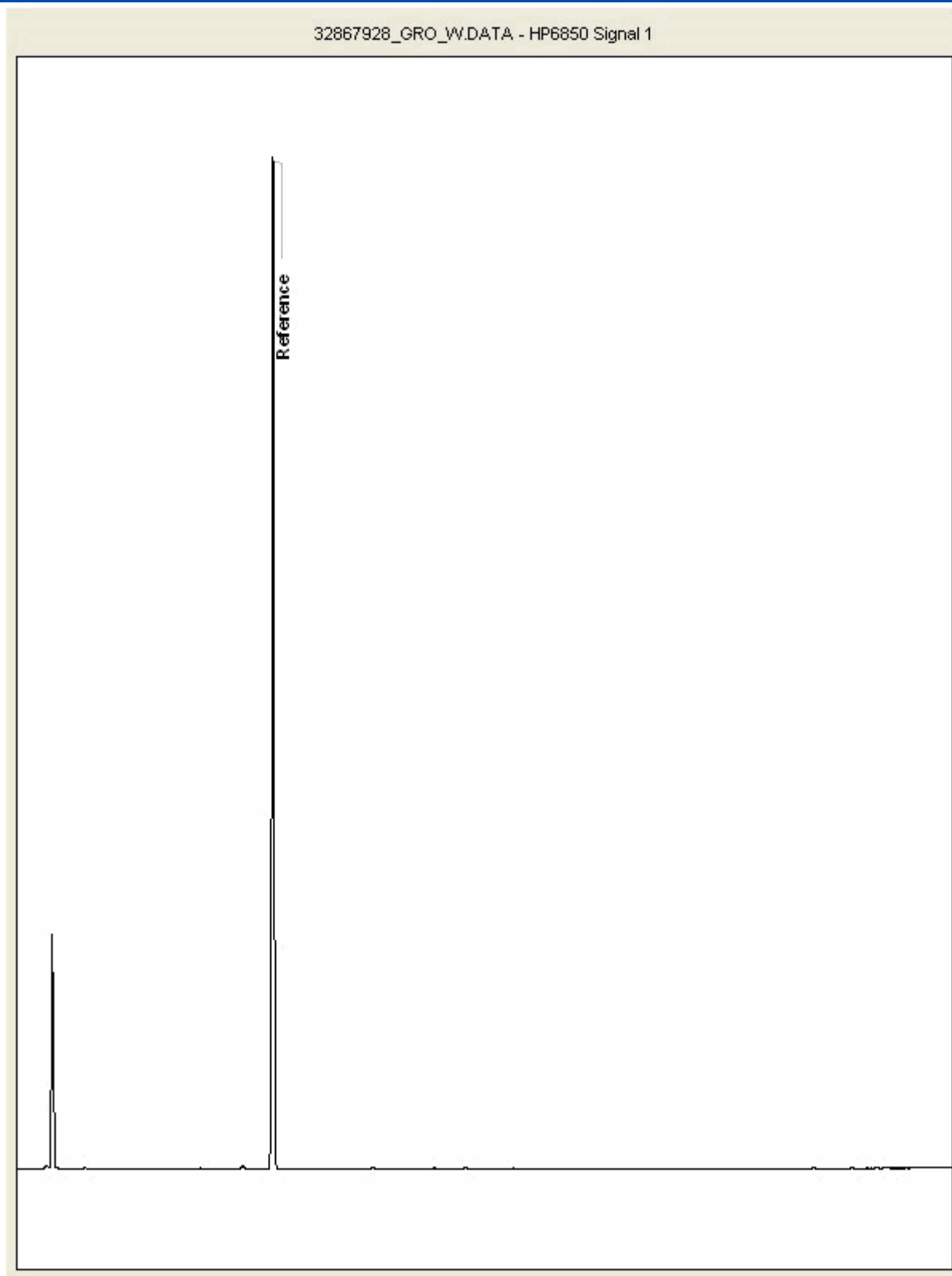
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867928
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260206-67
Client Ref.: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

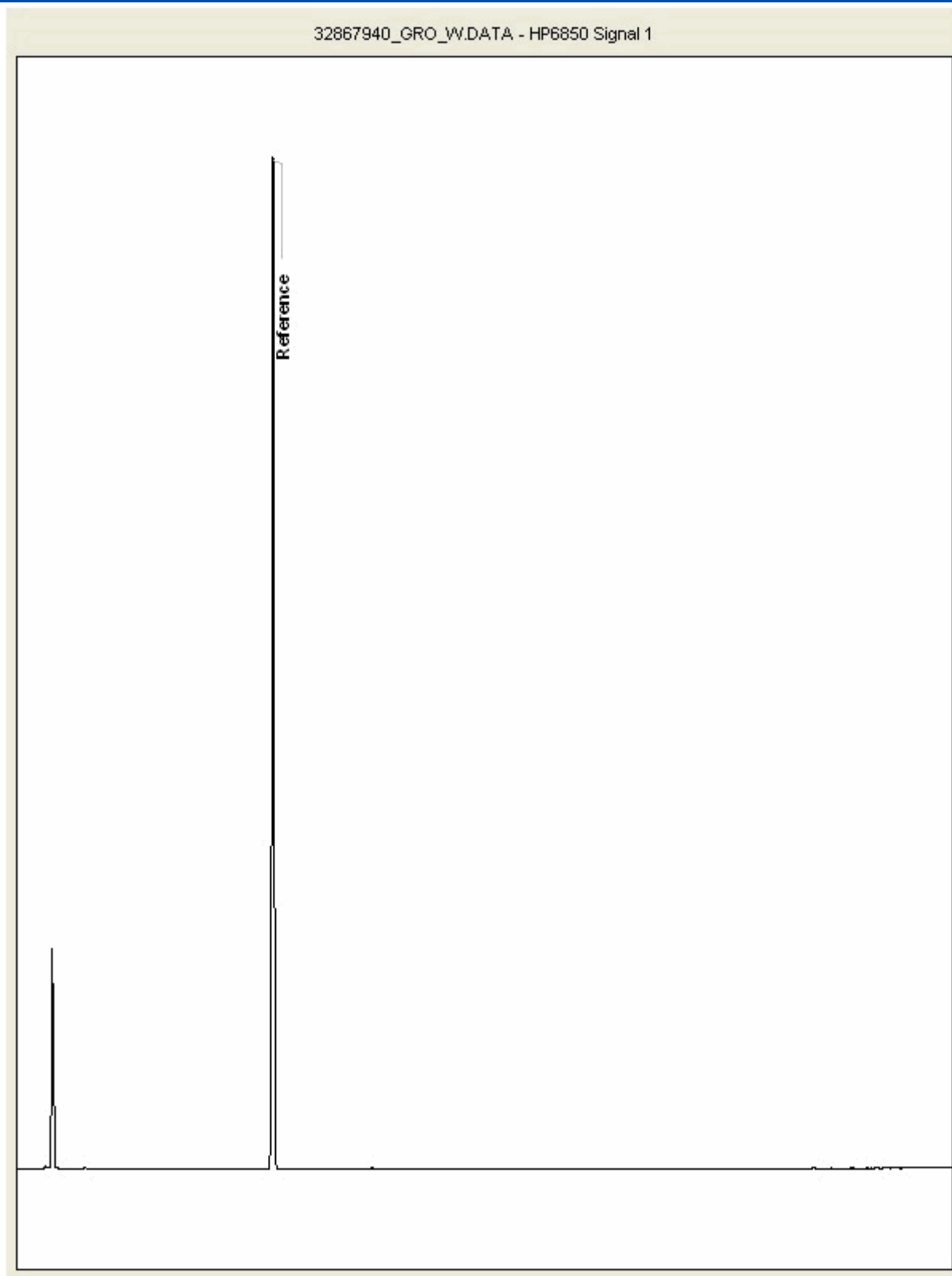
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32867940
Sample ID : BH203 (d)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG: 260206-67
Client Ref: GWPR6817

Report Number: 792230
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Appendix

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

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

If during the search of the two 'pinch' samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term 'trace asbestos identified' is reported.

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearl

CERTIFICATE OF ANALYSIS

Date of report Generation:	04 March 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260224-46
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	793766
Order Number:	GWPR6817

We received 6 samples on Tuesday February 24, 2026 and 6 of these samples were scheduled for analysis which was completed on Wednesday March 04, 2026. 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 Laboratories (UK) Limited 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:

Justin Keeton

Business Unit Leader - Land



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
32954941	BH1		0.00 - 0.00	23/02/2026
32954949	BH2		0.00 - 0.00	23/02/2026
32954959	BH201		0.00 - 0.00	23/02/2026
32954968	BH202		0.00 - 0.00	23/02/2026
32954981	BH203 (d)		0.00 - 0.00	23/02/2026
32954927	BH203 (s)		0.00 - 0.00	23/02/2026

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

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)																	
	Customer Sample Reference																	
	AGS Reference																	
	Depth (m)																	
	Container																	
	Sample Type																	
Anions by Kone (w)	All	NDPs: 0 Tests: 6		X						X								X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6					X				X				X			
Dissolved Metals by ICP-MS	All	NDPs: 1 Tests: 5				X					N				X			
EPH and CWG by FID	All	NDPs: 0 Tests: 6	X						X					X			X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						X				X				X		
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6		X						X				X				X
Mercury Dissolved	All	NDPs: 1 Tests: 5				X					N				X			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6	X						X				X				X	
pH Value	All	NDPs: 0 Tests: 6		X						X				X				X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6				X					X				X			X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X						X				X				X	
TPH CWG (W)	All	NDPs: 0 Tests: 6	X							X				X			X	
VOC MS (W)	All	NDPs: 0 Tests: 6							X				X				X	

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)	0.00 - 0.00 Ground Water (GW)
M	mCERTS accredited.		23/02/2026		23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
aq	Aqueous / settled sample.		00:00		00:00	00:00	00:00	00:00	00:00	00:00
diss.filt	Dissolved / filtered sample.		24/02/2026		24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
tot.unfilt	Total / unfiltered sample.		260224-46		260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
*	Subcontracted - refer to subcontractor report for accreditation status.		32954941		32954949	32954959	32954968		32954981	32954927
**	% 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									
***	6:2 FTAB (see appendix)									
1-4+5@	Sample deviation (see appendix)									
Component	LOD/Units		Method							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Chlorophenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Methylphenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Nitroaniline (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
2-Nitrophenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
3-Nitroaniline (aq)	<1 µg/l	TM176	<200		<200		<8		<4	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
4-Chloroaniline (aq)	<1 µg/l	TM176	<200		<200		<8		<4	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
4-Methylphenol (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
4-Nitroaniline (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
4-Nitrophenol (aq)	<1 µg/l	TM176	<200		<200		<8		<4	
Azobenzene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
Acenaphthylene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
Acenaphthene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
Anthracene (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<400	#	<400	#	<16	#	<8	#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<200	#	<200	#	<8	#	<4	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
diss.filt	Dissolved / filtered sample.			00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.			24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.			260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
**	% 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			32954941	32954949	32954959	32954968	32954981	32954927
***	6:2 FTAB (see appendix)								
1-4*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Carbazole (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Chrysene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Dibenzofuran (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Diethyl phthalate (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<1000 #	<1000 #	<40 #	<40 #	<20 #	<40 #	
Fluoranthene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Fluorene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Pentachlorophenol (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Phenol (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Hexachloroethane (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Nitrobenzene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Naphthalene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Isophorone (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Phenanthrene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	
Pyrene (aq)	<1 µg/l	TM176	<200 #	<200 #	<8 #	<8 #	<4 #	<8 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
diss.filt	Dissolved / filtered sample.				00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.				24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.				260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
**	% 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				32954941	32954949	32954959	32954968	32954981	32954927
***	6:2 FTAB (see appendix)									
1-4+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Dibromofluoromethane**	%	TM208	103	102	104	104	105	103		
Toluene-d8**	%	TM208	98	95.6	98	97.3	97.8	97.4		
4-Bromofluorobenzene**	%	TM208	94.2	87.3	95	95.4	93.6	95.3		
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	1.28	<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	3.36	<1	<1	<1	<1	<1		
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3	<3	<3		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	1.57	3.89	<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	4.16	<1	<1	<1	<1		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Benzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Trichloroethene	<1 µg/l	TM208	<1	<1	1.07	1.19	<1	<1		
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
Toluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1		



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

VOC MS (W)

Results Legend			Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026	23/02/2026
diss.filt	Dissolved / filtered sample.			00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.			24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
*	Subcontracted - refer to subcontractor report for accreditation status.			260224-46	260224-46	260224-46	260224-46	260224-46	260224-46
**	% 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			32954941	32954949	32954959	32954968	32954981	32954927
***	6:2 FTAB (see appendix)								
1-4*5@ Sample deviation (see appendix)									
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Tetrachloroethene	<1 µg/l	TM208	<1 #	39 #	2.28 1 #	2.7 1 #	<1 1 #	<1 #	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	<1	<1 1	<1 1	<1 1	<1	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 1 #	<1 1 #	<1 1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

Notification of NDPs (No determination possible)

Date Received : 24/02/2026 09:49:24

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
32954949	BH2	0.00 - 0.00	Mercury Dissolved	nple contains sediment-unsuitable for filtered anal
32954949	BH2	0.00 - 0.00	Dissolved Metals by ICP-MS	nple contains sediment-unsuitable for filtered anal



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Table of Results - Appendix

Method No	Description
TM152	Analysis of Aqueous Samples by ICP-MS
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.
Depth
Type

32954941	32954949	32954959	32954968	32954981	32954927
BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	25-Feb-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026	02-Mar-2026
Cyanide Comp/Free/Total/Thiocyanate	26-Feb-2026	26-Feb-2026	26-Feb-2026	27-Feb-2026	27-Feb-2026
Dissolved Metals by ICP-MS	02-Mar-2026		02-Mar-2026	02-Mar-2026	02-Mar-2026
EPH and CWG by FID	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026
GRO by GC-FID (W)	26-Feb-2026	02-Mar-2026	26-Feb-2026	26-Feb-2026	27-Feb-2026
Hexavalent Chromium (w)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
Mercury Dissolved	03-Mar-2026		03-Mar-2026	03-Mar-2026	03-Mar-2026
PAH Spec MS - Aqueous (W)	04-Mar-2026	04-Mar-2026	04-Mar-2026	04-Mar-2026	04-Mar-2026
pH Value	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
Phenols by HPLC (W)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026
SVOC MS (W) - Aqueous	27-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026	27-Feb-2026
TPH CWG (W)	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026	03-Mar-2026
VOC MS (W)	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026	26-Feb-2026



CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

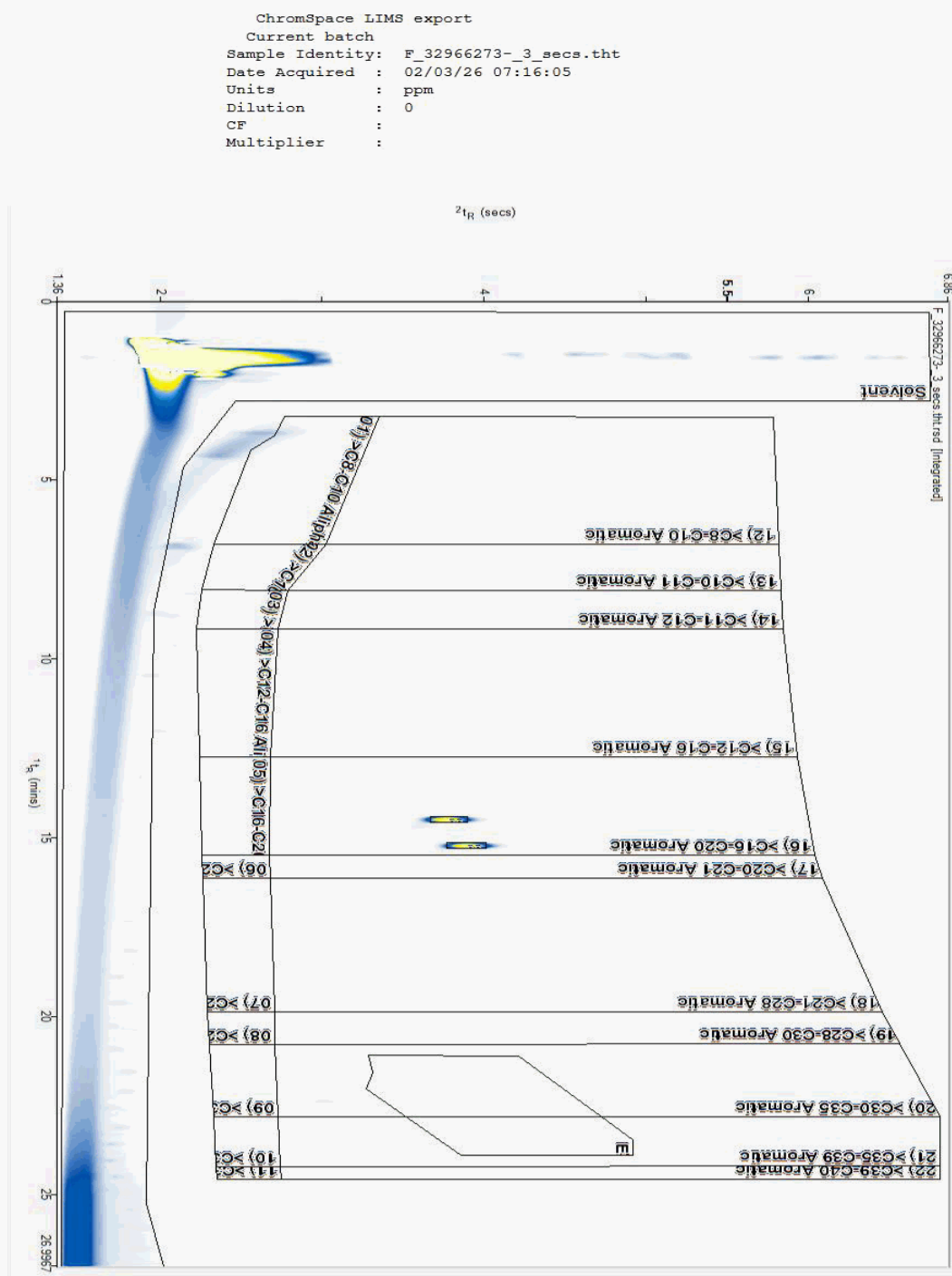
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32966273
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

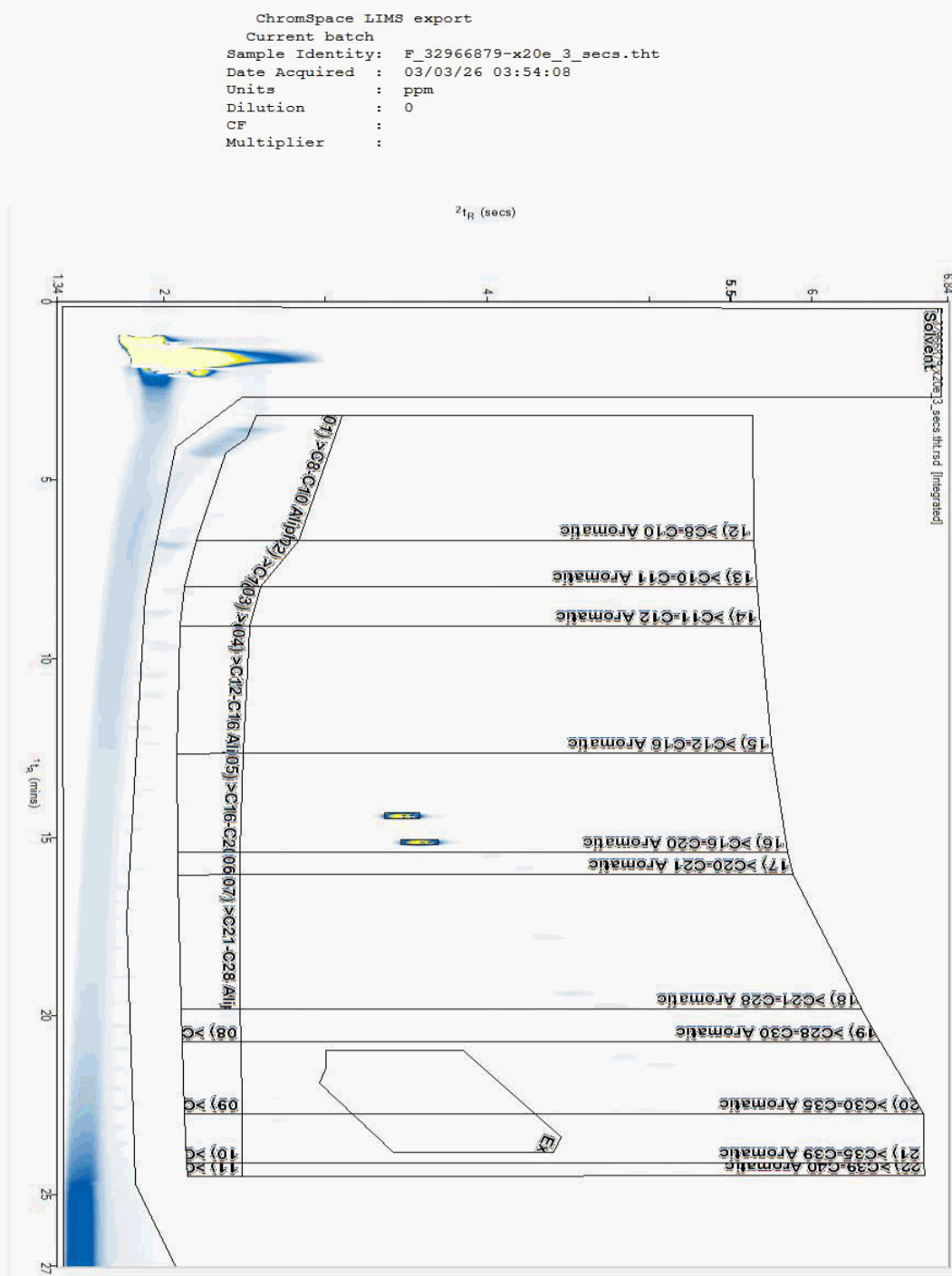
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32966879
Sample ID : BH2

Depth : 0.00 - 0.00



SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766

Superseded Report:

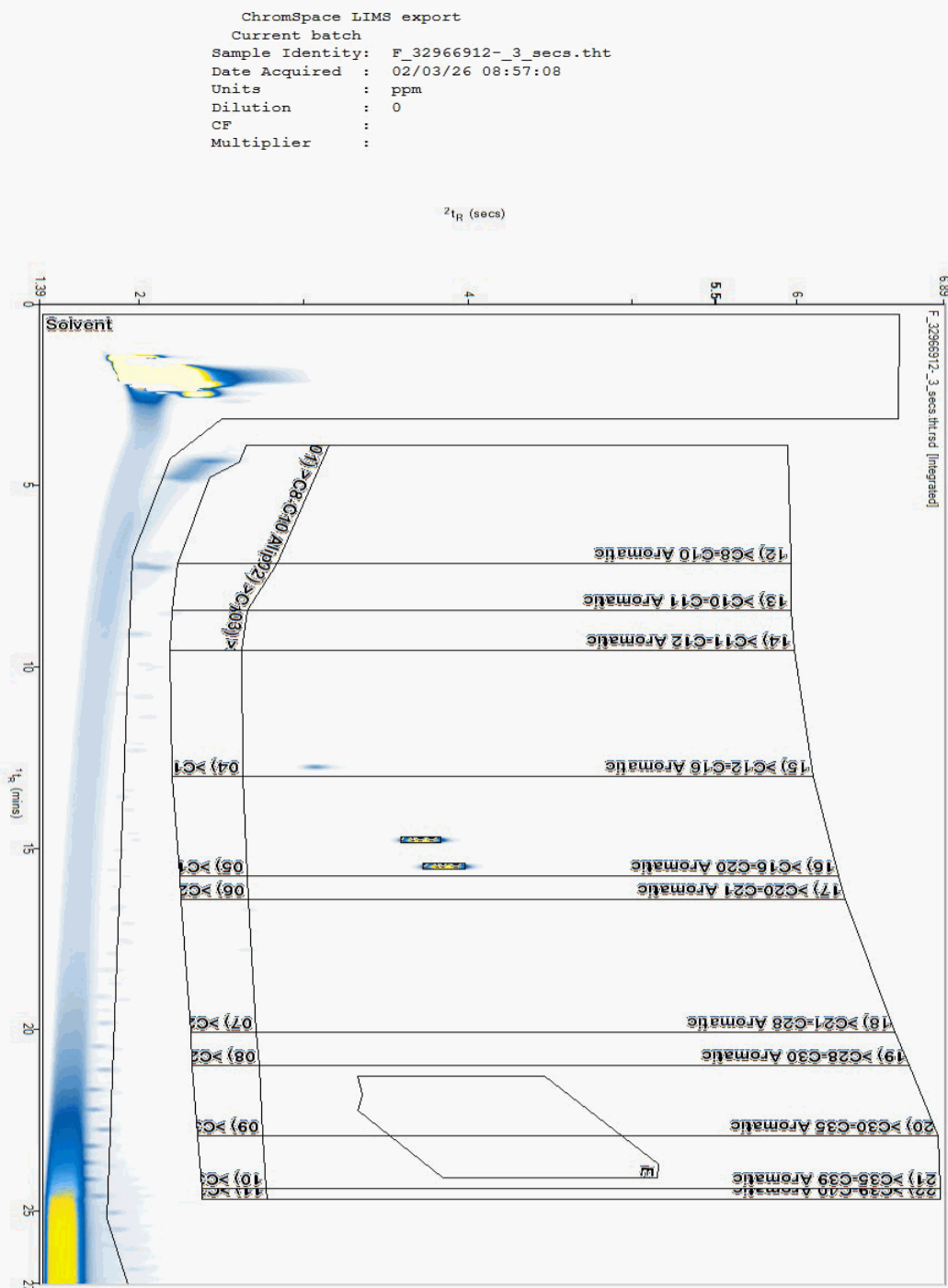
Location: 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32966912
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

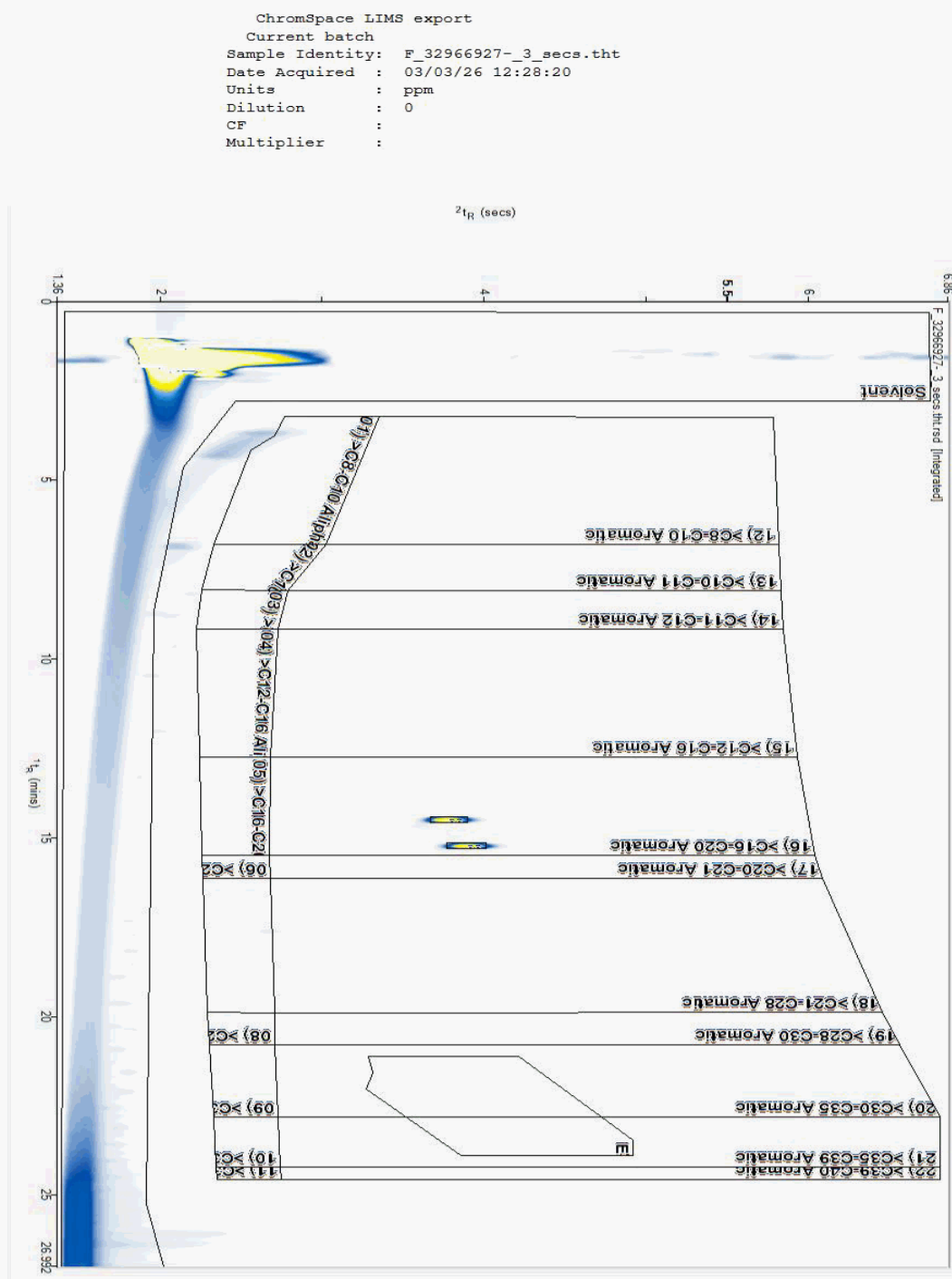
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32966927
Sample ID : BH203 (s)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

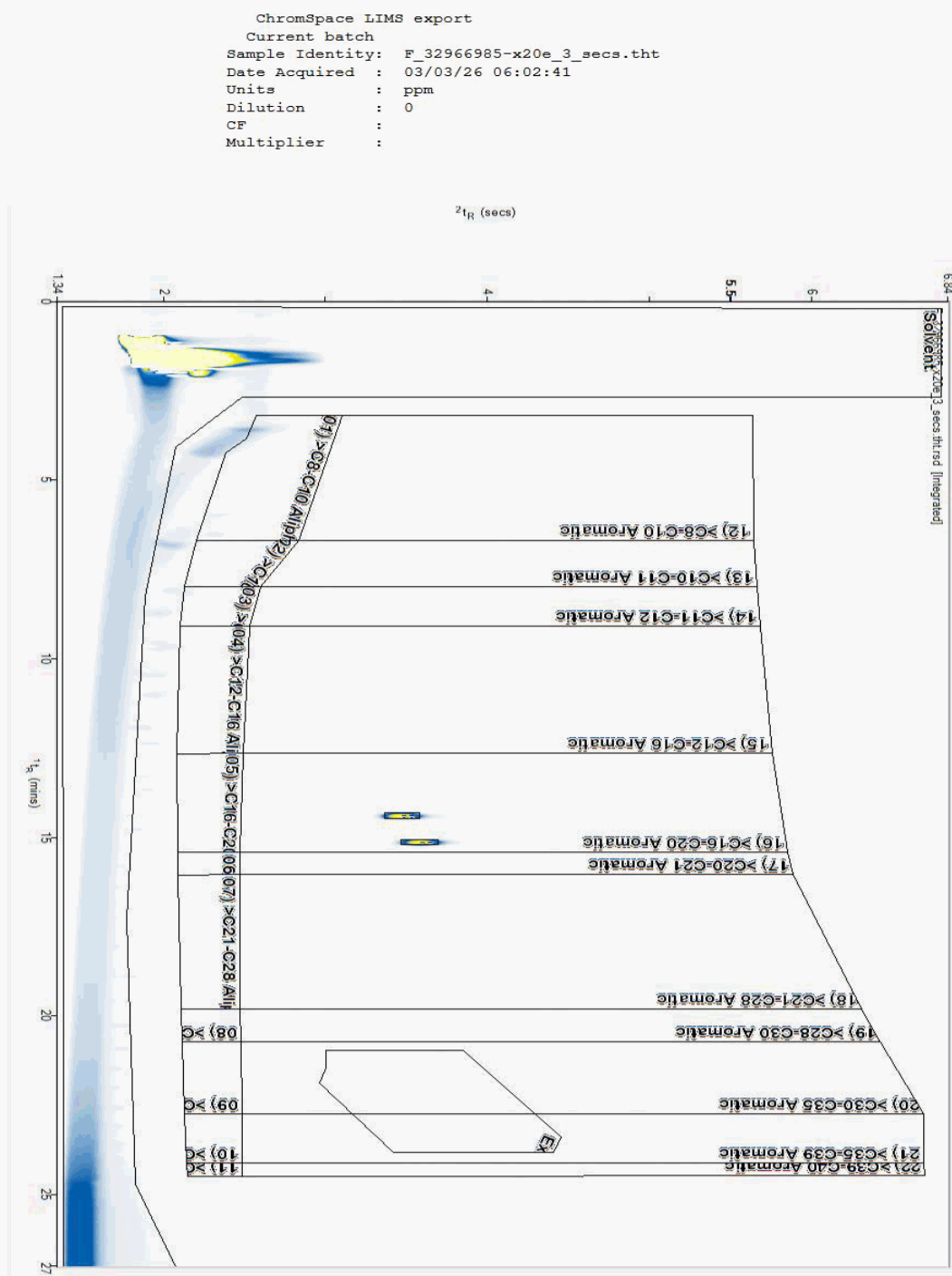
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32966985
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

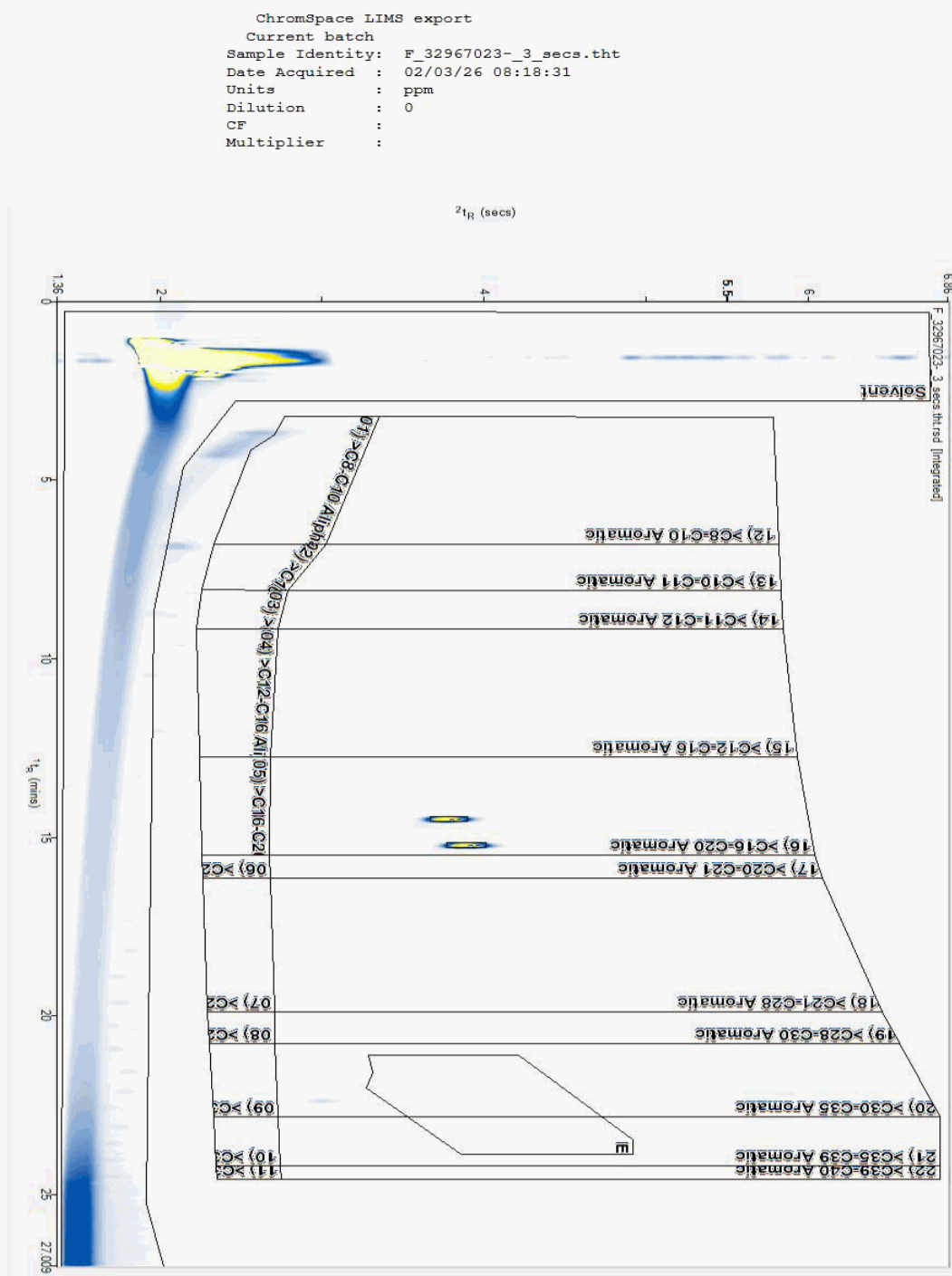
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 32967023
Sample ID : BH203 (d)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

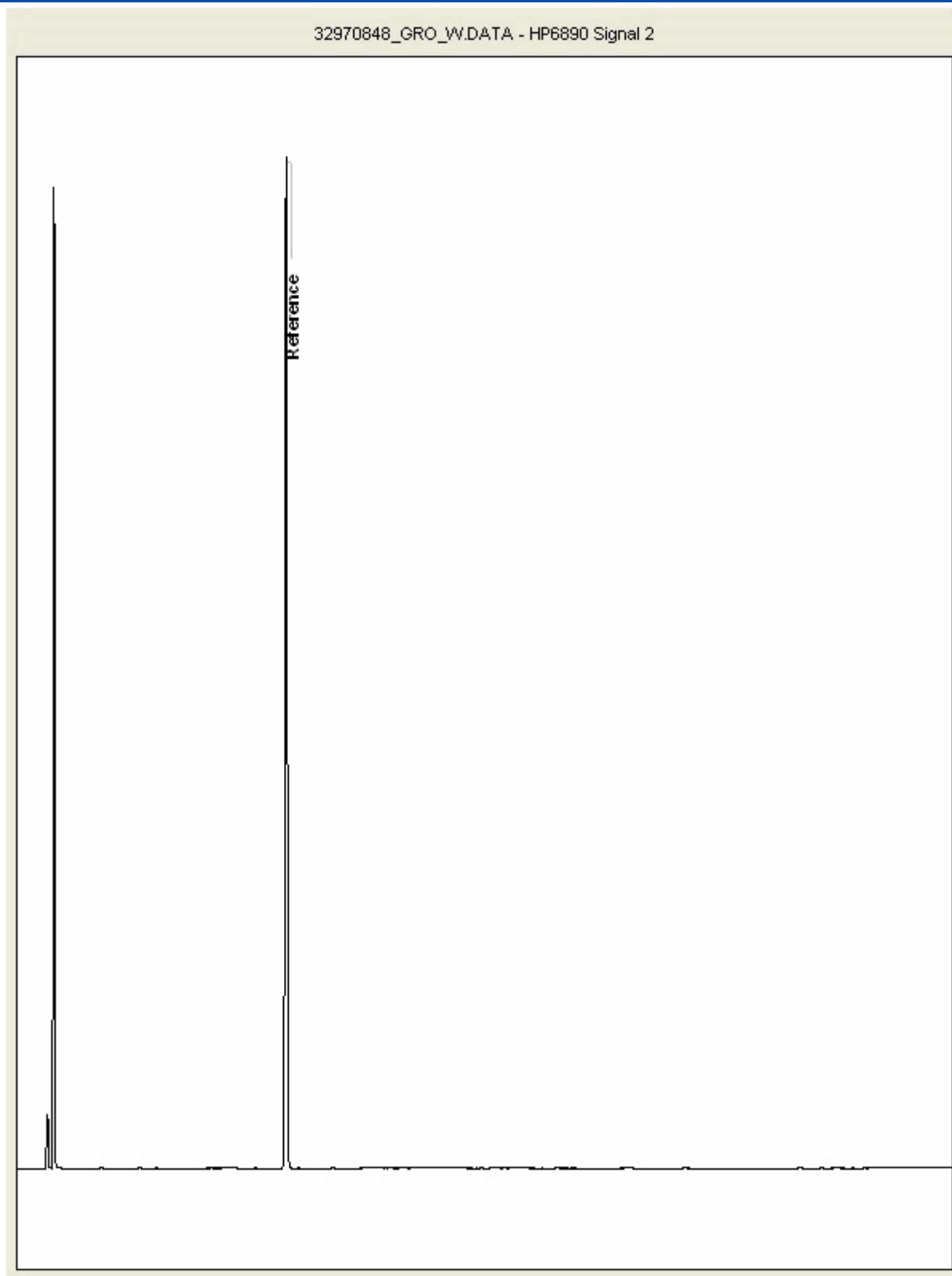
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32970848
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

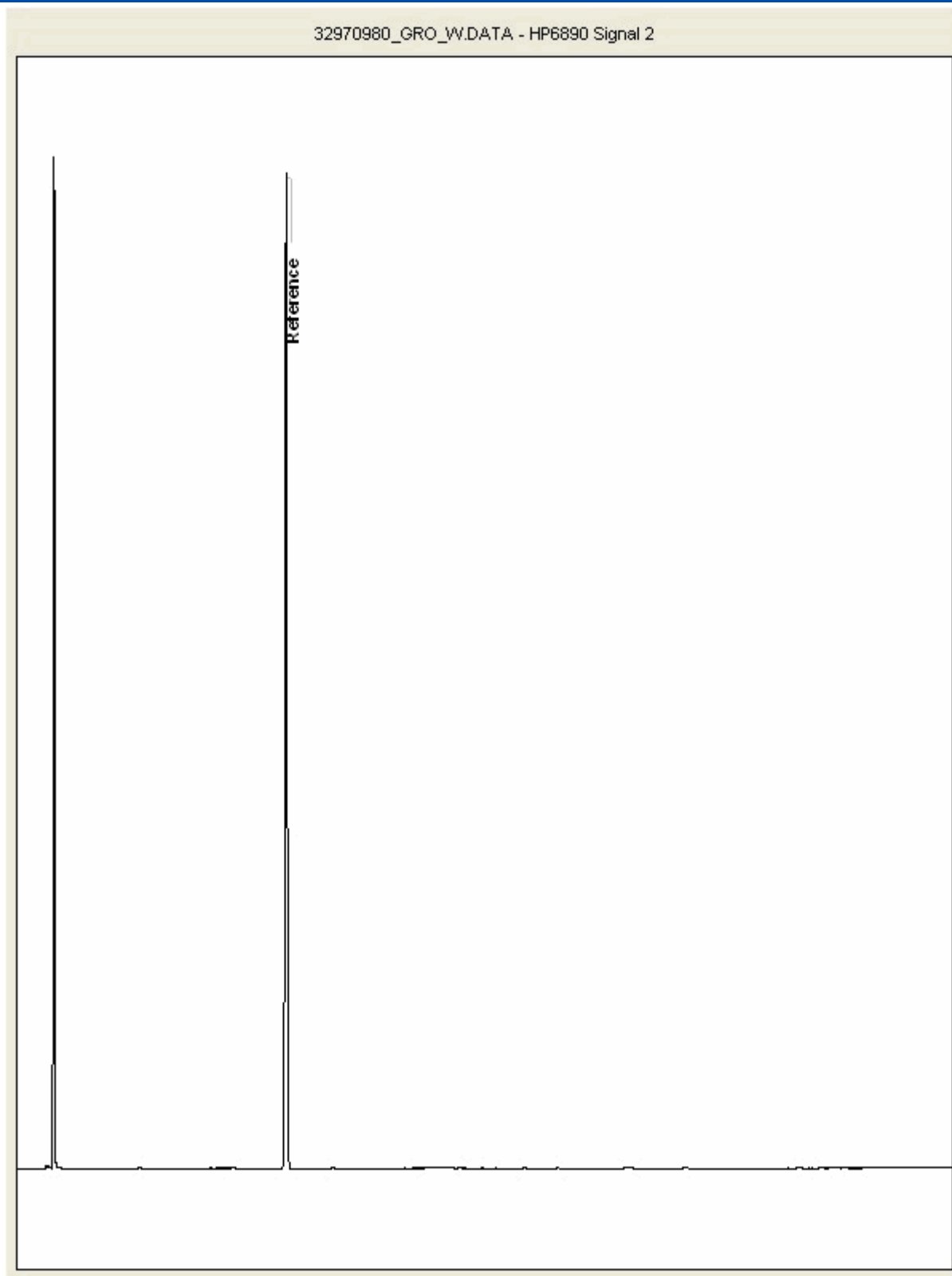
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32970980
Sample ID : BH203 (s)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

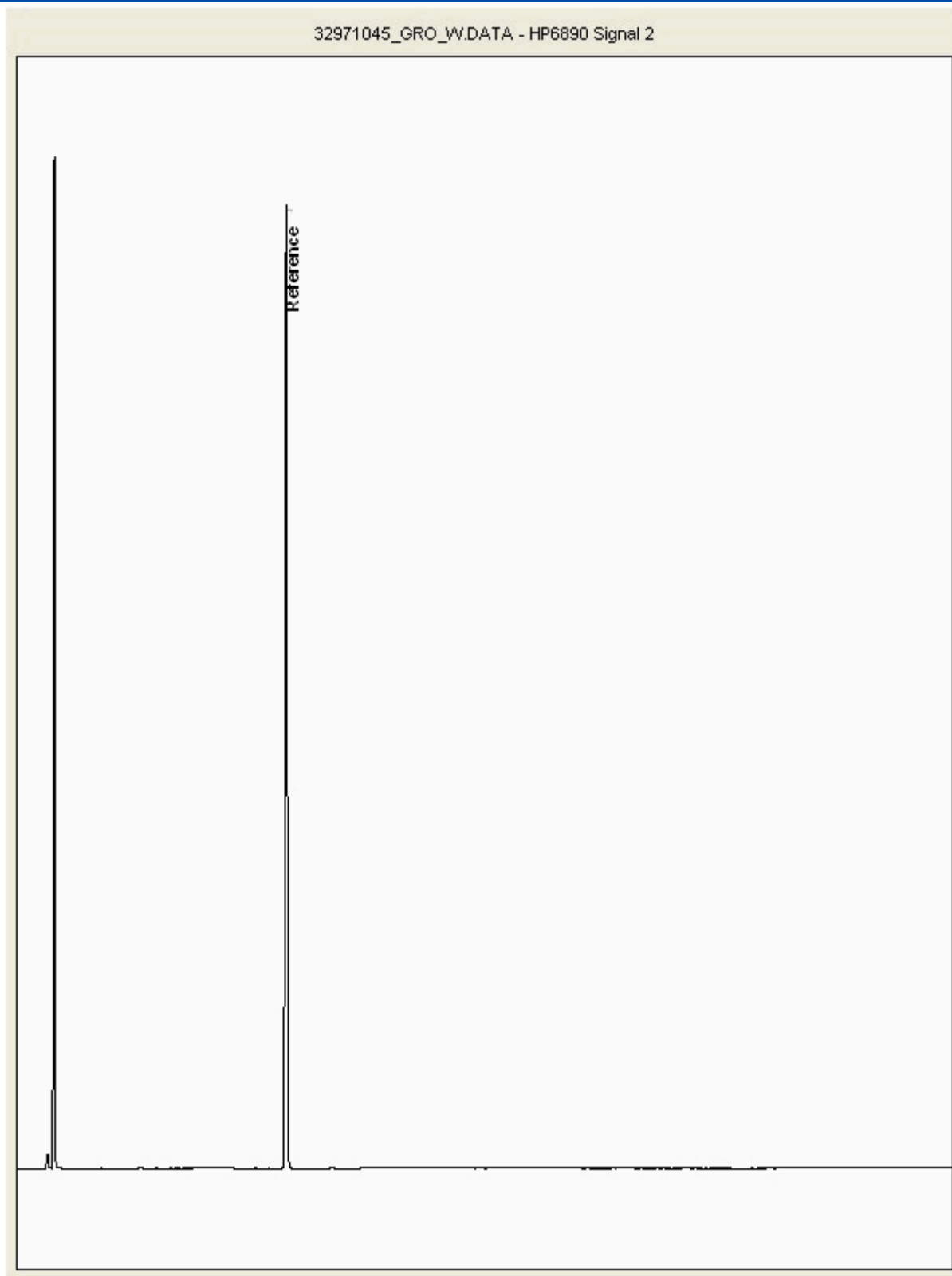
Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32971045
Sample ID : BH201

Depth : 0.00 - 0.00

32971045_GRO_W.DATA - HP6890 Signal 2





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

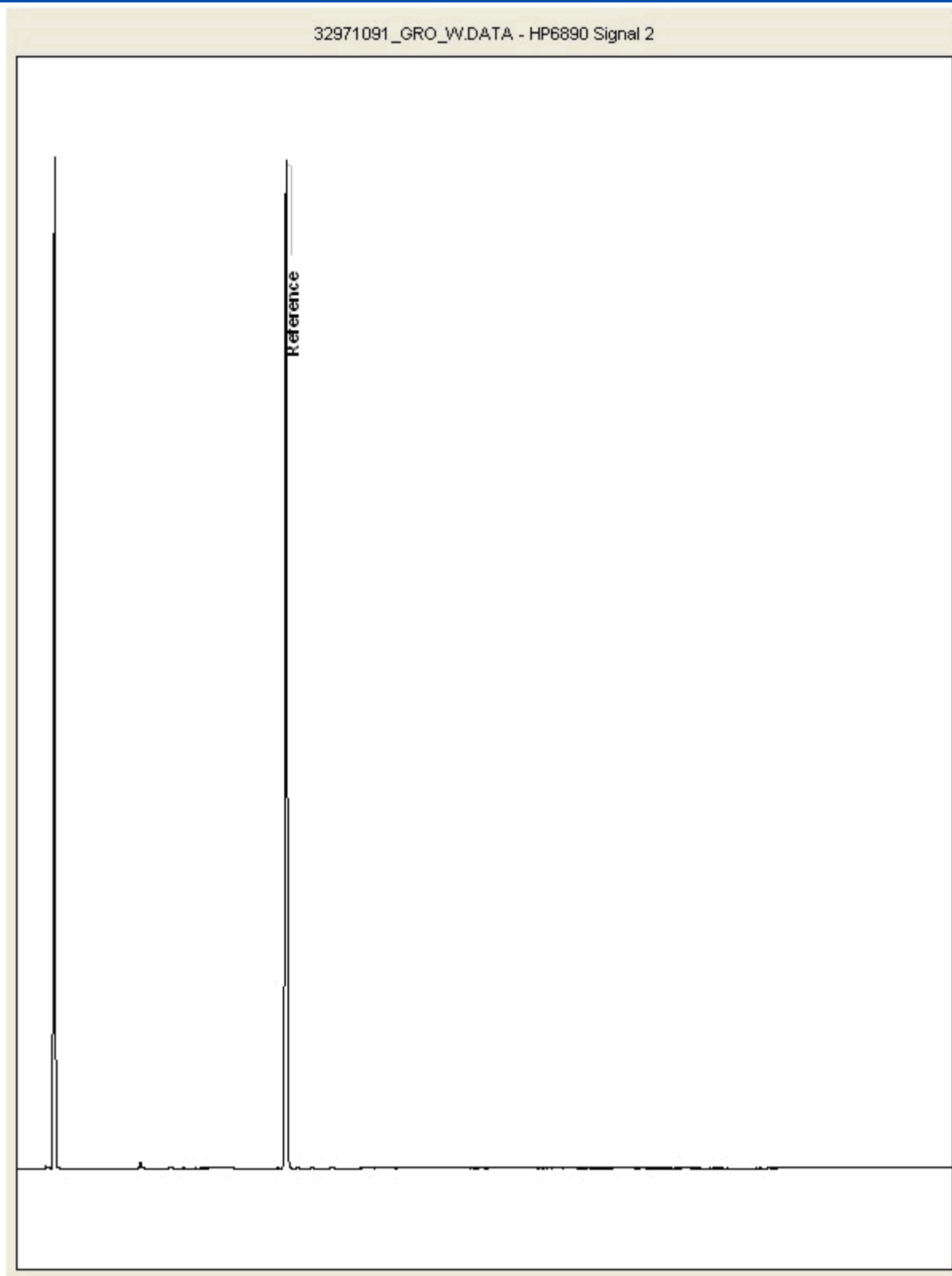
Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32971091
Sample ID : BH1

Depth : 0.00 - 0.00

32971091_GRO_W.DATA - HP6890 Signal 2





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

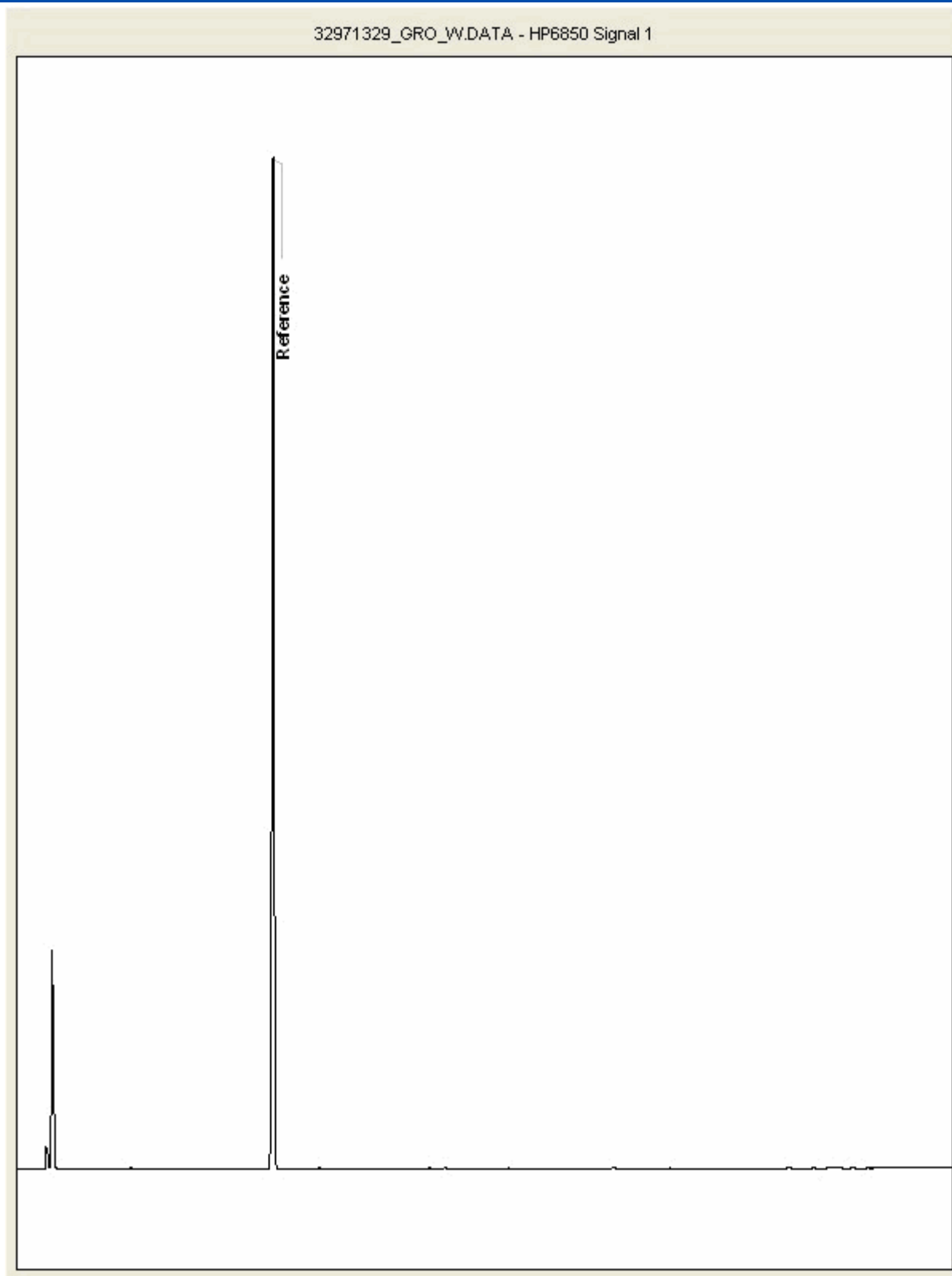
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32971329
Sample ID : BH203 (d)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260224-46
Client Ref.: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

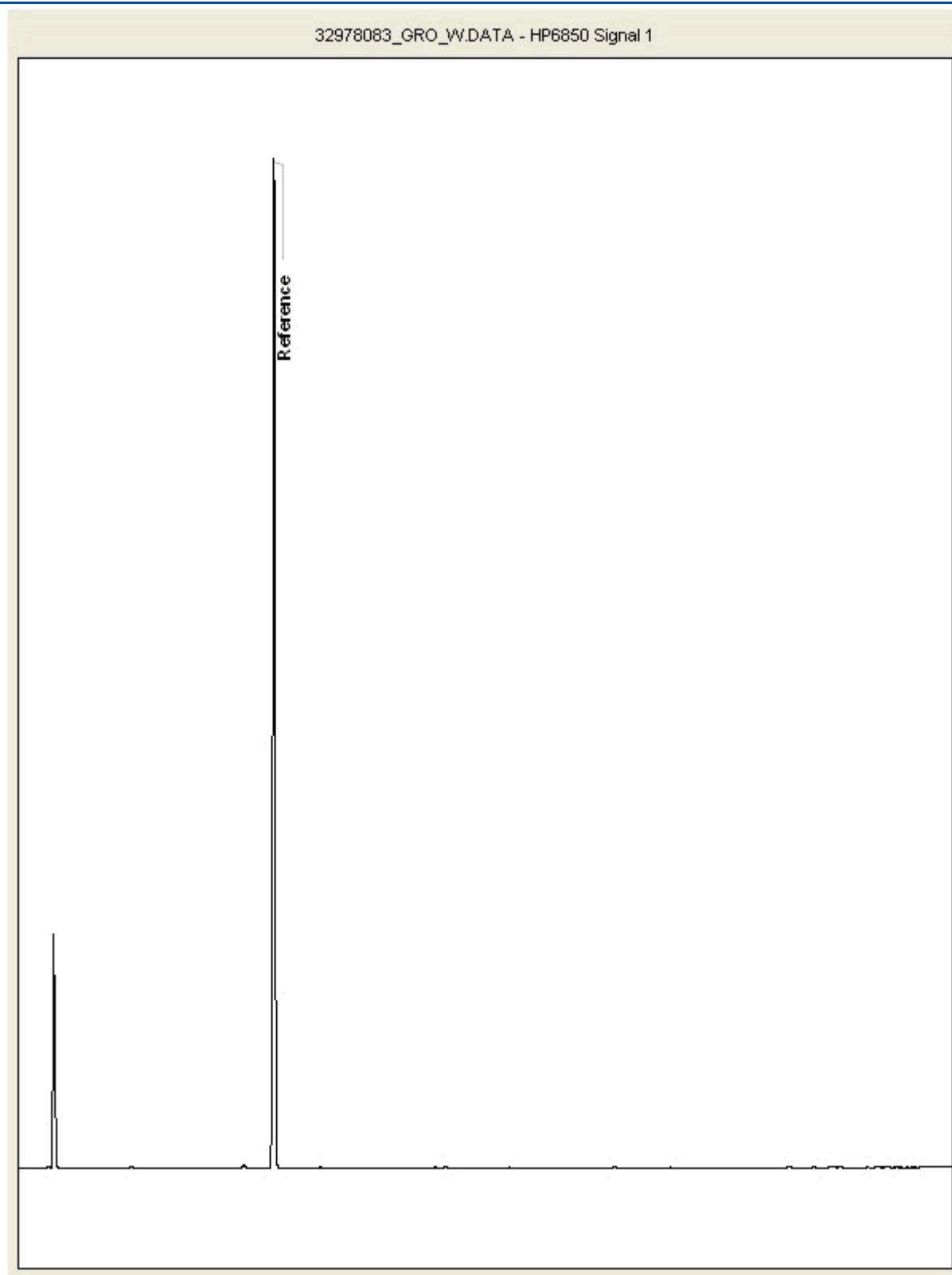
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 32978083
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG: 260224-46
Client Ref: GWPR6817

Report Number: 793766
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Appendix

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

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

If during the search of the two 'pinch' samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term 'trace asbestos identified' is reported.

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.



Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website: www.alsenvironmental.co.uk

Ground and Water Ltd
Head Office
2 The Long Barn
Norton Farm, Selborne Road
Alton
Hampshire
GU34 3NB

Attention: Natasha Kearn

CERTIFICATE OF ANALYSIS

Date of report Generation:	09 April 2026
Customer:	Ground and Water Ltd
Sample Delivery Group (SDG):	260326-82
Your Reference:	GWPR6817
Location:	220 Elgar Road South, Reading RG2 0BW
Report No:	797805
Order Number:	GWPR6817

We received 6 samples on Thursday March 26, 2026 and 6 of these samples were scheduled for analysis which was completed on Thursday April 09, 2026. 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 Laboratories (UK) Limited 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:

Justin Keeton

Business Unit Leader - Land



1291



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
33145849	BH1		0.00 - 0.00	25/03/2026
33145859	BH2		0.00 - 0.00	25/03/2026
33145869	BH201		0.00 - 0.00	25/03/2026
33145878	BH202		0.00 - 0.00	25/03/2026
33145903	BH203 (d)		0.00 - 0.00	25/03/2026
33145887	BH203 (s)		0.00 - 0.00	25/03/2026

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



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Results Legend X Test N No Determination Possible Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type
	33145878	BH202		0.00 - 0.00	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)	GW
	33145869	BH201		0.00 - 0.00	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)	GW
	33145859	BH2		0.00 - 0.00	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)	GW
	33145849	BH1		0.00 - 0.00	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)	GW
Anions by Kone (w)	All	NDPs: 0 Tests: 6				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6				
EPH and CWG by FID	All	NDPs: 0 Tests: 6				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6				
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6				
Mercury Dissolved	All	NDPs: 0 Tests: 6				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6				
pH Value	All	NDPs: 0 Tests: 6				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 6				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6				
TPH CWG (W)	All	NDPs: 0 Tests: 6				
VOC MS (W)	All	NDPs: 0 Tests: 6				

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

[illegible]

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

PAH Spec MS - Aqueous (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026	25/03/2026
diss.filt	Dissolved / filtered sample.			00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.			26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026	26/03/2026
*	Subcontracted - refer to subcontractor report for accreditation status.			260326-82	260326-82	260326-82	260326-82	260326-82	260326-82
**	% 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			33145849	33145859	33145869	33145878	33145903	33145887
***	6:2 FTAB (see appendix)								
1-4*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Chlorophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
2-Nitrophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
3-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Chloroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Methylphenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Nitroaniline (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
4-Nitrophenol (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
Azobenzene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
Acenaphthylene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
Acenaphthene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
Anthracene (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<16 #	<400 #	<8 #	<4 #	<4 #	<16 #	
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<8 #	<200 #	<4 #	<2 #	<2 #	<8 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GW)		0.00 - 0.00 Ground Water (GW)	
M	mCERTS accredited.		25/03/2026		25/03/2026		25/03/2026		25/03/2026	
aq	Aqueous / settled sample.		00:00		00:00		00:00		00:00	
diss.filt	Dissolved / filtered sample.		26/03/2026		26/03/2026		26/03/2026		26/03/2026	
tot.unfilt	Total / unfiltered sample.		260326-82		260326-82		260326-82		260326-82	
*	Subcontracted - refer to subcontractor report for accreditation status.		33145849		33145859		33145869		33145878	
**	% 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									
***	6:2 FTAB (see appendix)									
1-4*5@ Sample deviation (see appendix)										
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Carbazole (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Chrysene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Dibenzofuran (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Diethyl phthalate (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<40	#	<1000	#	<20	#	<10	#
Fluoranthene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Fluorene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Pentachlorophenol (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Phenol (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Hexachloroethane (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Nitrobenzene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Naphthalene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Isophorone (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Phenanthrene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#
Pyrene (aq)	<1 µg/l	TM176	<8	#	<200	#	<4	#	<2	#

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

TPH CWG (W)[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend		Customer Sample Ref.	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145849	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145859	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145869	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145878	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145903	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145887
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							
***	6:2 FTAB (see appendix)							
1-4+5@	Sample deviation (see appendix)							
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	105	105	105	103	101	102
Toluene-d8**	%	TM208	98.6	97.8	98.7	97.2	96.7	97.4
4-Bromofluorobenzene**	%	TM208	97.8	97.6	98.4	98.1	97.8	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	1.06	<1	<1	1.54	<1	<1
Bromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Chloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbon disulphide	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dichloromethane	<3 µg/l	TM208	<3	<3	<3	<3	<3	<3
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1 µg/l	TM208	5.95	<1	3.93	5.55	<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	1.2	<1	<1	<1	<1
1,1,1-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Carbontetrachloride	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Trichloroethene	<1 µg/l	TM208	1.34	<1	2.59	<1	<1	<1
1,2-Dichloropropane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Dibromomethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
Toluene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1 µg/l	TM208	<1	<1	<1	<1	<1	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

Results Legend			Customer Sample Ref.		BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
#	ISO17025 accredited. mCERTS accredited.									
aq	Aqueous / settled sample.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145849	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145859	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145869	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145878	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145903	0.00 - 0.00 Ground Water (GW) 25/03/2026 00:00 26/03/2026 260326-82 33145887	
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									
***	6:2 FTAB (see appendix)									
1-4*5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Tetrachloroethene	<1 µg/l	TM208	8.2 #	14.5 #	16.1 #	4.16 #	<1 #	<1 #	<1 #	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromoform	<1 µg/l	TM208	<1 #	1.03 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

Location: 220 Elgar Road South, Reading RG2 0BW

VOC MS (W)

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Table of Results - Appendix

Method No	Description
TM152	Analysis of Aqueous Samples by ICP-MS
TM176	Determination of SVOCs in Water by GCMS
TM178	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	Determination of GRO by Headspace in waters
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM439	Determination of Extractable Petroleum Hydrocarbons (EPH) CWG banding by GC-FID on liquids

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).



CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

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Superseded Report:
Location: 220 Elgar Road South, Reading RG2 0BW

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.

Depth

Type

	33145849	33145859	33145869	33145878	33145903	33145887
	BH1	BH2	BH201	BH202	BH203 (d)	BH203 (s)
	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Anions by Kone (w)	31-Mar-2026	31-Mar-2026	31-Mar-2026	30-Mar-2026	31-Mar-2026	31-Mar-2026
Cyanide Comp/Free/Total/Thiocyanate	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	02-Apr-2026	01-Apr-2026
Dissolved Metals by ICP-MS	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
EPH and CWG by FID	07-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026
GRO by GC-FID (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	31-Mar-2026	31-Mar-2026	31-Mar-2026
Hexavalent Chromium (w)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
Mercury Dissolved	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026
PAH Spec MS - Aqueous (W)	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026	01-Apr-2026
pH Value	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026	28-Mar-2026
Phenols by HPLC (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026
SVOC MS (W) - Aqueous	08-Apr-2026	09-Apr-2026	08-Apr-2026	08-Apr-2026	08-Apr-2026	08-Apr-2026
TPH CWG (W)	07-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026	01-Apr-2026	07-Apr-2026
VOC MS (W)	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026	30-Mar-2026

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

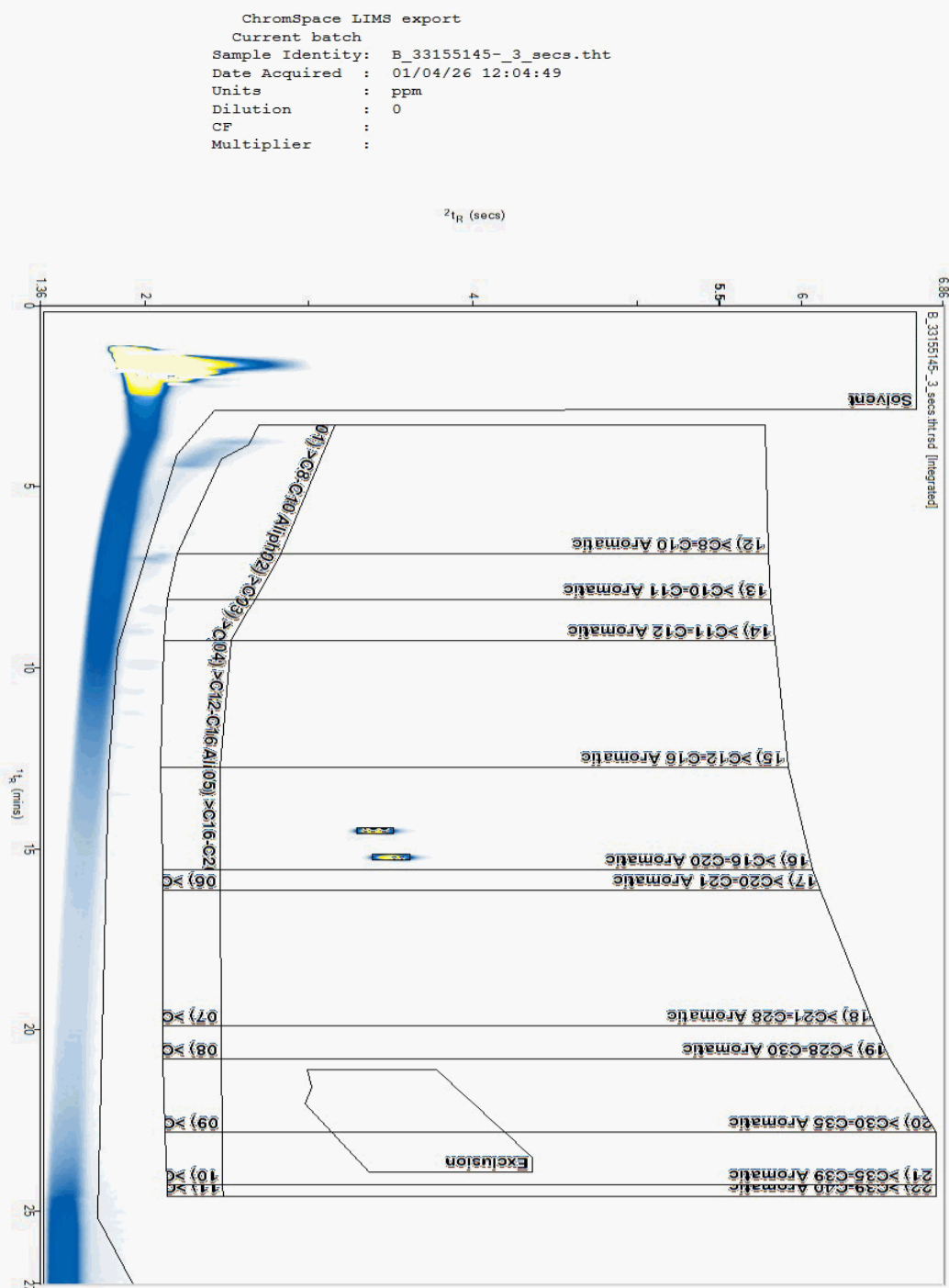
Location: 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33155145
Sample ID : BH203 (d)

Depth : 0.00 - 0.00



SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

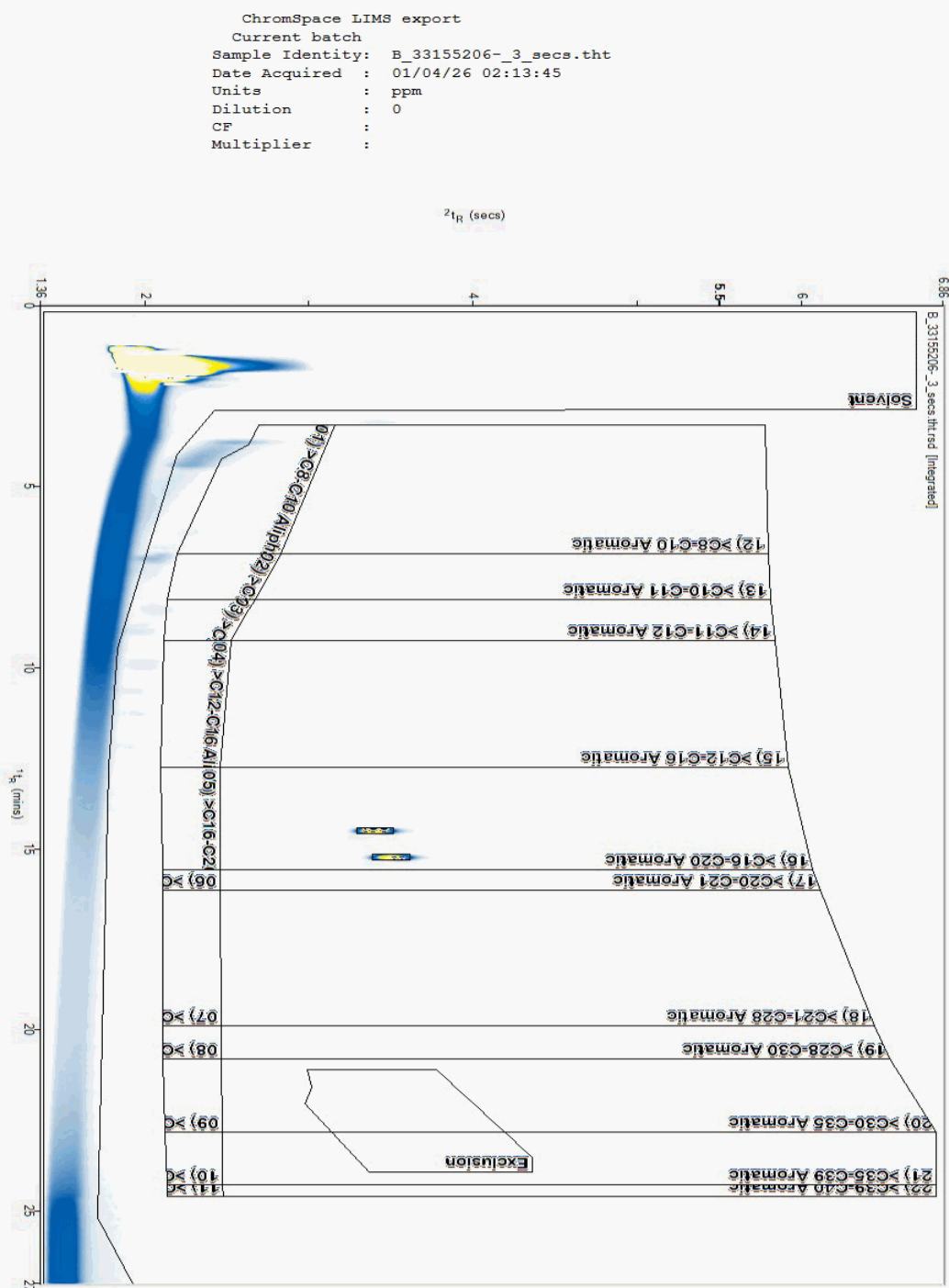
Location: 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33155206
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

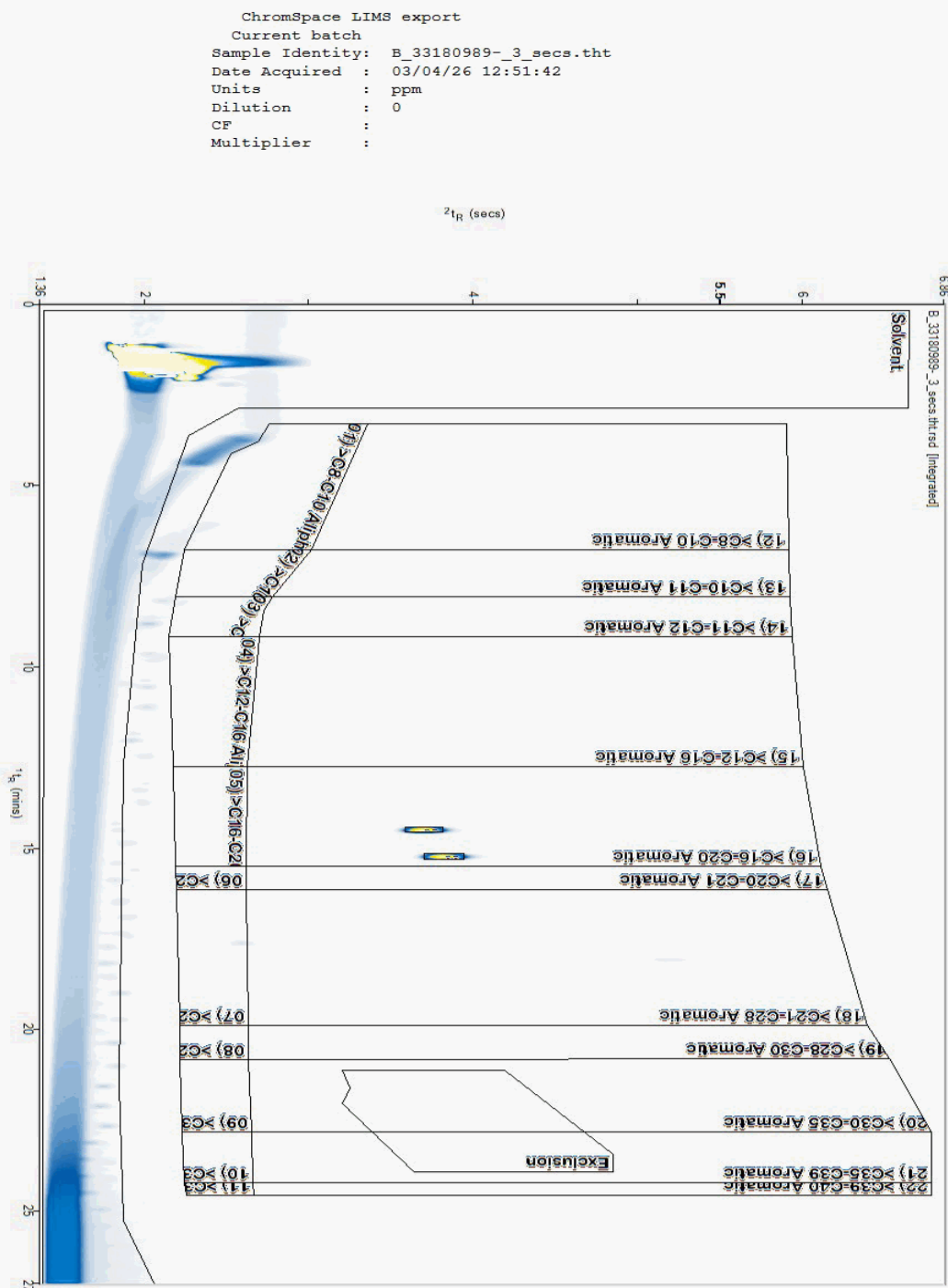
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33180989
Sample ID : BH203 (s)

Depth : 0.00 - 0.00



SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Superseded Report:

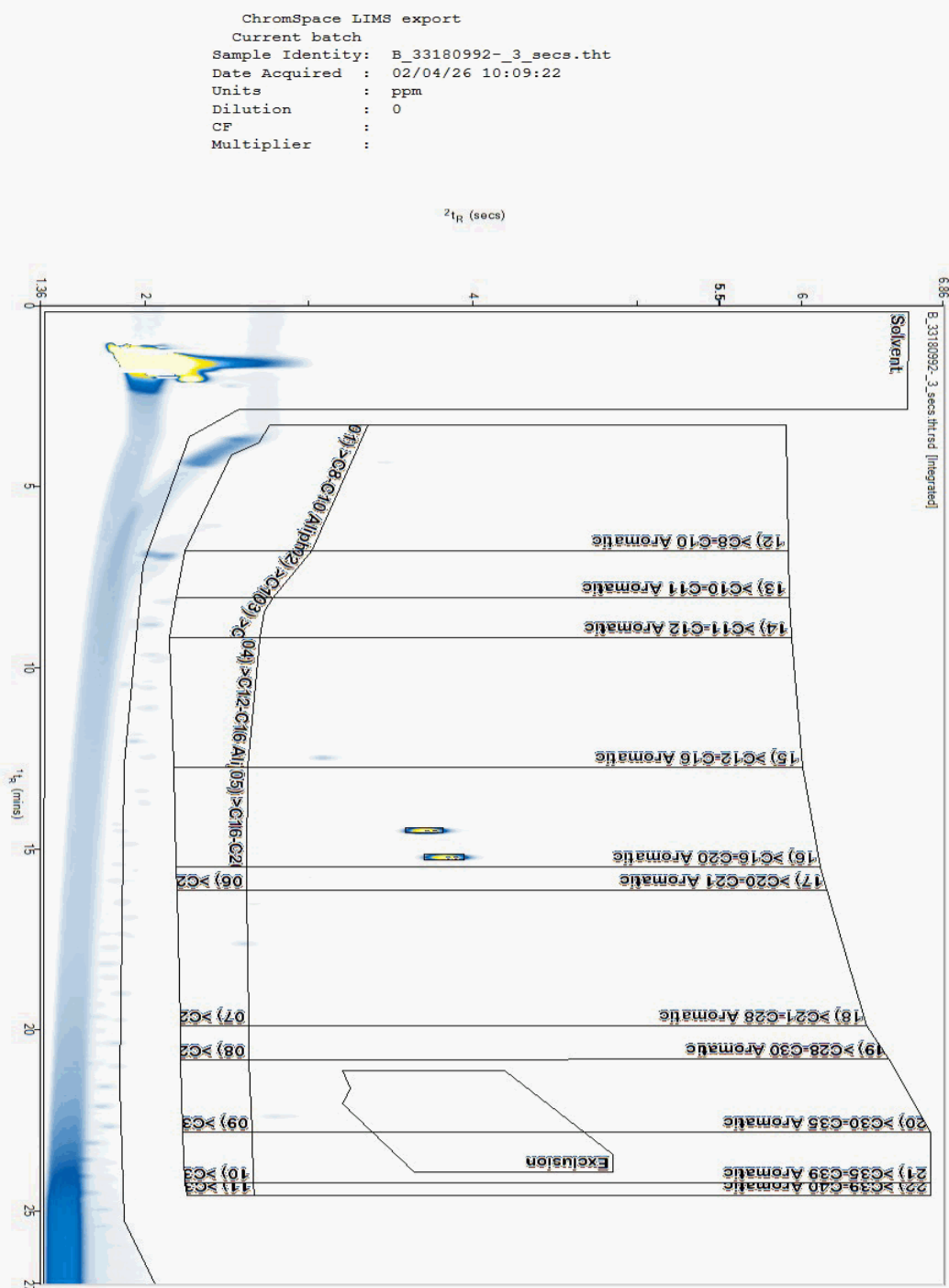
Location: 220 Elgar Road South, Reading RG2 0BW

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33180992
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

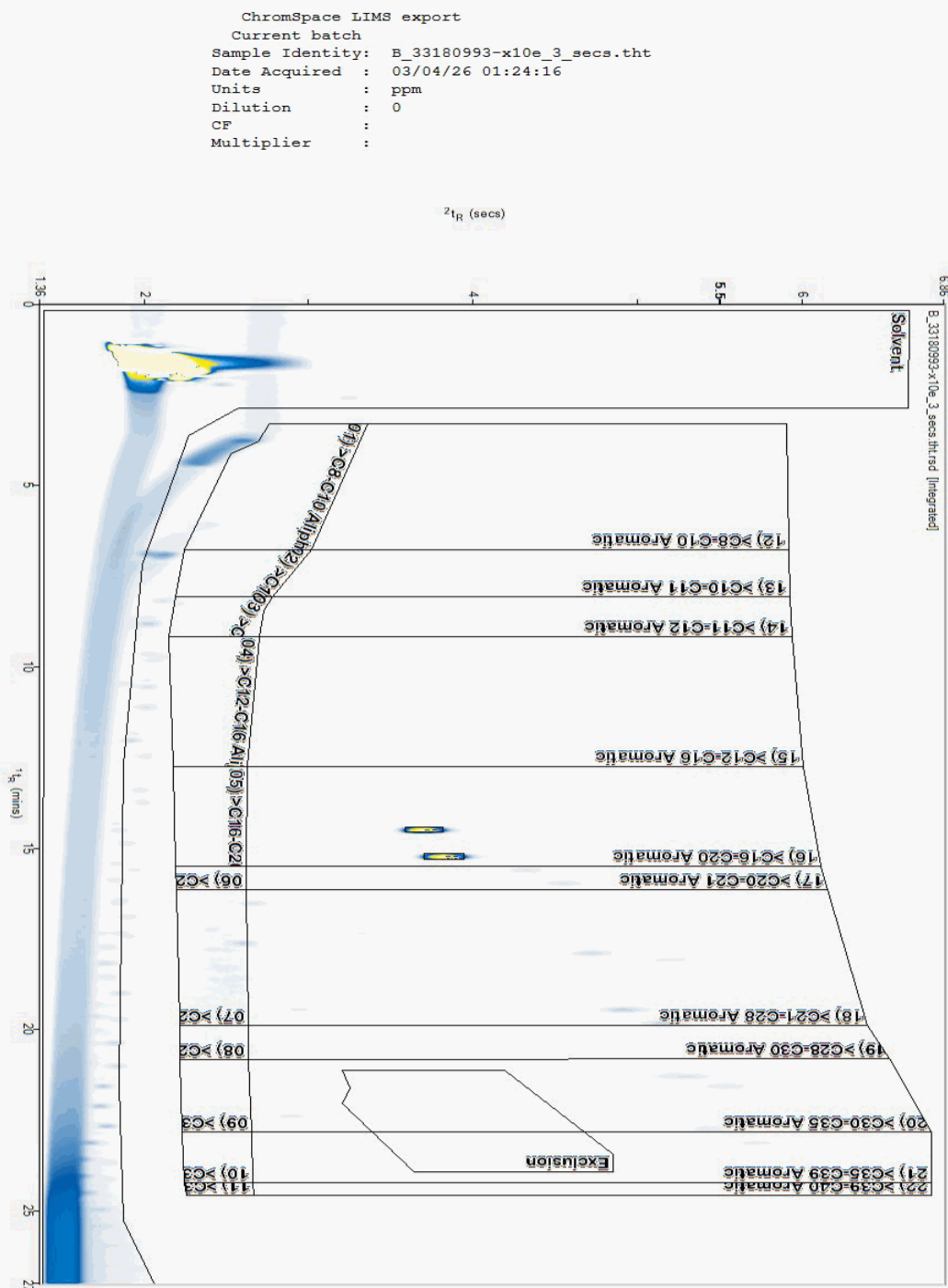
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33180993
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

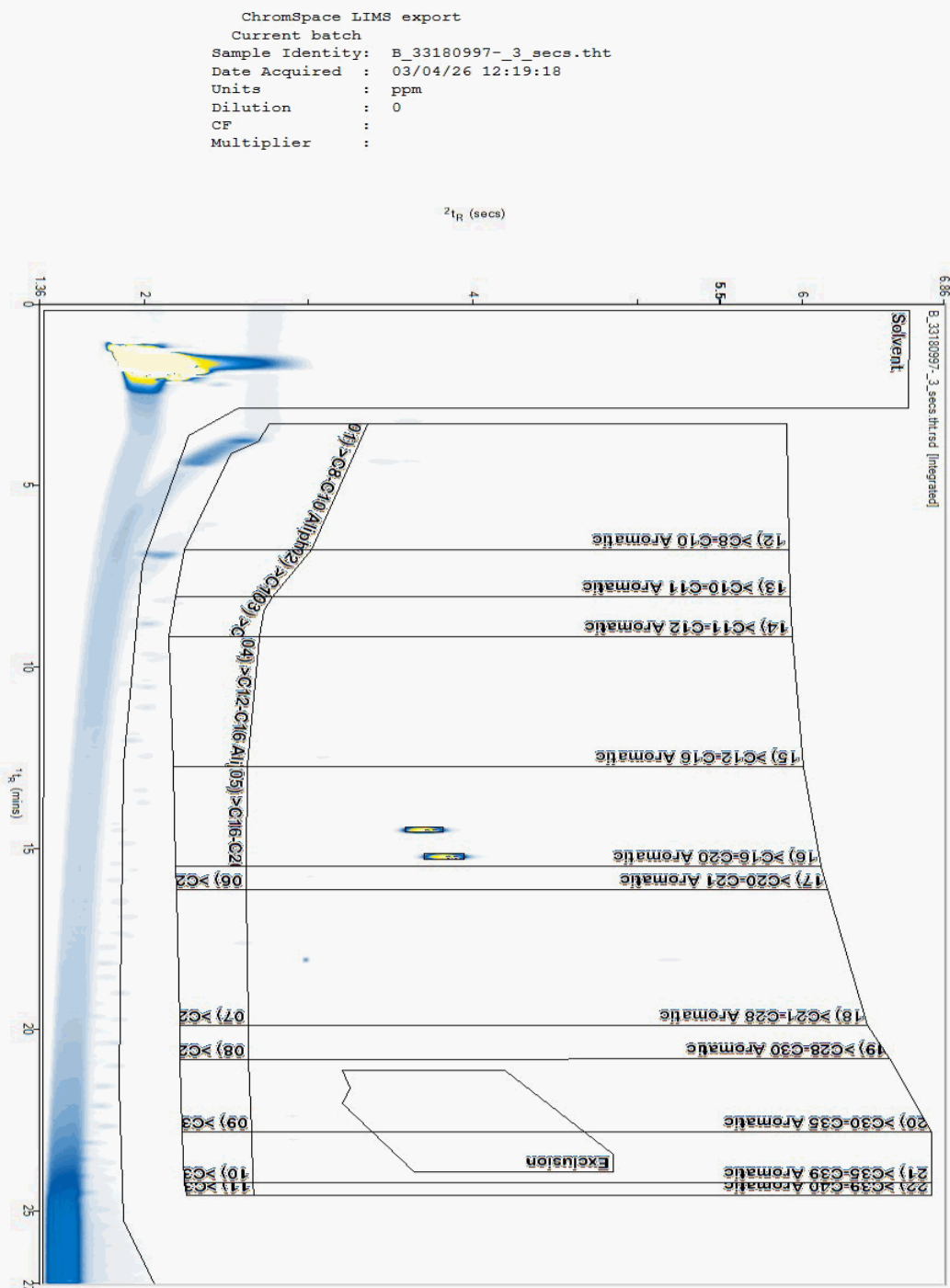
Superseded Report:

Chromatogram

Analysis: EPH and CWG by FID

Sample No : 33180997
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

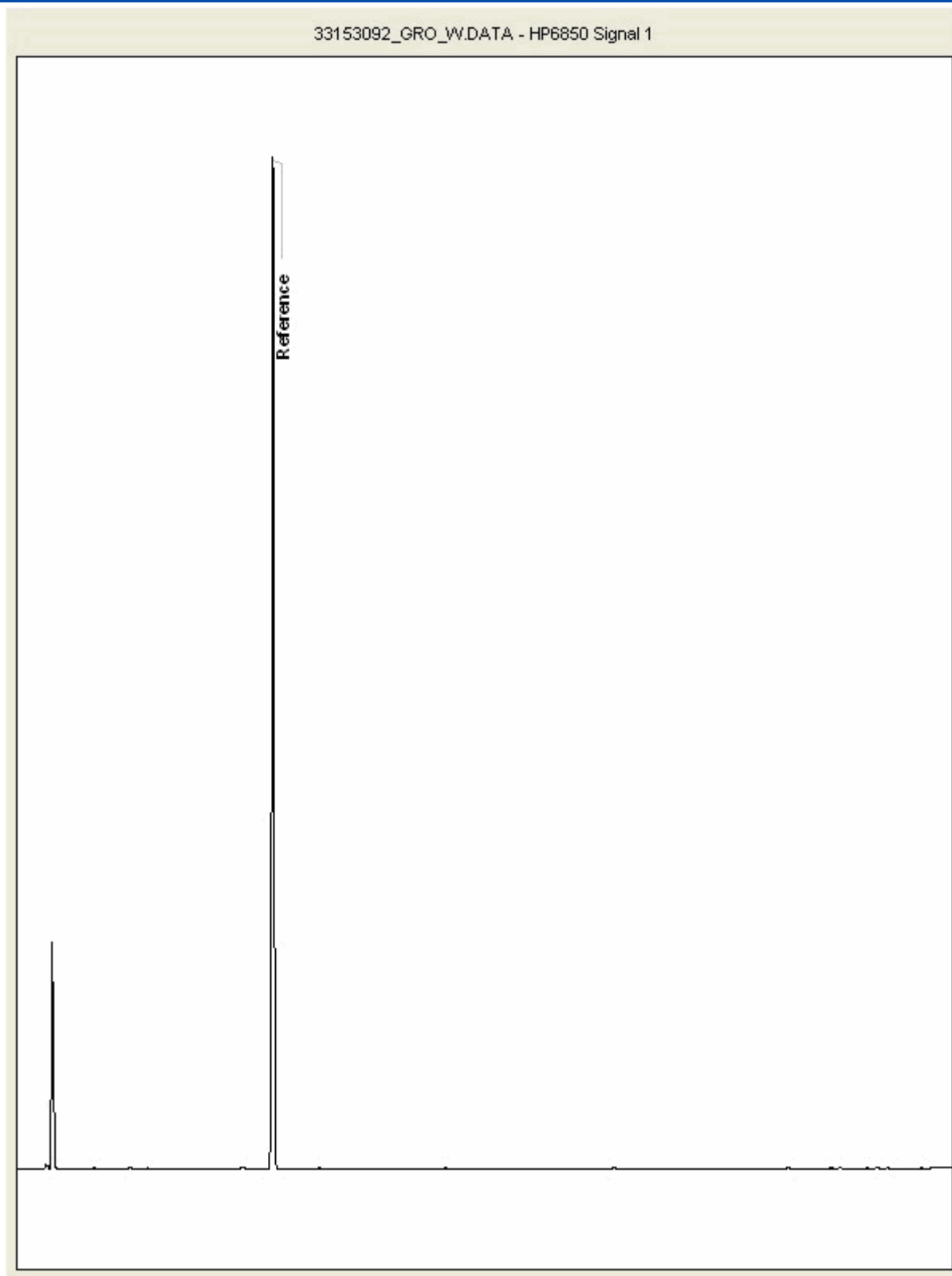
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33153092
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

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SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

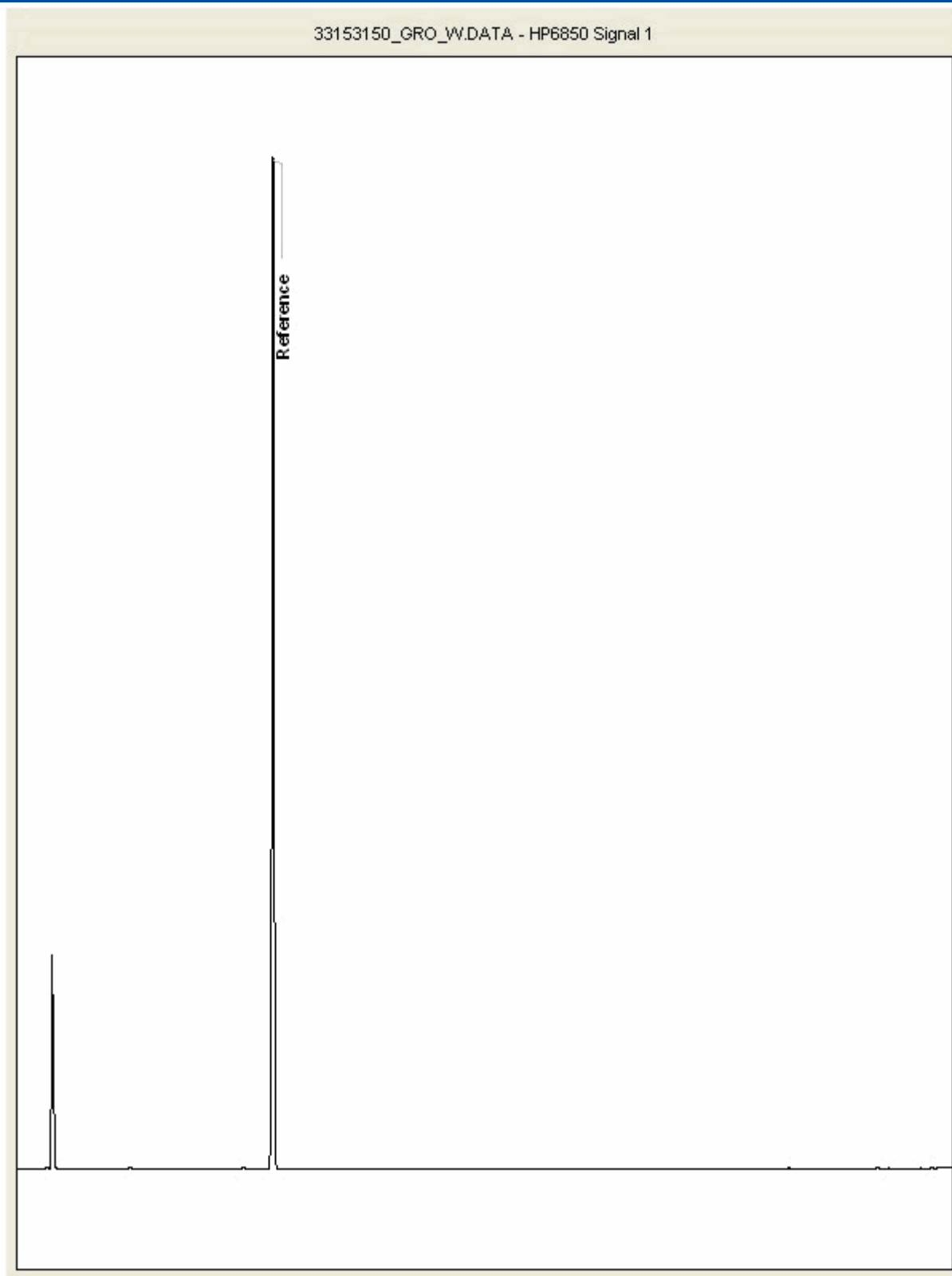
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33153150
Sample ID : BH2

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805

Location: 220 Elgar Road South, Reading RG2 0BW

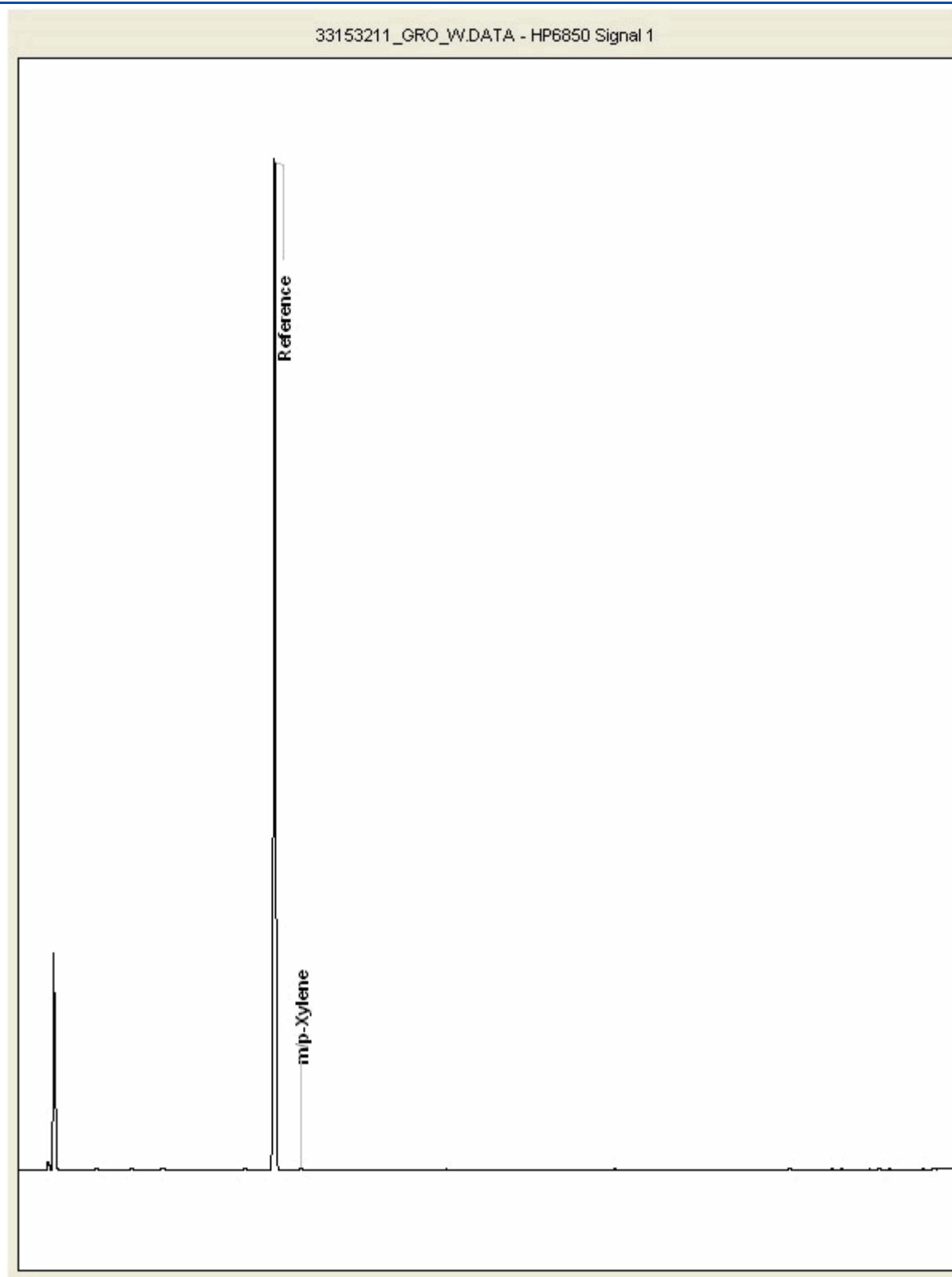
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33153211
Sample ID : BH1

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

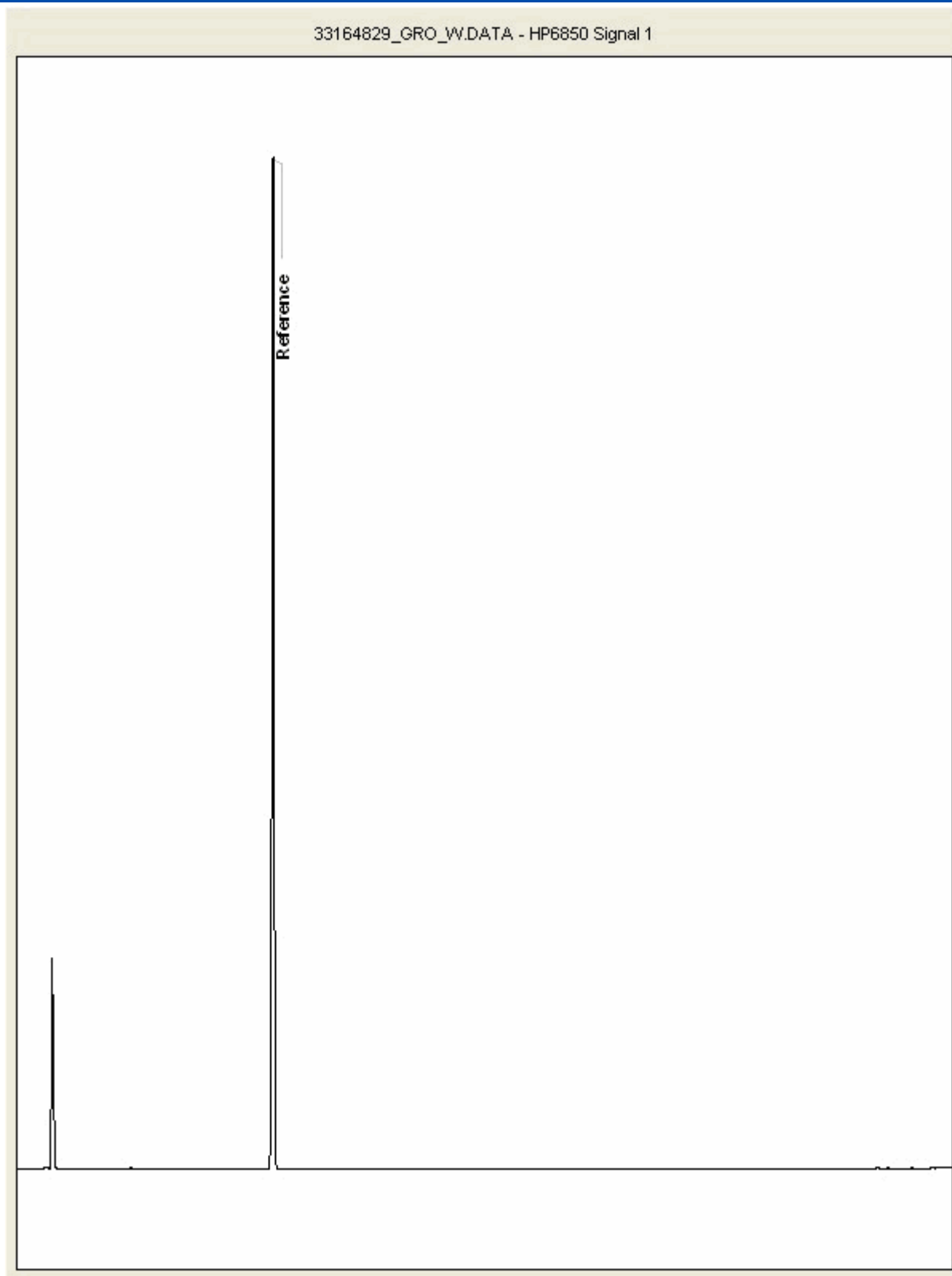
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33164829
Sample ID : BH203 (s)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

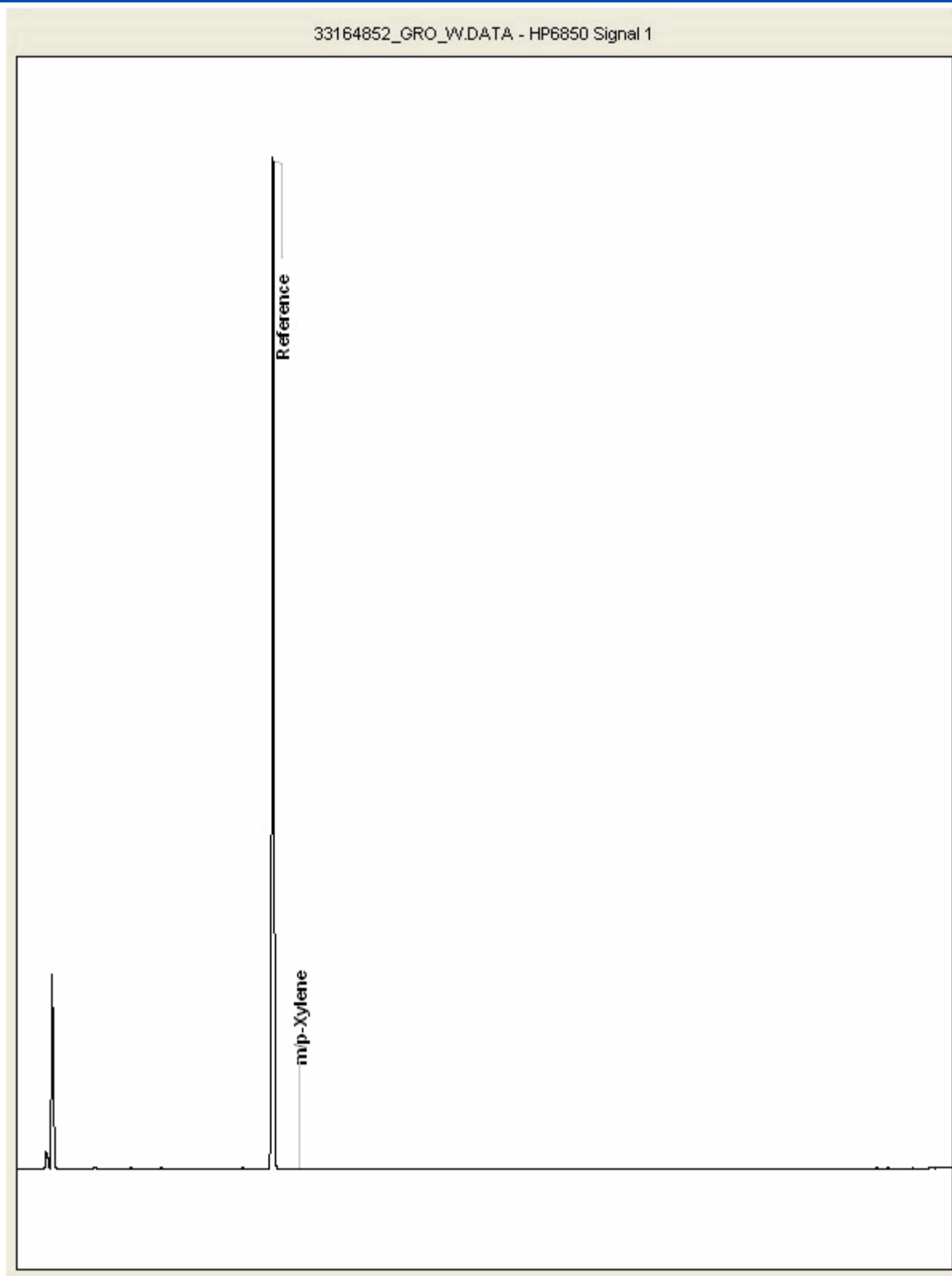
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33164852
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 260326-82
Client Ref.: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

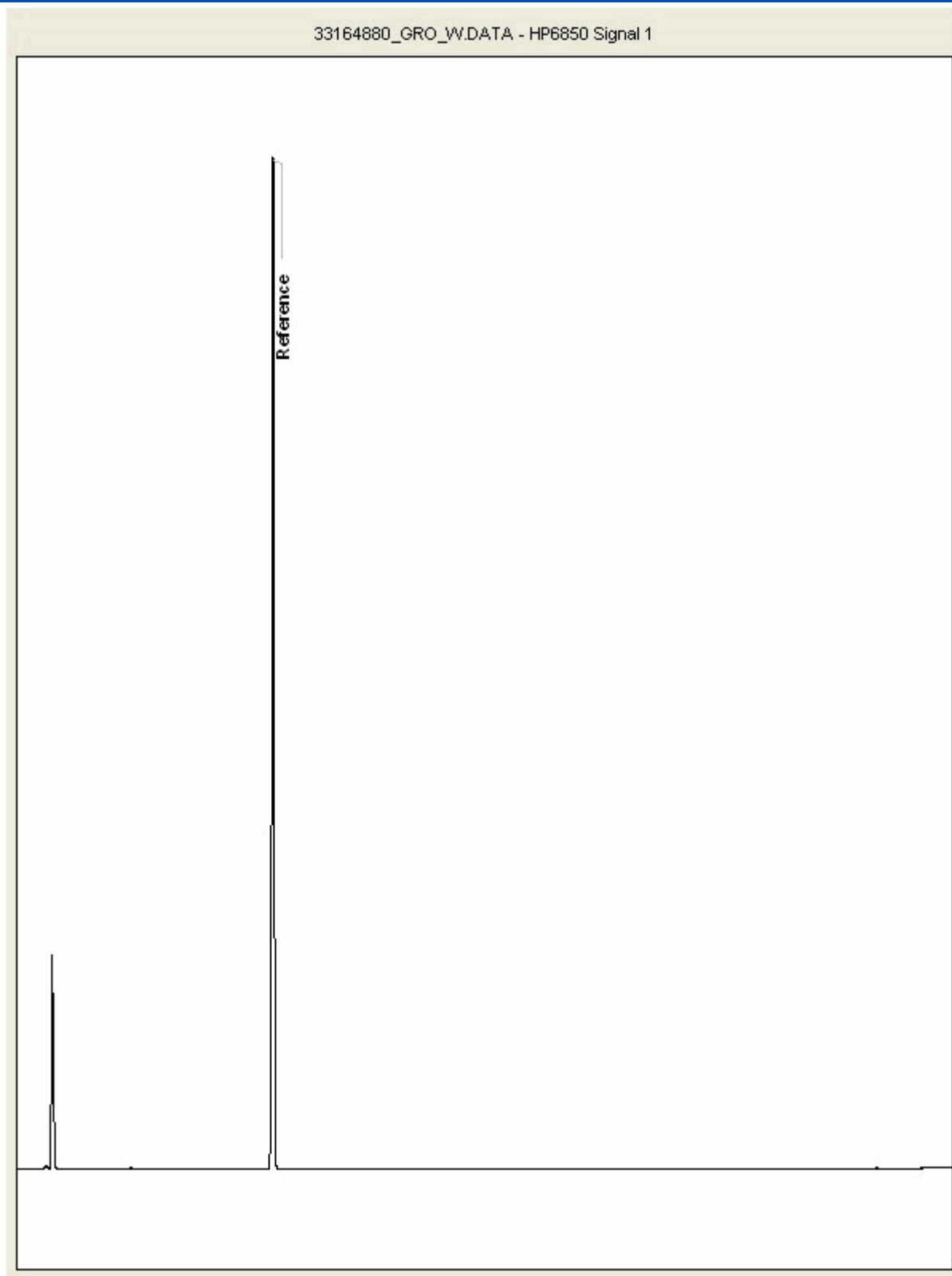
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 33164880
Sample ID : BH203 (d)

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG: 260326-82
Client Ref: GWPR6817

Report Number: 797805
Location: 220 Elgar Road South, Reading RG2 0BW

Superseded Report:

Appendix

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

2. If sufficient sample is received a sub sample will be retained free of charge for 15 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 15 days after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

7. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

General

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

19. Sample Deviations

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

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

20. Asbestos

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

If during the search of the two 'pinch' samples by PLM only 1 or 2 fibres or fibre bundles are seen and identified as asbestos, the term 'trace asbestos identified' is reported.

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

Respirable Fibres

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

Potentially respirable fibres are identified by using a Phase Contrast Microscope.

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.

21. 6:2 FTAB

Recovery of 6:2 FTAB in the quality control samples has been observed to be <50% of the target value. Please note the 6:2 FTAB result is supplied as indicative only.

Ground and Water Ltd
2 The Long Barn
Norton Farm
Selbourne Road
Alton
Hampshire
GU34 3NB

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t:
e: natasha.kearl@groundandwater.co.uk

t: 01923 225404
f: 01923 237404
e: info-i2analytical@normecgroup.com

Analytical Report Number : 26-051974

Project / Site name:	220 Elgar Road South Reading RG2 0BW	Samples received on:	21/09/2026
Your job number:	GWPR7110	Samples instructed on/ Analysis started on:	21/09/2026
Your order number:	GWPR7110	Analysis completed by:	29/09/2026
Report Issue Number:	1	Report issued on:	29/09/2026
Samples Analysed:	12 soil samples		

Gabriela Slupik

Signed:

Gabriela Slupik
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41-711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting
air	- once the analysis is complete

Excel copies of reports are only valid when accompanied by this PDF certificate.

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055806	1055807	1055808	1055809	1055810
Sample Reference	WS303	WS303	WS304	WS304	WS305
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled	17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	17	26	17	21	18
Total mass of sample received	kg	0.1	NONE	1.4	1.1	1.2	1.1	1.2

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number				1055806	1055807	1055808	1055809	1055810
Sample Reference				WS303	WS303	WS304	WS304	WS305
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055806	1055807	1055808	1055809	1055810
Sample Reference	WS303	WS303	WS304	WS304	WS305
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	5.00-5.50	5.50-6.00	4.60-4.90	4.90-5.30	4.30-4.50
Date Sampled	17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	0.8	< 0.3	< 0.3	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055811	1055812	1055813	1055814	1055815
Sample Reference	WS305	WS306	WS306	WS302	WS302
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled	17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	25	15	23	19	23
Total mass of sample received	kg	0.1	NONE	1.1	1.4	1.2	1	1.1

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0	< 7.0	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number				1055811	1055812	1055813	1055814	1055815
Sample Reference				WS305	WS306	WS306	WS302	WS302
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled				17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0	< 6.0	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055811	1055812	1055813	1055814	1055815
Sample Reference	WS305	WS306	WS306	WS302	WS302
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix	N/A	N/A	N/A	N/A	N/A
Depth (m)	4.60-6.00	4.70-4.90	4.90-5.10	4.00-4.70	4.90-6.00
Date Sampled	17/09/2026	17/09/2026	17/09/2026	17/09/2026	17/09/2026
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055816			1055817	
Sample Reference	WS301			WS301	
Sample Number	None Supplied			None Supplied	
Water Matrix	N/A			N/A	
Depth (m)	4.00-4.50			4.50-5.00	
Date Sampled	18/09/2026			18/09/2026	
Time Taken	None Supplied			None Supplied	
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		

Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	27
Total mass of sample received	kg	0.1	NONE	1.1	1

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80
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VOCs

Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number				1055816	1055817
Sample Reference				WS301	WS301
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				4.00-4.50	4.50-5.00
Date Sampled				18/09/2026	18/09/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status		
Toluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	< 8.0
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0

Analytical Report Number: 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Your Order No: GWPR7110

Lab Sample Number	1055816	1055817
Sample Reference	WS301	WS301
Sample Number	None Supplied	None Supplied
Water Matrix	N/A	N/A
Depth (m)	4.00-4.50	4.50-5.00
Date Sampled	18/09/2026	18/09/2026
Time Taken	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection
	Test Accreditation Status	

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	< 0.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

Analytical Report Number : 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1055806	WS303	None Supplied	5.00-5.50	Brown sandy clay with gravel
1055807	WS303	None Supplied	5.50-6.00	Beige clay and sand with gravel and chalk
1055808	WS304	None Supplied	4.60-4.90	Brown sandy clay with gravel
1055809	WS304	None Supplied	4.90-5.30	Beige clay and sand with gravel and chalk
1055810	WS305	None Supplied	4.30-4.50	Brown sandy clay with gravel
1055811	WS305	None Supplied	4.60-6.00	Beige clay and sand with concrete and chalk
1055812	WS306	None Supplied	4.70-4.90	Brown clay and sand with gravel
1055813	WS306	None Supplied	4.90-5.10	Beige clay and sand with gravel and chalk
1055814	WS302	None Supplied	4.00-4.70	Brown clay and loam with gravel and vegetation
1055815	WS302	None Supplied	4.90-6.00	Beige clay and sand with gravel and chalk
1055816	WS301	None Supplied	4.00-4.50	Brown clay and sand with gravel
1055817	WS301	None Supplied	4.50-5.00	Beige clay and sand with gravel and chalk

Analytical Report Number : 26-051974

Project / Site name: 220 Elgar Road South Reading RG2 0BW

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)

Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight	In-house method based on British Standard Methods and MCERTS requirements.	L019B	D	NONE
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

For method numbers ending in 'UK' or 'A' analysis have been carried out in our laboratory in the United Kingdom (Watford).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL' or 'B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Where coal tar is reported as "indicative/not indicative", PAH source attribution has been assessed using the ratio of parent PAHs to alkylated PAHs to indicate a likely pyrogenic (coal tar-related) or petrogenic (bitumen-related) origin. This assessment is independent of total residue and/or benzo(a)pyrene concentrations and is provided for indicative purposes only; it represents a single line of evidence and does not, in isolation, constitute confirmation or classification as hazardous under WM3 guidance.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.

The result for sum should be interpreted with caution

APPENDIX G: Soil Assessment Criteria

Ground and Water Limited

Soil Guideline Values and Generic Assessment Criteria

The Contaminated Land Regime reflects the UK Government's stated objectives of achieving sustainable development through the 'suitable for use approach'. At preliminary risk assessment stage, risks are evaluated qualitatively. As the site investigation progresses to a generic or detailed quantitative risk assessment, data is collected and assessment criteria are utilised to evaluate whether the contaminants represent an unacceptable risk to the identified receptors.

1. Contaminated Land Exposure Assessment Model (CLEA)

Current United Kingdom risk assessment practice is based on the Contaminated Land Exposure Assessment Model (CLEA).

The CLEA Guidance comprises the following documents:

- 1) EA Science Report SC050021/SR2: Human health toxicological assessment of contaminants in soil.
- 2) EA Science Report SC050021/SR3: Updated technical background to the CLEA model.
- 3) EA CLEA Bulletin (2009).
- 4) CLEA software version 1.07 (2015)
- 5) Toxicological reports and SGV technical notes.

The CLEA guidance and tools:

- Do not cover other types of risk to humans, such as fire, suffocation or explosion, or short-term and acute exposures;
- Do not cover risks to the environment, such as groundwater, ecosystems or buildings;
- Do not provide a definitive test for telling when human health risks are significant; and
- Are not a legal requirement in assessing land contamination risks. They are not part of the legal regime for Part 2A of the Environmental Protection Act 1990.

The CLEA guidance derives soil concentrations of contaminants above which (in the opinion of the EA) there may be a concern that warrants further investigation. It does not provide a definitive test for establishing that the risk is significant.

1.1. Land-use Scenarios

The CLEA model uses a range of standard land-use scenarios to develop conceptual exposure models outlined in the following sections.

1.1.1. Residential (with home grown produce) (RwHP)

Generic scenario assumes a typical two-storey house built on a ground bearing slab with a private garden having a lawn, flowerbeds and a small fruit and vegetable patch.

- Critical receptor is a young female child (zero to six years old)
- Exposure duration is six years.
- Exposure pathways include direct soil and indoor dust ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and indoor dust and inhalation of indoor and outdoor dust and vapours.
- Building type is a two-storey small-terraced house.

A sub-set of this land-use is residential apartments with communal landscaped gardens where the consumption of home grown vegetables will not occur. (Residential without homegrown produce (RwoHP)).

1.1.2. Allotments

Provision of open space (about 250sq.m) commonly made available to tenants by the local authority to grow fruit and vegetable for their own consumption. Typically, there are a number of plots to a site which may have a total area of up to 1 hectare. The tenants are assumed to be adults and that young children make occasional accompanied visits.

Although some allotment holders may choose to keep animals including rabbits, hens, and ducks, potential exposure to contaminated meat and eggs is not considered.

- Critical receptor is a young female child (zero to six years old)
- Exposure duration is six years.
- Exposure pathways include direct soil ingestion, consumption of homegrown produce and any adhering soil, skin contact with soils and inhalation of outdoor dust and vapours.
- There is no building.

1.1.3. Commercial/Industrial

The generic scenario assumes a typical commercial or light industrial property comprising a three-storey building at which employees spend most time indoors and are involved in office-based or relatively light physical work.

- Critical receptor is a working female adult (aged 16 to 65 years old).
- Exposure duration is a working lifetime of 49 years.
- Exposure pathways include direct soil and indoor dust ingestion, skin contact with soils and dusts and inhalation of dust and vapours.
- Building type is a three-storey office (pre 1970).

2. LQM/CIEH Suitable 4 Use Levels (S4UL)

For derivation of these S4UL reference must be made to:

Nathanial, P., McCaffrey, C., Gillet, A., Ogden, R., Nathanial, J., *The LQM/CIEH S4UL's for Human Health Risk Assessment*. Land Quality Press. 2015

2.1. S4UL Background

The Land Quality Management/Chartered Institute of Environmental Health (LQM/CIEH) S4UL for a given land use is the concentration of the contaminant in soil at which the predicted daily exposure,

as calculated by the CLEA software, equals the Health Criteria Value. The S4ULs have been derived for substances based on various generic land use and soil organic matter contents.

The final output for each contaminant represents a synthesis of new toxicological (and fate and transport) reviews published since the preparation of the 2nd edition LQM/CIEH GAC's (Nathanial et al., 2009).

In the derivation of LQM/CIEH S4UL's the principles of 'minimal' or 'tolerable' risk enshrined in SR2, which has not been withdrawn, has been maintained.

2.2. S4UL Land-use

S4UL's have been derived for the basic CLEA land-uses, as described in section 1.2, and for two new land uses:

- Public Open Spaces near Residential Housing (POSresi).
- Public Park (POSpark).

2.2.1. Public Open Spaces near Residential Housing (POSresi)

Includes the predominantly grassed areas adjacent to high density housing, the central green area on many 1930's – 1970's housing estates, and smaller areas commonly incorporated in newer developments as informal grassed areas or more formal landscaped areas with a mixture of open space and covered soils with planting. It is assumed that the close proximity to the place of residence will allow tracking back of soil to occur.

2.2.2. Public Park (POSpark)

An area of open space, usually owned and maintained by the local authority, provided for recreational uses including family visits and picnics, children's play area, informal sporting activities (not a dedicated sports pitch), and dog walking. It is assumed that tracking back of soils into places of residence will be negligible.

The following LQM/CIEH S4ULs (Copyright Land Quality Management Limited) have been reproduced with permission, to the publication number S4UL3072.

3. Category 4 Screening Levels (C4SLs)

In the case of Lead, no SGV or GAC has been published to date. This is likely to be due to the toxicity review that is currently being undertaken by the Environment Agency. In the absence of updated toxicity information the SGV derived using CLEA 1.07 methodology and related toxicity will be used.

The overall objective of the C4SLs research project was to assist the provision of technical guidance in support of Defra's revised Statutory Guidance (SG) for Part 2A of the Environmental Protection Act 1990 (Part 2A) (Defra, 2012a). Specifically, the project aimed to deliver:

- A methodology for deriving C4SLs for four generic land-uses comprising residential, commercial, allotments and public open space; and
- A demonstration of the methodology, via the derivation of C4SLs for six substances – arsenic, benzene, benzo(a)pyrene, cadmium, chromium (VI) and lead.

To help achieve a more targeted approach to identifying and managing contaminated land in relation to the risk (or possibility) of harm to human health, the revised SG presented a new four category

system for considering land under Part 2A, ranging from Category 4, where there is no risk that land poses a significant possibility of significant harm (SPOSH), or the level of risk is low, to Category 1, where the risk that land poses a significant possibility of significant harm (SPOSH) is unacceptably high. More specific guidance on what type of land should be considered as Category 4 (Human Health) is provided in Paragraphs 4.21 and 4.22 of the revised SG, as follows:

“4.21 The local authority should consider that the following types of land should be placed into Category 4: Human Health:

(a) Land where no relevant contaminant linkage has been established.

(b) Land where there are only normal levels of contaminants in soil, as explained in Section 3 of this Guidance.

(c) Land that has been excluded from the need for further inspection and assessment because contaminant levels do not exceed relevant generic assessment criteria in accordance with Section 3 of this Guidance, or relevant technical tools or advice that may be developed in accordance with paragraph 3.30 of this Guidance.

(d) Land where estimated levels of exposure to contaminants in soil are likely to form only a small proportion of what a receptor might be exposed to anyway through other sources of environmental exposure (e.g. in relation to average estimated national levels of exposure to substances commonly found in the environment, to which receptors are likely to be exposed in the normal course of their lives).

4.22 The local authority may consider that land other than the types described in paragraph 4.21 should be placed into Category 4: Human Health if following a detailed quantitative risk assessment it is satisfied that the level of risk posed is sufficiently low.”

The C4SLs are intended as “relevant technical tools” (in relation to Paragraph 4.21(c)) to help local authorities and others when deciding to stop further assessment of a site, on the grounds that it falls within Category 4 (Human Health).

The Impact Assessment (IA), which accompanied the revised SG (Defra, 2012b) provides further information on the nature and potential role of the C4SLs. Paragraph 47(h) of the IA states that:

“The new statutory guidance will bring about a situation where the current SGVs/GACs are replaced with more pragmatic (but still strongly precautionary) Category 4 screening levels (C4SLs) which will provide a higher simple test for deciding that land is suitable for use and definitely not contaminated land.”

A key distinction between the Soil Guideline Values (SGVs) and the C4SLs is the level of risk that they describe. As described by the Environment Agency (2009a):

“SGVs are guidelines on the level of long-term human exposure to individual chemicals in soil that, unless stated otherwise, are tolerable or pose a minimal risk to human health.”

The implication of Paragraph 47(h) of the IA is that minimal risk is well within Category 4 and that the C4SLs should describe a higher level of risk which, whilst not minimal, can still be considered low enough to allow a judgement to be made that land containing substances at, or below, the C4SLs would typically fall within Category 4. This reflects Paragraph 4.20 of the revised SG, which states:

“4.20 The local authority should not assume that land poses a significant possibility of significant harm if it considers that there is no risk or that the level of risk posed is low. For the purposes of this Guidance, such land is referred to as a “Category 4: Human Health” case. The authority may decide that the land is a Category 4: Human Health case as soon as it considers it has evidence to this effect, and this may happen at any stage during risk assessment including the early stages.”

C4SLs, therefore, should not be viewed as “SPOSH levels” and they should not be used as a legal trigger for the determination of land under Part 2A.

The generic screening values referred to before usually take the form of risk-based Soil Guideline Values (SGVs) or other Generic Assessment Criteria (GACs) that are most typically derived using the Environment Agency’s Contaminated Land Exposure Assessment (CLEA) model, as described in the Environment Agency’s SR2, SR3 and SR7 reports (EA, 2009b & c; EA, 2008). It is anticipated that C4SLs will be used in a similar manner; as generic screening criteria that can be used within a GQRA, albeit describing a higher level of risk than the SGVs.

The suggested approach to the development of C4SLs consists of the retention and use of the CLEA framework, modified according to considerations of the underlying science within the context of Defra’s policy objectives relating to the revised SG. Within this context, it is suggested that the development of C4SLs may be achieved in one of three ways, namely:

- By modifying the toxicological parameters used within CLEA (while maintaining current exposure parameters);
- By modifying the exposure parameters embedded within CLEA (while maintaining current toxicological “minimal risk” interpretations); and
- By modifying both toxicological and exposure parameters.

There is also a suggested check on “other considerations” (e.g., background levels, epidemiological data, sources of uncertainty) within the approach, applicable to all three options.

It is suggested that a new term is defined for the toxicological guidance values associated with the derivation of C4SLs – a Low Level of Toxicological Concern (LLTC). A LLTC should represent an intake of low concern that remains suitably protective of health, and definitely does not approach an intake level that could be defined as SPOSH.

4. CL:AIRE Generic Assessment Criteria (GAC)

For derivation of the CL:AIRE Generic Assessment Criteria (GAC) reference should be made to the following report:

CL:AIRE, *The Soil Generic Assessment Criteria for Human Health Risk Assessment. Contaminated Land: Applications in the Real Environment*. 2009.

Within this report, Contaminated Land: Applications in Real Environments (CL:AIRE) provided Generic Assessment Criteria (GAC) in accordance with the CLEA software and the principles outlined previously for a further 35 contaminants sometimes encountered on land affected by contamination.

5. SoBRA Acute GAC

The Society of Brownfield Risk Assessment (SoBRA) identified that most human health risk assessments focus on the chronic risks arising from long-term exposure to specific substances. As chronic risks often occur at lower doses than acute risks, they are often the key drivers, however, in some instances the acute dose may also be an important consideration within risk assessments.

The methodology for deriving the acute GAC were related to two distinct receptor groups:

- Members of the public, where the 'critical' receptor for this group will typically be a female child, which is consistent with CLEA residential and Public Open Space/allotments land-uses;
- Workers involved with excavations. The critical receptor for this group is assumed to be a female working adult, without the use of PPE.

The acute GACs relate to short term exposure of high concentrations of a substance that lead to acute effects. They are not considered to be average exposures across a specific / defined area. As a result, the GACs should be normally be compared with the maximum likely concentration that the individual may be exposed to, and not the average concentration within a specific area.

The SoBRA acute GAC will primarily be used for contaminants that do not currently have any GAC, most notably Cyanide.

6. Detailed Quantitative Risk Assessments (DQRA)

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses, then a DQRA may be undertaken to develop site specific values for relevant soil contaminants.

- | |
|---|
| <ul style="list-style-type: none">▪ Establishing the plausibility that generic exposure pathways exist in practice by measurement and observation.▪ Developing more accurate parameters using site data. |
|---|

7. Phytotoxicity

CLEA guidance only addresses human health toxicity; assessment of plant toxicity (phytotoxicity) is based on threshold trigger values obtained from the following source:

- BS3882:2015 – *Specification for Topsoil*

The trigger values are relevant only to those contaminants, where present in excess, have the potential to inhibit plant growth, or kill plants (Cu, Ni and Zn). The criteria have been based on a wide range of planting that are common within a multi-purpose topsoil.

8. Statistical Tests

DEFRA R&D Publication CLR 7 (DOE 1994) addressed the statistical treatment of test results and their comparison to Soil Guideline Values.

Consideration must be given to the appropriate area of land to be considered termed the critical averaging area.

For a communal open space or commercial land-use, the critical averaging area will depend on the proposed layout. For a residential use with private gardens the averaging area is the individual plot.

It may be appropriate to compare the upper 95th percentile concentration with the Soil Guideline Value, subject to applying a statistical test to establish that the range of concentrations are reasonably consistent and belonging to the same underlying distribution of data.

CL:AIRE published guidance in 2020, *Guidance in comparing soil contamination data with a critical concentration*, superseding the CL:AIRE/CIEH 2008 report of the same name. The guidance provides ways to assist land contamination stakeholders to apply statistical methods to their data to enable decisions under the legislative framework; either planning system or Part 2A of the Environmental Protection Act 1990.

The use of the statistical tests should only be applied if the following statements are valid for the datasets:

- Averaging areas, as well as the smallest area of concern have been identified on the basis of the CSM, including the desk study and/or the site walkover;
- The sample locations were chosen using a simple random, stratified random or stratified systematic (square, herringbone or triangular grid) sampling pattern, rather than being targeted to locations suspected of being contaminated;
- The sample locations are relatively evenly spread across the area and are not clustered, to avoid giving undue weight to some parts of the site over others in the calculated statistics;
- The analyses do not suggest a hotspot or outlier of contamination that should be treated as a separate zone. This has been established by a histogram and/or a names statistical test;
- The sample locations are all taken from one population (i.e. the same material);
- Where an averaging zone encompasses several averaging areas, analyses do not show a spatial trend or other spatial pattern across that zone; and
- The number of samples has been shown to be sufficient for a statistical analysis.

Any included statistical spreadsheet is based on an in-house method of statistical analysis, in line with those outlined within the CL:AIRE guidance (2020).

Treatment of Hot-Spots

- A statistical test is applied to establish whether the data is a part of a single set, or whether data outliers are present.
- Provided that the data is based on random sampling and no distinct contamination source was present at the sampling location, the hot-spot(s) may be excluded and the mean of the remaining data assessed.

9. Ground and Water Limited Soil Assessment Criteria

The Soil Assessment Criteria used in the preparation of the Generic Quantitative Risk Assessment are tabulated in the following pages, where the source of each has been outlined in the previous sections.

9.1. Inorganics

SoBRA – Acute Generic Assessment Criteria						
Determinand	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Cyanide	24	24	24	1400	24	24

9.2. Metals

C4SL Low Level of Toxicological Concern						
Determinand	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Lead	< 200	< 310	< 80	< 2300	< 630	< 1300

LQM/CIEH Suitable 4 Use Levels – Metals and Semi-metals						
Determinand	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Arsenic	37	40	43	640	79	170
Beryllium	1.7	1.7	35	12	2.2	63
Boron	290	11000	45	240000	21000	46000
Cadmium	11	85	1.9	190	120	532
Chromium (III)	910	910	18000	8600	1500	33000
Chromium (VI)	6	6	1.8	33	7.7	220
Copper	2400	7100	520	68000	12000	44000
Elemental Mercury	1.2	1.2	21	58	16	30
Inorganic Mercury	40	56	19	1100	120	240
Methylmercury	11	15	6	320	40	68
Nickel	130	180	53	980	230	800
Selenium	250	430	88	12000	1100	1800
Vanadium	410	1200	91	9000	2000	5000
Zinc	3700	40000	620	730000	81000	170000

Phytotoxicity (Harmful to Plants) Threshold Trigger Values			
Determinand	Soil pH < 6.0 (mg/kg)	Soil pH 6.0 – 7.0 (mg/kg)	Soil pH > 7.0 (mg/kg)
Copper	100	135	200
Nickel	60	75	110
Zinc	200	200	300
Notes: BS3882:2015 – <i>Specification for Topsoil</i> . Based on a wide range of common plants that will be exposed to multi-purpose topsoil. Toxicity of contaminant may also be impacted by pH of soils. Site observation of plant vitality may give additional guidance.			

CL:AIRE Soil Generic Assessment Criteria				
Determinand	Residential (mg/kg)	Residential without plant uptake (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)
Antimony	ND	550	ND	7500
Barium	ND	1300	ND	22000
Molybdenum	ND	670	ND	17000
ND – Not derived				

9.3. Total Petroleum Hydrocarbons (TPHs)

9.3.1. BTEX Compounds

LQM/CIEH Suitable 4 Use Levels – BTEX Compounds							
Determinand	Soil Organic Matter	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Benzene	1.0% SOM	0.087	0.38	0.017	27	72	90
	2.5% SOM	0.170	0.70	0.034	47	72	100
	6.0% SOM	0.370	1.40	0.075	90	73	110
Toluene	1.0% SOM	130	880	22	56000	56000	87000
	2.5% SOM	290	1900	51	110000	56000	95000
	6.0% SOM	660	3900	120	180000	56000	100000
Ethylbenzene	1.0% SOM	47	83	16	5700	24000	17000
	2.5% SOM	110	190	39	13000	24000	22000
	6.0% SOM	260	440	91	27000	25000	27000
o-Xylene	1.0% SOM	60	88	28	6600	41000	17000
	2.5% SOM	140	210	67	15000	42000	24000
	6.0% SOM	330	480	160	33000	43000	33000
m-Xylene	1.0% SOM	59	82	31	6200	41000	17000
	2.5% SOM	140	190	74	14000	42000	24000
	6.0% SOM	320	450	170	31000	43000	33000
p-Xylene	1.0% SOM	56	79	29	5900	41000	17000
	2.5% SOM	130	180	69	14000	42000	23000
	6.0% SOM	310	430	160	30000	43000	31000

SOM = Soil Organic Matter Content (%)

9.3.2. Total Petroleum Hydrocarbons – Aliphatic

LQM/CIEH Suitable 4 Use Levels For TPH							
Aliphatic		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
EC 5-6	1.0% SOM	42	42	730	3,200 (304) sol	570,000 (304) sol	95,000 (304) sol
	2.5% SOM	78	78	1,700	5,900 (558) sol	590,000	130,000 (558) sol
	6.0% SOM	160	160	3,900	12,000 (1150) sol	600,000 (1150) sol	180,000 (1150) sol
EC >6-8	1.0% SOM	100	100	2,300	7,800 (144) sol	600,000	150,000 (144) sol
	2.5% SOM	230	230	5,600	17,000 (322) sol	610,000	220,000 (322) sol
	6.0% SOM	530	530	13,000	40,000 (736) sol	620,000	320,000 (736) sol
EC >8-10	1.0% SOM	27	27	320	2,000 (78) sol	13,000	14,000 (78) sol
	2.5% SOM	65	65	770	4,800 (118) vap	13,000	18,000 (118) vap
	6.0% SOM	150	150	1,700	11,000 (451) vap	13,000	21,000 (451) vap
EC >10-12	1.0% SOM	130 (48) vap	130 (48) vap	2,200	9,700 (48) sol	13,000	21,000 (48) sol
	2.5% SOM	330 (118) vap	330 (118) vap	4,400	23,000 (118) vap	13,000	23,000 (118) vap
	6.0% SOM	760 (283) vap	760 (283) vap	7,300	47,000 (283) vap	13,000	24,000 (283) vap
EC >12-16	1.0% SOM	1,100 (24) sol	1,100 (24) sol	11,000	59,000 (24) sol	13,000	25,000 (24) sol
	2.5% SOM	2,400 (59) sol	2,400 (59) sol	13,000	82,000 (59) sol	13,000	25,000 (59) sol
	6.0% SOM	4,300 (142) sol	4,400 (142) sol	13,000	90,000 (142) sol	13,000	26,000 (142) sol
EC >16-35	1.0% SOM	65,000 (8.48) sol	65,000 (8.48) sol	260,000	1,600,000	250,000	450,000
	2.5% SOM	92,000 (21) sol	92,000 (21) sol	270,000	1,700,000	250,000	480,000
	6.0% SOM	110,000	110,000	270,000	1,800,000	250,000	490,000
EC >35-44	1.0% SOM	65,000 (8.48) sol	65,000 (8.48) sol	260,000	1,600,000	250,000	450,000
	2.5% SOM	92,000 (21) sol	92,000 (21) sol	270,000	1,700,000	250,000	480,000
	6.0% SOM	110,000	110,000	270,000	1,800,000	250,000	490,000

SOM = Soil Organic Matter Content (%)

vap – GAC presented exceeds the vapour saturation limit, which is presented in brackets.

sol – GAC presented exceeds the soil saturation limit, which is presented in brackets.

9.3.3. Total Petroleum Hydrocarbons – Aromatic

LQM/CIEH Suitable 4 Use Levels For TPH							
Aromatic		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
EC 5-7 (Benzene)	1.0% SOM	70	370	13	26,000 (1220) ^{sol}	56,000	76,000 (1220) ^{sol}
	2.5% SOM	140	690	27	46,000 (2260) ^{sol}	56,000	84,000 (2260) ^{sol}
	6.0% SOM	300	1,400	57	86,000 (4710) ^{sol}	56,000	92,000 (4710) ^{sol}
EC >7-8 (Toluene)	1.0% SOM	130	860	22	56,000 (869) ^{vap}	56,000	87,000 (869) ^{sol}
	2.5% SOM	290	1,800	51	110,000 (1920) ^{sol}	56,000	95,000 (1920) ^{sol}
	6.0% SOM	660	3,900	120	180,000 (4360) ^{vap}	56,000	100,000 (4360) ^{vap}
EC >8-10	1.0% SOM	34	47	8.6	3,500 (613) ^{vap}	5,000	7,200 (613) ^{vap}
	2.5% SOM	83	110	21	8,100 (1500) ^{vap}	5,000	8,500 (1500) ^{vap}
	6.0% SOM	190	270	51	17,000 (3850) ^{vap}	5,000	9,300 (3580) ^{vap}
EC >10-12	1.0% SOM	74	250	13	16,000 (364) ^{sol}	5,000	9,200 (364) ^{sol}
	2.5% SOM	180	590	31	28,000 (899) ^{sol}	5,000	9,700 (889) ^{sol}
	6.0% SOM	380	1,200	74	34,000 (2150) ^{sol}	5,000	10,000
EC >12-16	1.0% SOM	140	1,800	23	36,000 (169) ^{sol}	5,100	10,000
	2.5% SOM	330	2,300 (419) ^{sol}	57	37,000	5,100	10,000
	6.0% SOM	660	2,500	130	38,000	5,000	10,000
EC >16-21	1.0% SOM	260	1,900	46	28,000	3,800	7,600
	2.5% SOM	540	1,900	110	28,000	3,800	7,700
	6.0% SOM	930	1,900	260	28,000	3,800	7,800
EC >21-35	1.0% SOM	1,100	1,900	370	28,000	3,800	7,800
	2.5% SOM	1,500	1,900	820	28,000	3,800	7,800
	6.0% SOM	1,700	1,900	1,600	28,000	3,800	7,900
EC >35-44	1.0% SOM	1,100	1,900	370	28,000	3,800	7,800
	2.5% SOM	1,500	1,900	820	28,000	3,800	7,800
	6.0% SOM	1,700	1,900	1,600	28,000	3,800	7,900
EC >44-70	1.0% SOM	1,600	1,900	1,200	28,000	3,800	7,800
	2.5% SOM	1,800	1,900	2,100	28,000	3,800	7,800
	6.0% SOM	1,900	1,900	3,000	28,000	3,800	7,900
SOM = Soil Organic Matter Content (%)							
^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets.							
^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.							

9.4. Polycyclic Aromatic Hydrocarbons (PAHs)

LQM/CIEH Suitable 4 Use Levels For Polycyclic Aromatic Hydrocarbons (PAHs)							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Acenaphthene	1.0% SOM	210	3,000 (57.0) ^{sol}	34	84,000(57.0) ^{sol}	15,000	29,000
	2.5% SOM	510	4,700(141) ^{sol}	85	97,000(141) ^{sol}	15,000	30,000
	6.0% SOM	1100	6,000(336) ^{sol}	200	100,000	15,000	30,000
Acenaphthylene	1.0% SOM	170	2,900(86.1) ^{sol}	28	83,000(86.1) ^{sol}	15,000	29,000
	2.5% SOM	420	4,600(212) ^{sol}	69	97,000(212) ^{sol}	15,000	30,000
	6.0% SOM	920	6,000(506) ^{sol}	160	100,000	15,000	30,000
Anthracene	1.0% SOM	2,400	31,000(1.17) ^{vap}	380	520,000	74,000	150,000
	2.5% SOM	5,400	35,000	950	540,000	74,000	150,000
	6.0% SOM	11,000	37,000	2,200	540,000	74,000	150,000
Benzo(a)anthracene	1.0% SOM	7.20	11	2.90	170	29	49
	2.5% SOM	11	14	6.50	170	29	56
	6.0% SOM	13	15	13	180	29	62
Benzo(a)pyrene	1.0% SOM	2.20	3.20	0.97	35	5.70	11
	2.5% SOM	2.70	3.20	2.00	35	5.70	12
	6.0% SOM	3.00	3.20	3.50	36	5.70	13
Benzo(b)flouranthene	1.0% SOM	2.60	3.90	0.99	44	7.10	13
	2.5% SOM	3.30	4.00	2.10	44	7.20	15
	6.0% SOM	3.70	4.00	3.90	45	7.20	16
Benzo(ghi)perylene	1.0% SOM	320	360	290	3,900	640	1,400
	2.5% SOM	340	360	470	4,000	640	1,500
	6.0% SOM	350	360	640	4,000	640	1,600
Benzo(k)flouranthene	1.0% SOM	77	110	37	1,200	190	370
	2.5% SOM	93	110	75	1,200	190	410
	6.0% SOM	100	110	130	1,200	190	440
Chrysene	1.0% SOM	15	30	4.10	350	57	93
	2.5% SOM	22	31	9.40	350	57	110
	6.0% SOM	27	32	19	350	57	120
Dibenzo(ah)anthracene	1.0% SOM	0.24	0.31	0.14	3.50	0.57	1.10
	2.5% SOM	0.28	0.32	0.27	3.50	0.57	1.30
	6.0% SOM	0.30	0.32	0.43	3.60	0.58	1.40
Flouranthene	1.0% SOM	280	1,500	52	23,000	3,100	6,300
	2.5% SOM	560	1,600	130	23,000	3,100	6,300
	6.0% SOM	890	1,600	290	23,000	3,100	6,300
Flourene	1.0% SOM	170	2,800 (30.9) ^{sol}	27	63,000(30.9) ^{sol}	9,900	20,000
	2.5% SOM	400	3,800(76.5) ^{sol}	67	68,000	9,900	20,000
	6.0% SOM	860	4,500(183) ^{sol}	160	71,000	9,900	20,000
Indeno(123-cd)pyrene	1.0% SOM	27	45	9.50	500	82	150
	2.5% SOM	36	46	21	510	82	170
	6.0% SOM	41	46	39	510	82	180
Napthalene	1.0% SOM	15	36	65	1,600	11,000	800
	2.5% SOM	36	36	130	3,700	15,000	1,200
	6.0% SOM	85	85	200	8,400	17,000	1,900
Phenanthrene	1.0% SOM	95	1,300(183) ^{sol}	15	22,000	3,100	6,200
	2.5% SOM	220	1,500	38	22,000	3,100	6,200
	6.0% SOM	440	1,500	90	23,000	3,100	6,300
Pyrene	1.0% SOM	620	3,700	110	54,000	7,400	15,000
	2.5% SOM	1200	3,800	270	54,000	7,400	15,000
	6.0% SOM	2000	3,800	620	54,000	7,400	15,000
Coal Tar (Benzo(a)pyrene used as marker compound)	1.0% SOM	0.79	1.2	0.32	15	2.20	4.40
	2.5% SOM	0.98	1.2	0.67	15	2.20	4.70
	6.0% SOM	1.10	1.2	1.20	15	2.20	4.80
SOM = Soil Organic Matter Content (%) ^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets. ^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.							

9.5. Volatile and Semi-volatile Organic Compounds

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
<i>Chloroalkanes & alkenes</i>							
1,2 Dichloroethane	1.0% SOM	0.0071	0.0092	0.0046	0.67	29	21
	2.5% SOM	0.011	0.013	0.0083	0.97	29	24
	6.0% SOM	0.019	0.023	0.016	1.70	29	28
1,1,2,2 Tetrachloroethane	1.0% SOM	1.60	3.90	0.41	270	1,400	1,800
	2.5% SOM	3.40	8.00	0.89	550	1,400	2,100
	6.0% SOM	7.50	17	2.00	1,100	1,400	2,300
1,1,1,2 Tetrachloroethane	1.0% SOM	1.20	1.50	0.79	110	1,400	1,500
	2.5% SOM	2.80	3.50	1.90	250	1,400	1,800
	6.0% SOM	6.40	8.20	4.40	560	1,400	2,100
Tetrachloroethene	1.0% SOM	0.18	0.18	0.65	19	1,400	810 ^{sol} (424)
	2.5% SOM	0.39	0.40	1.50	42	1,400	1,100 ^{sol} (951)
	6.0% SOM	0.90	0.92	3.60	95	1,400	1,500
1,1,1 Trichloroethane	1.0% SOM	8.80	9.00	48	660	140,000	57,000 ^{vap} (1425)
	2.5% SOM	18	18	110	1,300	140,000	76,000 ^{vap} (2915)
	6.0% SOM	39	40	240	3,000	140,000	100,000 ^{vap} (6392)
Tetrachloromethene	1.0% SOM	0.026	0.026	0.45	2.90	890	190
	2.5% SOM	0.056	0.056	1.00	6.30	920	270
	6.0% SOM	0.130	0.130	2.40	14	950	400
Trichloroethene	1.0% SOM	0.016	0.017	0.041	1.20	120	70
	2.5% SOM	0.034	0.036	0.091	2.60	120	91
	6.0% SOM	0.075	0.080	0.210	5.70	120	120
Trichloromethane	1.0% SOM	0.91	1.20	0.42	99	2,500	2,600
	2.5% SOM	1.70	2.10	0.83	170	2,500	2,800
	6.0% SOM	3.40	4.20	1.70	350	2,500	3,100
Vinyl Chloride	1.0% SOM	0.00064	0.00077	0.00055	0.059	3.50	4.80
	2.5% SOM	0.00087	0.00100	0.00100	0.077	3.50	5.00
	6.0% SOM	0.00014	0.00150	0.00180	0.120	3.50	5.40
<i>Explosives</i>							
2,4,6 Trinitrotoluene	1.0% SOM	1.60	65	0.24	1,000	130	260
	2.5% SOM	3.70	66	0.58	1,000	130	270
	6.0% SOM	8.10	66	1.40	1,000	130	270
RDX (Hexogen/Cyclonite/1,3,5-trinitro-1,3,5-triazacyclohexane)	1.0% SOM	120	13,000	17	210,000	26,000	49,000(18.7) ^{sol}
	2.5% SOM	250	13,000	38	210,000	26,000	51,000
	6.0% SOM	540	13,000	85	210,000	27,000	53,000
HMX (Octogen/1,3,5,7-tetrenitro-1,3,5,7-tetrazacyclo-octane)	1.0% SOM	5.70	67,00	0.86	110,000	13,000	23,000(0.35) ^{vap}
	2.5% SOM	13	67,00	1.90	110,000	13,000	23,000(0.39) ^{vap}
	6.0% SOM	26	67,00	3.90	110,000	13,000	24,000(0.48) ^{vap}
Atrazine	1.0% SOM	3.30	610	0.50	9,300	1,200	2,300
	2.5% SOM	7.60	620	1.20	9,400	1,200	2,400
	6.0% SOM	17.40	620	2.70	9,400	1,200	2,400

^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets.
^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Pesticides							
Aldrin	1.0% SOM	5.70	7.30	3.20	170	18	30
	2.5% SOM	6.60	7.40	6.10	170	18	31
	6.0% SOM	7.10	7.50	9.60	170	18	31
Dieldrin	1.0% SOM	0.97	7.00	0.17	170	18	30
	2.5% SOM	2.00	7.30	0.41	170	18	30
	6.0% SOM	3.50	7.40	0.96	170	18	31
Dichlorvos	1.0% SOM	0.032	6.40	0.0049	140	16	26
	2.5% SOM	0.066	6.50	0.0100	140	16	26
	6.0% SOM	0.140	6.60	0.0220	140	16	27
Alpha - Endosulfan	1.0% SOM	7.40	160(0.003) ^{vap}	1.20	5,600(0.003) ^{vap}	1,200	2,400
	2.5% SOM	18	280(0.007) ^{vap}	2.90	7,400(0.007) ^{vap}	1,200	2,400
	6.0% SOM	41	410(0.016) ^{vap}	6.80	8,400(0.016) ^{vap}	1,200	2,400
Beta - Endosulfan	1.0% SOM	7.00	190(0.00007) ^{vap}	1.10	6,300(0.00007) ^{vap}	1,200	2,400
	2.5% SOM	17	320(0.0002) ^{vap}	2.70	7,800(0.0002) ^{vap}	1,200	2,400
	6.0% SOM	39	440(0.0004) ^{vap}	6.40	8700	1,200	2,500
Alpha - Hexachlorocyclohexanes	1.0% SOM	0.23	6.90	0.035	170	24	47
	2.5% SOM	0.55	9.20	0.087	180	24	48
	6.0% SOM	1.20	11	0.210	180	24	48
Beta - Hexachlorocyclohexanes	1.0% SOM	0.085	3.70	0.013	65	8.10	15
	2.5% SOM	0.200	3.80	0.032	65	8.10	15
	6.0% SOM	0.460	3.80	0.077	65	8.10	16
Gamma - Hexachlorocyclohexanes	1.0% SOM	0.06	2.90	0.0092	67	8.2	14
	2.5% SOM	0.14	3.30	0.0230	69	8.2	15
	6.0% SOM	0.33	3.50	0.0540	70	8.2	15
Chlorobenzenes							
Chlorobenzene	1.0% SOM	0.46	0.46	5.90	56	11,000	1,300(675) ^{sol}
	2.5% SOM	1.00	1.00	14	130	13,000	2,000(1520) ^{sol}
	6.0% SOM	2.40	2.40	32	290	14,000	2,900
1,2-Dichlorobenzene	1.0% SOM	23	24	94	2,000 (571) ^{sol}	90,000	24,000(571) ^{sol}
	2.5% SOM	55	57	230	4,800 (1370) ^{sol}	95,000	36,000(1370) ^{sol}
	6.0% SOM	130	130	540	11,000 (3240) ^{sol}	98,000	51,000(3240) ^{sol}
1,3-Dichlorobenzene	1.0% SOM	0.40	0.44	0.25	30	300	390
	2.5% SOM	1.00	1.10	0.60	73	300	440
	6.0% SOM	2.30	2.50	1.50	170	300	470
1,4-Dichlorobenzene	1.0% SOM	61	61	15	4,400 (224) ^{vap}	17,000 ^g	36,000 (224) ^{vap}
	2.5% SOM	150	150	37	10,000 (540) ^{vap}	17,000 ^g	36,000 (540) ^{vap}
	6.0% SOM	350	350	88 ^g	25,000 (1280) ^{vap}	17,000 ^g	36,000 (1280) ^{vap}
1,2,3,-Trichlorobenzene	1.0% SOM	1.50	1.50	4.70	102	1,800	770(134) ^{vap}
	2.5% SOM	3.60	3.70	12	250	1,800	1,100(330) ^{vap}
	6.0% SOM	8.60	8.80	28	590	1,800	1,600(789) ^{vap}
1,2,4,-Trichlorobenzene	1.0% SOM	2.60	2.60	55	220	15,000	1,700(318) ^{vap}
	2.5% SOM	6.40	6.40	140	530	17,000	2,600(786) ^{vap}
	6.0% SOM	15	15	320	1,300	19,000	4,000(1880) ^{vap}
1,3,5,-Trichlorobenzene	1.0% SOM	0.33	0.33	4.70	23	1,700	380(36.7) ^{vap}
	2.5% SOM	0.81	0.81	12	55	1,700	590(90.8) ^{vap}
	6.0% SOM	1.90	1.90	140	130	1,800	860(217) ^{vap}
^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets.							
^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.							

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

LQM CIEH General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
Chlorobenzenes (cont.)							
1,2,3,4,- Tetrachlorobenzene	1.0% SOM	15	24	4.40	1,700(122) ^{vap}	830	1,500(122) ^{vap}
	2.5% SOM	36	56	11	3,080(304) ^{vap}	830	1,600
	6.0% SOM	78	120	26	4,400(728) ^{vap}	830	1,600
1,2,3,5,- Tetrachlorobenzene	1.0% SOM	0.66	0.75	0.38	49(39.4) ^{vap}	78	110(39) ^{vap}
	2.5% SOM	1.60	1.90	0.90	120(98.1) ^{vap}	79	120
	6.0% SOM	3.70	4.30	2.20	240(235) ^{vap}	79	130
1,2,4, 5,- Tetrachlorobenzene	1.0% SOM	0.33	0.73	0.06	42(19.7) ^{sol}	13	25
	2.5% SOM	0.77	1.70	0.16	72(49.1) ^{sol}	13	26
	6.0% SOM	1.60	3.50	0.37	96	13	26
Pentachlorobenzene	1.0% SOM	5.80	19	1.20	640(43.0) ^{sol}	100	190
	2.5% SOM	12	30	3.10	770(107) ^{sol}	100	190
	6.0% SOM	22	38	7.00	830	100	190
Hexachlorobenzene	1.0% SOM	1.80(0.20) ^{vap}	4.10 (0.20) ^{vap}	0.47	110(0.20) ^{vap}	16	30
	2.5% SOM	3.30(0.50) ^{vap}	5.70 (0.50) ^{vap}	1.10	120	16	30
	6.0% SOM	4.90	6.70 (1.2) ^{vap}	2.50	120	16	30
Phenols & Chlorophenols							
BTEX	1.0% SOM	280	750	66	760 ^{dir} (31,000)	760 ^{dir} (11,000)	760 ^{dir} (8,600)
	2.5% SOM	550	1,300	140	1,500 ^{dir} (35,000)	1,500 ^{dir} (11,000)	1,500 ^{dir} (9,700)
	6.0% SOM	1100	2,300	280	3,200 ^{dir} (37,000)	3,200 ^{dir} (11,000)	3,200 ^{dir} (11,000)
	6.0% SOM	1100	2,300	280	3,200 ^{dir} (37,000)	3,200 ^{dir} (11,000)	3,200 ^{dir} (11,000)
Chlorophenols (4 Congeners)	1.0% SOM	0.87	94	0.13	3,500	620	1,100
	2.5% SOM	2.00	150	0.30	4,000	620	1,100
	6.0% SOM	4.50	210	0.70	4,300	620	1,100
Pentachlorophenols	1.0% SOM	0.22	27(16.4) ^{vap}	0.03	400	60	110
	2.5% SOM	0.52	29	0.08	400	60	120
	6.0% SOM	1.20	31	0.19	400	60	120
Others							
Carbon Disulphide	1.0% SOM	0.14	0.14	4.80	11	11,000	1,300
	2.5% SOM	0.29	0.29	10	22	11,000	1,900
	6.0% SOM	0.62	0.62	23	47	12,000	2,700
Hexachloro-1,3- Butadiene	1.0% SOM	0.29	0.32	0.25	31	25	48
	2.5% SOM	0.70	0.78	0.61	68	25	50
	6.0% SOM	1.60	1.80	1.40	120	25	51
^{vap} – GAC presented exceeds the vapour saturation limit, which is presented in brackets. ^{sol} – GAC presented exceeds the soil saturation limit, which is presented in brackets.							

VOC and SVOC table continued overleaf

VOC and SVOC table continued from previous page

CL:AIRE General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds					
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)
1,1,2 Trichloroethane	1.0% SOM	0.60	0.88	0.28	94
	2.5% SOM	1.20	1.8	0.61	190
	6.0% SOM	2.70	3.9	1.40	400
1,1-Dichloroethane	1.0% SOM	2.40	2.50	9.20	280
	2.5% SOM	3.90	4.10	17	450
	6.0% SOM	7.40	7.70	35	850
1,1-Dichloroethene	1.0% SOM	0.23	0.23	2.80	26
	2.5% SOM	0.40	0.41	5.60	46
	6.0% SOM	0.82	0.82	12	92
1,2,4-Trimethylbenzene	1.0% SOM	0.35	0.41	0.38	42
	2.5% SOM	0.85	0.99	0.93	99
	6.0% SOM	2.00	2.30	2.20	220
1,2-Dichloropropane	1.0% SOM	0.024	0.024	0.62	3.3
	2.5% SOM	0.042	0.042	1.20	5.9
	6.0% SOM	0.084	0.085	2.60	12
2,4-Dimethylphenol	1.0% SOM	19	210	3.10	16000*
	2.5% SOM	43	410	7.20	24000*
	6.0% SOM	97	730	17	30000*
2,4-Dinitrotoluene	1.0% SOM	1.50	170*	0.22	3700*
	2.5% SOM	3.20	170	0.49	3700*
	6.0% SOM	7.20	170	1.10	3800*
2,6-Dinitrotoluene	1.0% SOM	0.78	78	0.12	1900*
	2.5% SOM	1.70	84	0.27	1900*
	6.0% SOM	3.90	87	0.61	1900*
2-Chloronaphthalene	1.0% SOM	3.70	3.80	40	390*
	2.5% SOM	9.20	9.30	98	960*
	6.0% SOM	22	22	230	2200*
Biphenyl	1.0% SOM	66*	220*	14	18000*
	2.5% SOM	160	500*	35	33000*
	6.0% SOM	360	980*	83	48000*
Bis (2-ethylhexyl) phthalate	1.0% SOM	280*	2700*	47*	85000*
	2.5% SOM	610*	2800*	120*	86000*
	6.0% SOM	1100*	2800*	280*	86000*
Bromobenzene	1.0% SOM	0.87	0.91	3.2	97
	2.5% SOM	2.0	2.1	7.6	220
	6.0% SOM	4.7	4.9	18	520
Bromodichloromethane	1.0% SOM	0.016	0.019	0.016	2.1
	2.5% SOM	0.030	0.034	0.032	3.7
	6.0% SOM	0.061	0.070	0.068	7.6
Bromoform	1.0% SOM	2.8	5.2	0.95	760
	2.5% SOM	5.9	11	2.1	1500
	6.0% SOM	13	23	4.6	3100
Butyl benzyl phthalate	1.0% SOM	1400*	42000*	220*	940000*
	2.5% SOM	3300*	44000*	550*	940000*
	6.0% SOM	7200*	44000*	1300*	950000*

*soil concentration above saturation limit

VOC and SVOC table continued from previous page

CL:AIRE General Assessment Criteria: Volatile and Semi-Volatile Organic Compounds					
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)
Chloroethane	1.0% SOM	8.3	8.4	110	960
	2.5% SOM	11	11	200	1300
	6.0% SOM	18	18	380	2100
Chloromethane	1.0% SOM	0.0083	0.0085	0.066	1.0
	2.5% SOM	0.0098	0.0099	0.13	1.2
	6.0% SOM	0.013	0.013	0.23	1.6
<i>Cis</i> 1,2 Dichloroethene	1.0% SOM	0.11	0.12	0.26	14
	2.5% SOM	0.19	0.20	0.50	24
	6.0% SOM	0.37	0.39	1.0	47
Dichloromethane	1.0% SOM	0.58	2.10	0.10	270
	2.5% SOM	0.98	2.80	0.19	360
	6.0% SOM	1.70	4.50	0.34	560
Diethyl Phthalate	1.0% SOM	120*	1800*	19*	150000*
	2.5% SOM	260*	3500*	41*	220000*
	6.0% SOM	570*	6300*	94*	290000*
Di- <i>n</i> -butyl phthalate	1.0% SOM	13*	450*	2.00	15000*
	2.5% SOM	31*	450*	5.00	15000*
	6.0% SOM	67*	450*	12	15000*
Di- <i>n</i> -octyl phthalate	1.0% SOM	2300*	3400*	940*	89000*
	2.5% SOM	2800*	3400*	2100*	89000*
	6.0% SOM	3100*	3400*	3900*	89000*
Hexachloroethane	1.0% SOM	0.20	0.22	0.27	22*
	2.5% SOM	0.48	0.54	0.67	53*
	6.0% SOM	1.10	1.30	1.60	120*
Isopropylbenzene	1.0% SOM	11	12	32	1400*
	2.5% SOM	27	28	79	3300*
	6.0% SOM	64	67	190	7700*
Methyl <i>tert</i> -butyl ether (MTBE)	1.0% SOM	49	73	23	7900
	2.5% SOM	84	120	44	13000
	6.0% SOM	160	220	90	24000
Propylbenzene	1.0% SOM	34	40	34	4100*
	2.5% SOM	82	97	83	9700*
	6.0% SOM	190	230	200	21000*
Styrene	1.0% SOM	8.10	35	1.60	3300*
	2.5% SOM	19	78	3.70	6500*
	6.0% SOM	43	170	8.70	11000*
Total Cresols (2-, 3-, and 4-methylphenol)	1.0% SOM	80	3700	12	160000
	2.5% SOM	180	5400	27	180000*
	6.0% SOM	400	6900	63	180000*
<i>Trans</i> 1,2 Dichloroethene	1.0% SOM	0.19	0.19	0.93	22
	2.5% SOM	0.34	0.35	1.90	40
	6.0% SOM	0.70	0.71	0.24	81
Tributyl tin oxide	1.0% SOM	0.25	1.40	0.042	130*
	2.5% SOM	0.59	3.10	0.100	180*
	6.0% SOM	1.30	5.70	0.240	200*

*soil concentration above saturation limit

C4SL Low Level of Toxicological Concern							
Determinands		RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
1,2-Dichloroethane (Ethylene Dichloride)	1.0% SOM	0.11	0.16	0.054	12	300	300
	2.5% SOM	0.18	0.24	0.10	17	310	330
	6.0% SOM	0.31	0.41	0.19	29	310	380
Cis-1,2-Dichloroethene	1.0% SOM	0.46	0.50	0.89	38	3,800	2,000
	2.5% SOM	0.78	0.84	1.7	64	3,800	2,400
	6.0% SOM	1.5	1.6	3.6	120	3,900	3,100
Tetrachloroethene (PCE)	1.0% SOM	0.31	0.32	2	24	3,200	1,400
	2.5% SOM	0.70	0.71	4.8	55	3,300	1,900
	6.0% SOM	1.60	1.60	11	130	3,400	2,500
Trans-1,2-Dichloroethene	1.0% SOM	0.90	0.93	3.70	69	13,000	5,600
	2.5% SOM	1.60	1.70	7.50	120	13,000	7,000
	6.0% SOM	3.30	3.40	16	260	13,000	9,100
Trichloroethene (TCE)	1.0% SOM	0.0093	0.0097	0.032	0.73	76	41
	2.5% SOM	0.020	0.020	0.072	1.5	78	54
	6.0% SOM	0.043	0.045	0.16	3.4	79	69
Vinyl Chloride (Chloroethene)	1.0% SOM	0.0064	0.015	0.0017	1.1	7.8	18
	2.5% SOM	0.010	0.019	0.0031	1.4	7.8	19
	6.0% SOM	0.017	0.029	0.0058	2.2	7.8	19

9.6. Per- and Polyfluoroalkyl Substances (PFAS)

Interim C4SLs for PFOA, PFNA, PFHxS and PFOS						
Determinand	RwHP (mg/kg)	RwoHP (mg/kg)	Allotment (mg/kg)	Commercial (mg/kg)	POSresi (mg/kg)	POSpark (mg/kg)
PFOA	0.076	0.041	0.0014	0.60	0.079	0.17
PFOS	0.013	0.041	0.0027	0.60	0.079	0.17
PFHxS	0.0081	0.041	0.0015	0.60	0.079	0.17
PFNA	0.0073	0.041	0.0013	0.60	0.079	0.17

9.7. Asbestos

No asbestos or asbestos containing materials (ACM's) are considered acceptable on-site from a human health perspective. Therefore the GAC for asbestos & ACM's within any imported material should be none detected (ND).

Ground and Water Limited

Waters Guideline Values and Generic Assessment Criteria

Land contamination can harm a number of receptors, most notably: human health; drinking water; groundwater; surface water; soils; ecosystems; and buildings/structures. The UK Government's stated objectives of LCRM are to enhance the health and wellbeing of all, whilst adding the economic, ecological and amenity value of the area through dealing with land contamination.

The risk assessment is an iterative process. At preliminary risk assessment stage, risks are evaluated qualitatively. As the site investigation progresses to a generic or detailed quantitative risk assessment, data is collected and assessment criteria are utilised to evaluate whether the contaminants represent an unacceptable risk to the identified receptors.

Based on the identified receptor, there are numerous assessment criteria that can be used, which have been outlined in the subsequent sections.

1. Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015

1.1. Background

Within England and Wales, an appropriate agency must classify the ecological and chemical status of a body of surface water. The agency must also classify the chemical and quantitative status of a body of groundwater. The appropriate agency must review and update the classifications at least every 6 years as and when new data is collected through monitoring programmes. In addition to the classification and as part of the WFD, pollution of surface waters must be controlled by limiting the discharge of priority substances and other substances into surface water.

1.2. Surface Water

In order to aid with the classification, a series of environmental quality standards (EQS) for specific pollutants have been generated. The EQS refer to the dissolved fraction of metals within a water sample, therefore the sample collected must pass through a 0.45µm filter at the time of sampling. A number of metals have a bioavailable threshold and therefore a site specific meta bioavailability assessment should be undertaken.

Where the calculated mean value of a measurement is less than the limit of quantification and the limit of quantification is above the EQS, the result must not be used for determining a failed classification.

For the majority of substances, two values will be included for review; AA and MAC. The Annual Average (AA) is the arithmetic mean of the concentrations measured at different times during the year for each representative point within the water body. When using the Max Allowable Concentration (MAC) values, a statistical analysis may be undertaken to ensure an acceptable level of confidence for determining compliance with the MAC.

1.3. Groundwater

The appropriate agency must apply the threshold values for groundwater (in Table 1, Schedule 5) and, if any value is exceeded, undertake an appropriate investigation to determine whether or not the

applicable conditions for good groundwater chemical status are met. The criteria outlined are designed to be averaged across an aquifer rather than a site specific investigations.

2. The Water Supply (Water Quality) Regulations 2016

The water supply regulations apply in relation to the supply of water to premises for domestic purposes (including for cooking, drinking, food preparation and washing) or for food production purposes, both of which include the intended use for human consumption.

The point of compliance for the water supply is principally the consumers' taps, however, where stated the compliance point is the reservoir or treatment works.

3. World Health Organisation, Petroleum Products in Drinking Water, 2008

The World Health Organisation produced a background document for the development of WHO Guidelines for Drinking-water Quality, specifically relating to petroleum products (WHO/SDE/WSH/05.08/123). Petroleum products are used widely in a range of industrial applications, with the largest quantities used for gasoline, diesel and heating oil.

The difference in chemical and physical properties of each hydrocarbon means that they will behave differently within the environment, where their persistence is dictated by their volatilisation, biodegradation and dissolution within water. As a result of these, the heavier hydrocarbons typically have more persistence. Exposure to human health from petroleum hydrocarbons within drinking water can occur from a short to long-term, however the incident that leads to high concentrations within the drinking water will typically occur in the short term.

Petroleum products are a complicated mix of hundreds of compounds and therefore assessment can be difficult. The TPH-CWG method, developed in the USA, groups the TPH into a series of fractions based on the number of carbon atoms, coupled with the overall structure of the compound. This process enables the TPHs to be split into two distinct groups, aliphatics and aromatics.

4. SoBRA GAC_{gwvap}

Prior to the development of the SoBRA GAC_{gwvap}, there were no formally published UK GAC for the assessment of vapour risk arising from volatile contaminants in groundwater in the UK. The SoBRA groundwater vapour GAC (GAC_{gwvap}) is intended as a conservative screening tool that assessors may choose to use to help assess the long-term (chronic) risks to human health from inhalation of vapours arising from groundwater. They are intended for comparison with measured groundwater concentrations and represent the estimated concentration in groundwater below which the long-term risks to human health from vapour migration and inhalation can be considered low/tolerable, i.e. unlikely to be of concern (for the land use scenarios considered). When used as part of a Generic Quantitative Risk Assessment (GQRA) (which includes consideration of uncertainties) comparison of the GAC_{gwvap} with measured concentrations in groundwater can be used to screen out contaminants as being unlikely to represent an unacceptable risk to humans living or working above the groundwater plume.

The GAC have been derived for two land use scenarios for which the vapour intrusion pathway is likely to require assessment: residential and commercial. Generic assumptions have been made for each land use. These include assumptions about the depth to groundwater, soil type in the unsaturated zone, building dimension and foundation type, and receptor behaviour. The parameter values have been chosen to ensure that the GAC are precautionary for the vast majority of commercial and

residential properties in the UK. However, there may be particular situations where the GAC are not protective, for example where non aqueous phase liquid (NAPL) is present or preferential pathways exist.

5. Detailed Quantitative Risk Assessments (DQRA)

Where the adoption of a GAC is not appropriate, for instance when the intended land-use is at variance the CLEA standard land-uses, then a DQRA may be undertaken to develop site specific values for relevant groundwater contaminants. As part of the EA Remedial Targets Methodology (RTM), a level 3 risk assessment will consider the effect of attenuation between the site and a downgradient receptor or compliance point. For a level 4 risk assessment the appropriateness of assessing dilution in a receiving watercourse or a pumping abstraction borehole will need to be considered.

The RTM also recommends that sensitivity/uncertainty analysis is incorporated into each stage of the assessment.

6. Ground and Water Limited Waters Assessment Criteria

The Waters Assessment Criteria used in the preparation of the Generic Quantitative Risk Assessment are tabulated in the following pages, where the source of each has been outlined in the previous sections.

6.1. Inorganics

Specific Pollutants				
Determinand	Long Term Fresh water (µg/l)	Short Term Fresh water (µg/l)	Long Term Salt water (µg/l)	Short Term Salt water (µg/l)
Cyanide	1	5	1	5
Phenol	7.7	46	7.7	46

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Cyanide	50
pH	6.5 – 9.5

6.2. Metals

Specific Pollutants				
Determinand	Long Term Fresh water (µg/l)	Short Term Fresh water (µg/l)	Long Term Salt water (µg/l)	Short Term Salt water (µg/l)
Arsenic	50	-	25	-
Chromium (III)	4.7	32	-	-
Chromium (VI)	3.4	-	0.6	32
Copper	1*	-	3.76	34
Iron	1000	-	1000	-
Manganese	123*	-	-	-
Zinc	10.9*	-	6.8	-

*Site specific bioavailability calculation should be undertaken.

EQS for Priority Substances and other substances

Determinand		AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Cadmium	<40mg/l CaCO ₃	<0.08	<0.45	0.2	-
	40 – <50mg/l	0.08	0.45		
	50 – <100mg/l	0.09	0.6		
	100 – <200mg/l	0.15	0.9		
	>200mg/l	0.25	1.5		
Lead		1.2	14	1.3	14
Mercury		-	0.07	-	0.07
Nickel		4	34	8.6	34

Threshold Values for Groundwater			
Determinand	Groundwater Impact on Surface Water (µg/l)	Drinking water Protected Area (µg/l)	General Quality of Groundwater Body (µg/l)
Aluminum	-	150	150
Arsenic	25.8 – 106	7.5	7.5
Boron	-	750	-
Cadmium	0.054 – 0.53	3.75	-
Copper	0.516 – 2.12	1500	1500
Lead	0.619 – 2.54	7.5	7.5
Mercury	0.026 – 0.106	0.75	-
Nickel	2.06 – 8.48	15	15
Selenium	-	7.5	-
Zinc	5.62 – 23.1	-	-

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Arsenic	10
Boron	1
Cadmium	5
Chromium	50
Copper	2
Lead	10
Mercury	1
Nickel	20

6.3. Total Petroleum Hydrocarbons (TPHs)

6.3.1. BTEX Compounds

Specific Pollutants				
Determinand	Long Term Fresh water (µg/l)	Short Term Fresh water (µg/l)	Long Term Salt water (µg/l)	Short Term Salt water (µg/l)
Toluene	74	380	74	370

EQS for Priority Substances and other substances				
Determinand	AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Benzene	10	50	8	50

Threshold Values for Groundwater			
Determinand	Groundwater Impact on Surface Water (µg/l)	Drinking water Protected Area (µg/l)	General Quality of Groundwater Body (µg/l)
Benzene	5.16 – 21.2	0.75	0.75
Toluene	38.2 – 157	-	-
Xylene (o+p+m)	15.5 – 63.6	-	-

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Benzene	1

6.3.2. Total Petroleum Hydrocarbons – Aliphatic

World Health Organisation	
Determinand	Drinking Water Standard (µg/l)
>C5 – C6	15,000
>C6 – C8	
>C8 – C10	
>C10 – C12	300
>C12 – C16	
>C16 – C21	
>C21 – C35	Not Derived

6.3.3. Total Petroleum Hydrocarbons – Aromatic

World Health Organisation	
Determinand	Drinking Water Standard (µg/l)
>EC5 – EC7	10
>EC7 – EC8	700
>EC8 – EC10	300
>EC10 – EC12	90
>EC12 – EC16	
>EC16 – EC21	
>EC21 – EC35	90

6.4. Polycyclic Aromatic Hydrocarbons (PAHs)

EQS for Priority Substances and other substances				
Determinand	AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Anthracene	0.1	0.1	0.1	0.1
Fluoranthene	0.0063	0.12	0.0063	0.12
Naphthalene	2	130	2	130
Benzo(a)pyrene	0.00017	0.27	0.00017	0.027
Benzo(b)fluoranthene	*	0.017	*	0.017
Benzo(k)fluoranthene	*	0.017	*	0.017
Benzo(ghi)perylene	*	0.0082	*	0.00082

Indeno(123-cd)pyrene	*	-	*	-
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*For the group of priority substances of polyaromatic hydrocarbons, the AA-EQS in water refer to the concentration of benzo(a)pyrene. Benzo(a)pyrene can be considered as a marker for the other PAHs, hence only benzo(a)pyrene must be monitored for comparison with the corresponding AA-EQS.

Threshold Values for Groundwater			
Determinand	Groundwater Impact on Surface Water (µg/l)	Drinking water Protected Area (µg/l)	General Quality of Groundwater Body (µg/l)
Anthracene	0.052 – 0.193	-	-
Benzo(a)pyrene	0.000089 – 0.000328	0.0075	-
Benzo(b)fluoranthene	0.016 – 0.058	0.075	-
Fluoranthene	0.0033 – 0.0122	-	0.075
Naphthalene	1.03 – 4.24	-	0.075

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Benzo(a)pyrene	0.010
Benzo(b) fluoranthene	0.10
Benzo(k)fluoranthene	
Benzo(ghi)perylene	
Indeno(1,2,3-cd)pyrene	

6.5. Pesticides

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
Aldrin	0.03
Dieldrin	0.03
Heptachlor	0.03
Heptachlor epoxide	0.03
Other Pesticides	0.10
Total Pesticides*	0.50

*The sum of the concentrations of the individual pesticides detected and quantified in the monitoring procedure.

6.6. Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

EQS for Priority Substances and other substances				
Determinand	AA-EQS Inland surface water (µg/l)	MAC-EQS Inland surface water (µg/l)	AA-EQS Other Surface waters (µg/l)	MAC-EQS Other Surface waters (µg/l)
Perfluorooctane sulfonic acid (PFOS)	0.00065	36	0.00013	7.2

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)

Any PFAS compound	0.1
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6.7. Volatile and Semi-volatile Organic Compounds

Drinking Water Standards	
Determinand	Maximum allowable Concentration at compliance point (µg/l)
1,2-Dichloroethane	3
Sum of Tetrachloroethene and Trichloroethene	10
Sum of Trihalomethanes: – chloroform – bromoform – dibromochloromethane – bromodichloromethane	100
Vinyl Chloride	0.50

SoBRA GAC _{gwvap} for Petroleum Hydrocarbons			
Determinand	GAC _{gwvap} (µg/l) ^{1,2}		Aqueous Solubility (µg/l)
	Residential	Commercial	
1,2,4-Trimethylbenzene	24	2,200	559,000
Benzene ³	210	20,000	1,780,000
Ethylbenzene ³	10,000	960,000 (sol)	180,000
Isopropylbenzene	850	86,000 (sol)	56,000
Propylbenzene	2,700	240,000 (sol)	54,100
Styrene	8,800	810,000 (sol)	290,000
Toluene ³	230,000	21,000,000 (sol)	590,000
TPH Aliphatic EC5-EC6 ³	1,900	190,000 (sol)	35,900
TPH Aliphatic >EC6-EC8 ³	1,500	150,000 (sol)	5,370
TPH Aliphatic >EC8-EC10 ³	57	5,700 (sol)	427
TPH Aliphatic >EC10-EC12 ³	37	3,600 (sol)	34
TPH Aromatic >EC5-EC7 ³	210,000	20,000,000 (sol)	1,780,000
TPH Aromatic >EC7-EC8 ³	220,000	21,000,000 (sol)	590,000
TPH Aromatic >EC8-EC10 ³	1,900	190,000 (sol)	64,600
TPH Aromatic >EC10-EC12 ³	6,800	660,000 (sol)	24,500
TPH Aromatic >EC12-EC16 ³	39,000	3,700,000 (sol)	5,750
m-Xylene ^{3,5}	9,500	940,000 (sol)	200,000
o-Xylene ^{3,5}	12,000	1,100,000 (sol)	173,000
p-Xylene ²	9,900	980,000 (sol)	200,000

Notes

1. GAC in *italics* with (sol) exceed aqueous solubility.
2. GAC rounded to two significant figures.
3. The GAC for these petroleum hydrocarbon contaminants have been calculated using a sub-surface soil to indoor air correction factor of 10 in line with the physical-chemical data sources.
4. The GAC for TPH fractions do not account for genotoxic mutagenic effects. Concentrations of TPH Aromatic >EC5-EC7 should therefore also be compared with the GAC for benzene to ensure that such effects are also assessed.
5. The Health Criteria Value used for each xylene isomer was for total xylene. If site specific additivity assessments are not completed, as a conservative measure the sum of isomer concentrations should be compared to the lowest xylene GAC (as is the case for soil GAC).

SoBRA GAC _{gwvap} for Polycyclic Aromatic Hydrocarbons			
Determinand	GAC _{gwvap} (µg/l) ^{1,2}		Aqueous Solubility (µg/l)
	Residential	Commercial	
Acenaphthene	170,000 (sol)	15,000,000 (sol)	4,110

Acenaphthylene	220,000 (<i>sol</i>)	20,000,000 (<i>sol</i>)	7,950
Fluorene	210,000 (<i>sol</i>)	18,000,000 (<i>sol</i>)	1,860
Naphthalene	220	23,000 (<i>sol</i>)	19,000
Notes 1. GAC in <i>italics</i> with (<i>sol</i>) exceed aqueous solubility. 2. GAC rounded to two significant figures.			

SoBRA GAC _{gwvap} for Pesticides			
Determinand	GAC _{gwvap} (µg/l) ^{1,2}		Aqueous Solubility (µg/l)
	Residential	Commercial	
Aldrin	47 (<i>sol</i>)	3,700 (<i>sol</i>)	20
<i>alpha</i>-Endosulfan	7,400 (<i>sol</i>)	590,000 (<i>sol</i>)	530
<i>beta</i>-Endosulfan	7,500 (<i>sol</i>)	600,000 (<i>sol</i>)	280
Notes 1. GAC in <i>italics</i> with (<i>sol</i>) exceed aqueous solubility. 2. GAC rounded to two significant figures.			

SoBRA GAC _{gwvap} for Halogenated Organics			
Determinand	GAC _{gwvap} (µg/l) ^{1,2}		Aqueous Solubility (µg/l)
	Residential	Commercial	
1,1,1,2-Tetrachloroethane	240	22,000	1,110,000
1,1,1-Trichloroethane	3,000	290,000	1,300,000
1,1,2,2-Tetrachloroethane	1,600	150,000	2,930,000
1,1,2-Trichloroethane	520	49,000	4,491,000
1,1-Dichloroethane	2,700	260,000	3,666,000
1,1-Dichloroethene	160	16,000	3,100,000
1,2,3,4-Tetrachlorobenzene	240	31,000 (<i>sol</i>)	7,800
1,2,3,5-Tetrachlorobenzene	7.0	600	3,500
1,2,3-Trichlorobenzene	35	3,100	21,000
1,2,4,5-Tetrachlorobenzene	8.1	700 (<i>sol</i>)	600
1,2,4-Trichlorobenzene	68	7,200	41,400
1,2-Dichlorobenzene	2,000	220,000 (<i>sol</i>)	133,000
1,2-Dichloroethane	8.9	850	8,680,000
1,2-Dichloropropane	22	2,600	2,050,000
1,3,5-Trichlorobenzene	7.4	660	6,000
1,3-Dichlorobenzene	31	2,800	103,000
1,4-Dichlorobenzene	5,000	460,000 (<i>sol</i>)	51,200
Bromobenzene	220	20,000	388,040
Bromodichloromethane	17	1,600	3,000,000
Bromoform (Tribromomethane)	3,100	400,000	3,000,000
Chlorobenzene	98	15,000	387,000
Chloroethane	10,000	1,000,000	5,742,000
Chloroethene (Vinyl Chloride)	0.62	63	2,760,000
Chloromethane	14	1,400	5,350,000
cis-1,2-Dichloroethene	130	13,000	7,550,000
Dichloromethane	3,300	370,000	20,080,000
Hexachlorobenzene	16 (<i>sol</i>)	1,400 (<i>sol</i>)	10
Hexachlorobutadiene	1.7	230	4,800
Hexachloroethane	8.5	740	49,900
Pentachlorobenzene	140	12,000 (<i>sol</i>)	500
Tetrachloroethene	34	4,600	225,000

Tetrachloromethane (Carbon Tetrachloride)	5.3	770	846,000
trans-1,2-Dichloroethene	160	16,000	5,250,000
Trichloroethene	5.7	530	1,370,000
Trichloromethane (Chloroform)	790	85,000	8,950,000
Notes 1. GAC in <i>italics</i> with (sol) exceed aqueous solubility. 2. GAC rounded to two significant figures.			

SoBRA GAC_{gwvap} for Others (organic and inorganic)			
Determinand	GAC_{gwvap} (µg/l) ^{1,2}		Aqueous Solubility (µg/l)
	Residential	Commercial	
2-Chloronaphthalene	160	<i>14,000 (sol)</i>	11,700
Biphenyl (Limonene)	<i>15,000 (sol)</i>	<i>1,300,000 (sol)</i>	4,060
Carbon disulphide	56	5,600	2,100,000
Mercury, elemental	1.1	<i>95 (sol)</i>	56
Methyl tertiary butyl ether (MTBE)	83,000	7,800,000	48,000,000
Notes 1. GAC in <i>italics</i> with (sol) exceed aqueous solubility. 2. GAC rounded to two significant figures.			

7. Climate Change

Review of the publication by SoBRA referenced: Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, August 2022, addresses the consideration of climate change as part of groundwater risk assessments. Following the development of a preliminary Conceptual Site Model (CSM), climate change should be included by re-evaluating the potential Source-Pathway-Receptor (SPR) linkage assessment to account for the potential effects of climate change based on projections for the region of the site. It is recommended where practicable to use at least two contrasting future climate change scenarios, incorporating information for the periods of 2020s, 2050s and 2080s dependent on the relevant timeframe to the specific assessment. A qualitative assessment of the impact of climate change on the SPRs and resultant impacts on the contaminants linkages within the CSM. Quantitative data can be used to re-address the generic quantitative risk assessment for medium to long term climate change effects. For short-term extreme weather events the of “what if” scenarios should be considered. Consideration also needs to be given to the shortcomings of available simulation models in the UK where they are not equipped to model temporal changes to parameter values and where mitigation measures may be appropriate to address this.

APPENDIX H: Asbestos Risk Assessment

Asbestos Risk Assessment (CIRIA733)



Site information	Trial Hole Depth (m bgl)				BH1 0.2					
Asbestos Type Considerations	Abestos type	Chrysotile			Amosite			Crocidolite		
	Kasbestos	1.3			1.7			2.0		
	Soil Concentration (Quantification Result in %)				0.001					
Soil Type Considerations	Soil Type	Sand	Sandy Clay	Clay	Sand	Sandy Clay	Clay	Sand	Sandy Clay	Clay
	Ksoil	2.9	1.7	0.93	2.9	1.7	0.93	2.9	1.7	0.93
	Enter the relevant from the above	1.7			2.9					
Constants	Koverall	1.6			1.6			1.6		
	Dust Concentration (mg/m3)	0.1			0.1			0.1		
	Dry Conditions Exposure (hrs)	750			750			750		
	Occupation hours in a year	1920			1920			1920		
Calculation Results	fibre/ml per mg/m3				0.0031					
	fibre/ml				0.00031					
	fibre/ml.hr				0.231					
	fibre/ml.year				0.000120					
Mesothelioma Accumulated Risk	Age (exposure commences)	0			0			0		
	Risk persists for (Years)	60			60			60		
	Cummulative Age Adjustment Factor	16.8			16.8			16.8		
	fibre/ml.year (cumulative)				0.00202					
Lung Cancer Accumulated Risk	Risk persists for (Years)	60			60			60		
	fibre/ml.year (cumulative)				0.00144					

BACKGROUND

This asbestos risk assessment has been undertaken in accordance with the guidance within CIRIA733.

The fibre concentration within the airborne soil dust (in fibres/ml per mg/m3) was calculated based on the results of Addison et al 1988.

The airborne concentration of soil dust (0.1mg/m3) was based on ambient urban dust levels and ART modelling.

The dry conditions exposure (750hrs) was based upon regional meteorological data suggesting 150hrs of dry conditions per year, when applied over a 5-year segment this equates to 750hours.

The occupational hours per year (1920hrs) is based on a 40-hour working week and 48 working weeks in a year.

A worst-case exposure scenario has been considered for residents, groundworkers or generally end-users. This was based on the risk persisting for a period of 60 years, accumulated in 5-year increments. As the risk of mesothelioma is age dependent, this considered the exposure commencing at age 0 with the relevant age adjustment factor applied for each 5-year increment.

Based on the above considerations, the following equations have been used:

$$((\text{Kasbestostype} \times \text{Ksoil}) \div \text{Koverall}) \times \text{Soil Concentration} = \text{fibre/ml per mg/m3}$$

$$\text{Fibre/ml per mg/m3} \times \text{Dust Concentration} = \text{fibre/ml}$$

$$(\text{f/ml} \times \text{Dry Conditions Exposure (hrs)}) = \text{fibre/ml.hr}$$

$$\text{Fibre/ml.hr} \div \text{occupational hours per year} = \text{fibre/ml.year}$$

$$\text{Mesothelioma: fibre/ml.year} \times 16.8 \text{ (cumulative age adjustment factor for 60 years)}$$

$$\text{Lung Cancer: fibre/ml.year} \times 12 \text{ (60 years in 5-year increments)}$$