

# APPENDIX D: Trial Hole Logs



# Percussion Drilling Log

Project Name: 10 Lyndhurst Road		Client: John Fitzpatrick		Date: 05/12/2023	
Location: Hampstead, London NW3 5PX		Contractor:		Co-ords: E526799.00 N185369.00	
Project No. : GWPR5717		Crew Name:		Drilling Equipment:	
Borehole Number WS1	Hole Type WLS	Level 11.10m AoD	Logged By	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	D		0.30	10.80		TOPSOIL: Dark brown gravelly sandy silty CLAY. Sand was fine to coarse. Gravel was fine to coarse, sub-angular to sub-rounded flint. CLAYGATE MEMBER: Brown/orange mottled slightly sandy silty CLAY.	1
		0.50	D						
		0.80	D						
		1.00	D						
		1.00	SPT	N=11 (2,2/3,3,2,3)					
		1.50	D						
		2.00	D						
		2.00	SPT	N=19 (2,3/4,5,5,5)					2
		2.50	D						
		3.00	D						
	3.00	SPT	N=16 (3,4/5,4,4,3)	3.20	7.90		LONDON CLAY FORMATION: Grey/brown/orange mottled silty CLAY.	3	
	3.50	D							
	4.00	D							
	4.00	SPT	N=8 (2,2/2,2,2,2)					4	
	4.50	D							
	5.00	D			5.00	6.10		End of Borehole at 5.000m	5
	5.00	SPT	N=7 (1,2/2,1,2,2)						

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
 Fresh roots noted to 1.00m bgl. No groundwater encountered.





# Percussion Drilling Log

Project Name: 10 Lyndhurst Road		Client: John Fitzpatrick		Date: 05/12/2023	
Location: Hampstead, London NW3 5PX		Contractor:		Co-ords: E526801.00 N185352.00	
Project No. : GWPR5717		Crew Name:		Drilling Equipment:	
Borehole Number WS2	Hole Type WLS	Level 11.90m AoD	Logged By	Scale 1:50	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.20	D		0.40	11.50		GRASS OVER MADE GROUND: Dark brown gravelly sandy silty CLAY. Sand was fine to coarse. Gravel was fine to coarse, sub-angular to sub-rounded flint (70%) and brick (30%). CLAYGATE MEMBER: Brown/orange mottled slightly sandy silty CLAY.	1	
		0.50	D							
		0.80	D							
		1.00	D							
		1.00	SPT	N=12 (2,3/3,3,3,3)						
		1.50	D							
		2.00	D							
		2.00	SPT	N=15 (3,3/4,3,4,4)						
		2.50	D							
		3.00	D			3.10	8.80		LONDON CLAY FORMATION: Grey/brown/orange mottled silty CLAY.	3
		3.00	SPT	N=8 (2,2/1,2,2,3)						
		3.50	D							
		4.00	D							
		4.00	SPT	N=7 (1,1/2,2,1,2)						
	4.50	D								
	5.00	D			5.00	6.90		End of Borehole at 5.000m	5	
	5.00	SPT	N=8 (1,2/2,2,2,2)							

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
 Fresh roots noted to 1.00m bgl. No groundwater encountered.





# Percussion Drilling Log

Project Name: 10 Lyndhurst Road		Client: John Fitzpatrick		Date: 05/12/2023	
Location: Hampstead, London NW3 5PX		Contractor:		Co-ords: E526791.00 N185378.00	
Project No. : GWPR5717		Crew Name:		Drilling Equipment:	
Borehole Number WS3	Hole Type WLS	Level 12.80m AoD	Logged By		Scale 1:50
					Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20	D		0.60	12.20		GRASS OVER TOPSOIL: Dark brown gravelly sandy silty CLAY. Sand was fine to coarse. Gravel was fine to coarse, sub-angular to sub-rounded flint.	1
		0.50	D						
		0.80	D						
		1.00	D						
		1.00	SPT	N=12 (2,2/2,3,4,3)					
		1.50	D						
		2.00	D		2.90	9.90		CLAYGATE MEMBER: Brown/orange mottled slightly sandy silty CLAY.	2
		2.00	SPT	N=16 (2,3/3,4,5,4)					
		2.50	D						
		3.00	D						
		3.00	SPT	N=15 (2,2/3,4,4,4)					
		3.50	D						
	4.00	D		5.00	7.80		LONDON CLAY FORMATION: Grey/brown/orange mottled silty CLAY.	3	
	4.00	SPT	N=9 (2,3/3,2,2,2)						
	4.50	D							
	5.00	D							
	5.00	SPT	N=9 (2,2/2,2,2,3)						
	5.00	SPT	N=9 (2,2/2,2,2,3)						
							End of Borehole at 5.000m	4	
								5	
								6	
								7	
								8	
								9	
								10	

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks  
Fresh roots noted to 0.50m bgl. No groundwater encountered.



# APPENDIX E: Geotechnical Laboratory Testing



# Laboratory Report



## Contract Number: 70211

Client Ref: **GWPR5717**

Date Received: **15-12-2023**

Client PO: **GWPR5717**

Date Completed: **20-12-2023**

Report Date: **20-12-2023**

Client: **Ground and Water Limited**

Contract Title: **10 Lyndhurst Road, Hampstead, London NW3 5PX**

For the attention of: **Robert Terrell**

Test Description	Qty
<b>Moisture Content</b> BS 1377:1990 - Part 2 : 3.2 - * UKAS	5
<b>1 Point Liquid &amp; Plastic Limit</b> BS 1377:1990 - Part 2 : 4.4 & 5.3 - * UKAS	5
<b>Disposal of samples for job</b>	1

**Notes:** Observations and Interpretations are outside the UKAS Accreditation

\* - denotes test included in laboratory scope of accreditation

# - denotes test carried out by approved contractor

@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

**Approved Signatories:**

Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)

Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)

Wayne Honey (Human Resources/ Health and Safety Manager)

GEO Site & Testing Services Ltd

Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN

Tel: 01554 784040 Fax: 01554 TBA info@gstl.co.uk https://gstl.co.uk



**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX  
( BS 1377:1990 - Part 2 : 4.4 & 5.3 )**

Contract Number	70211	
Project Name	10 Lyndhurst Road, Hampstead, London NW3 5PX	
Date Tested	19/12/2023	
	<b>DESCRIPTIONS</b>	

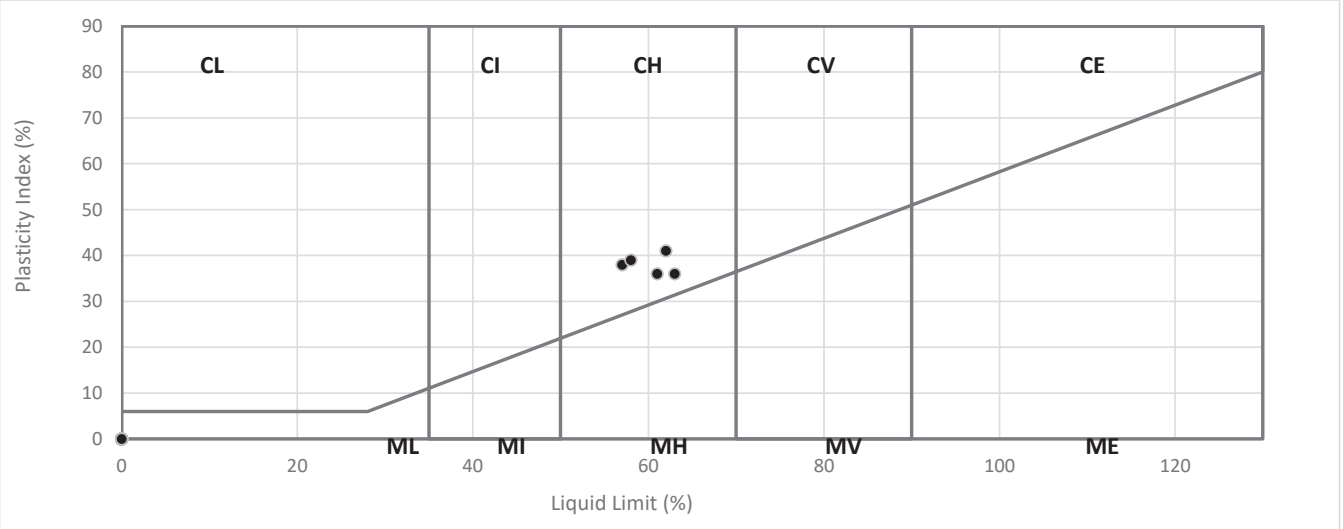
Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
WS1		D	0.50	-		Brown silty CLAY
WS1		D	5.00	-		Brown silty CLAY
WS2		D	0.80	-		Brown silty CLAY
WS2		D	2.50	-		Brown silty CLAY
WS3		D	3.50	-		Brown silty CLAY
				-		
				-		
				-		
				-		
				-		
				-		
				-		
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				-		

Operator
Clayton Jenkins

Contract Number	70211
Project Name	10 Lyndhurst Road, Hampstead, London NW3 5PX
Date Tested	19/12/2023

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)		Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
WS1		D	0.50	-	26	62	21	41	100	CH High Plasticity
WS1		D	5.00	-	30	63	27	36	100	CH High Plasticity
WS2		D	0.80	-	22	57	19	38	100	CH High Plasticity
WS2		D	2.50	-	31	61	25	36	100	CH High Plasticity
WS3		D	3.50	-	23	58	19	39	100	CH High Plasticity
				-						
				-						
				-						
				-						
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Symbols: NP : Non Plastic      # : Liquid Limit and Plastic Limit Wet Sieved  
**PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION**  
**BS 5930:2015+A1:2020**



Operator
Clayton Jenkins





# 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:** Robert Terrell

## CERTIFICATE OF ANALYSIS

**Date of report Generation:** 20 December 2023  
**Customer:** Ground and Water Ltd  
**Sample Delivery Group (SDG):** 231213-76  
**Your Reference:** GWPR5717  
**Location:** 10 Lyndhurst Road, Hampstead, London NW3  
**Report No:** 715110  
**Order Number:** GWPR5717

We received 6 samples on Wednesday December 13, 2023 and 6 of these samples were scheduled for analysis which was completed on Wednesday December 20, 2023. 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:

**Sonia McWhan**

Operations Manager





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

## Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
29096850	WS1		0.20 - 0.20	05/12/2023
29096863	WS1		0.80 - 0.80	05/12/2023
29096855	WS2		0.50 - 0.50	05/12/2023
29096865	WS2		2.50 - 2.50	05/12/2023
29096859	WS3		0.20 - 0.20	05/12/2023
29096867	WS3		4.50 - 4.50	05/12/2023

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



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

<b>Results Legend</b>  <span style="background-color: yellow; border: 1px solid black; padding: 2px;">X</span> Test  <span style="background-color: red; color: white; border: 1px solid black; padding: 2px;">N</span> 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	
		29096867	WS3		4.50 - 4.50	1kg Cardboard Container	S
		29096859	WS3		0.20 - 0.20	250g Amber Jar (ALE210)	S
		29096865	WS2		2.50 - 2.50	1kg Cardboard Container	S
		29096855	WS2		0.50 - 0.50	250g Amber Jar (ALE215) 60g VOC (ALE215)	S
		29096863	WS1		0.80 - 0.80	1kg Cardboard Container	S
		29096850	WS1		0.20 - 0.20	250g Amber Jar (ALE210) 60g VOC (ALE215)	S
Ammoniacal N as NH4 in 2:1 extract	All	NDPs: 0 Tests: 2					
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 1					
Anions by Kone (soil)	All	NDPs: 0 Tests: 6					
Anions by Kone (w)	All	NDPs: 0 Tests: 1					
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 3					
Boron Water Soluble	All	NDPs: 0 Tests: 3					
CEN Readings	All	NDPs: 0 Tests: 1					
Coronene	All	NDPs: 0 Tests: 1					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1					
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 1					
EPH by GCxGC-FID	All	NDPs: 0 Tests: 1					
EPH CWG GC (S)	All	NDPs: 0 Tests: 2					
Fluoride	All	NDPs: 0 Tests: 1					
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2					



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

<b>Results Legend</b>  <span style="background-color: yellow; border: 1px solid black; padding: 2px;">X</span> Test  <span style="background-color: red; color: white; border: 1px solid black; padding: 2px;">N</span> 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	
		29096867	WS3		4.50 - 4.50	1kg Cardboard Container	S
		29096859	WS3		0.20 - 0.20	250g Amber Jar (ALE210)	S
		29096865	WS2		2.50 - 2.50	1kg Cardboard Container	S
		29096855	WS2		0.50 - 0.50	60g VOC (ALE215)	S
		29096863	WS1		0.80 - 0.80	1kg Cardboard Container	S
		29096850	WS1		0.20 - 0.20	250g Amber Jar (ALE210)	S
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 3					
						X	
						X	
						X	
Loss on Ignition in soils	All	NDPs: 0 Tests: 1					
						X	
Magnesium (BRE)	All	NDPs: 0 Tests: 2					
						X	
Mercury Dissolved	All	NDPs: 0 Tests: 1					
						X	
Metals in solid samples by OES	All	NDPs: 0 Tests: 3					
						X	
						X	
						X	
NO3, NO2 and TON by KONE (s)	All	NDPs: 0 Tests: 2					
						X	
PAH 16 & 17 Calc	All	NDPs: 0 Tests: 1					
						X	
PAH by GCMS	All	NDPs: 0 Tests: 3					
						X	
						X	
PCBs by GCMS	All	NDPs: 0 Tests: 1					
						X	
pH	All	NDPs: 0 Tests: 6					
						X	
						X	
						X	
						X	
						X	
pH Value of Filtered Water	All	NDPs: 0 Tests: 1					
						X	
Phenols by HPLC (S)	All	NDPs: 0 Tests: 3					
						X	
						X	
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1					
						X	
Sample description	All	NDPs: 0 Tests: 6					
						X	
						X	
						X	
						X	
Total Organic Carbon	All	NDPs: 0 Tests: 3					
						X	
						X	
						X	



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

<b>Results Legend</b>  <span style="background-color: yellow; border: 1px solid black; padding: 2px;">X</span> Test  <span style="background-color: red; color: white; border: 1px solid black; padding: 2px;">N</span> 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	
		29096867	WS3		4.50 - 4.50	1kg Cardboard Container	S
		29096859	WS3		0.20 - 0.20	250g Amber Jar (ALE210)	S
		29096865	WS2		2.50 - 2.50	1kg Cardboard Container	S
		29096855	WS2		0.50 - 0.50	60g VOC (ALE215)	S
		29096863	WS1		0.80 - 0.80	1kg Cardboard Container	S
		29096850	WS1		0.20 - 0.20	250g Amber Jar (ALE210)	S
Total Sulphate	All	NDPs: 0 Tests: 2					
						X	
Total Sulphur	All	NDPs: 0 Tests: 2					
						X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 2					
						X	
VOC MS (S)	All	NDPs: 0 Tests: 2					
						X	



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

## Sample Descriptions

### Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
29096850	WS1	0.20 - 0.20	Dark Brown	Sandy Clay Loam	Stones	Vegetation
29096863	WS1	0.80 - 0.80	Light Brown	Silty Sand	None	None
29096855	WS2	0.50 - 0.50	Dark Brown	Sandy Clay Loam	Stones	Vegetation
29096865	WS2	2.50 - 2.50	Light Brown	Silty Clay Loam	Stones	Vegetation
29096859	WS3	0.20 - 0.20	Dark Brown	Sandy Loam	Stones	Crushed Brick
29096867	WS3	4.50 - 4.50	Light Brown	Clay	None	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

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 materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Results Legend		Customer Sample Ref.	WS1	WS1	WS2	WS2	WS3	WS3
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.20 - 0.20	0.80 - 0.80	0.50 - 0.50	2.50 - 2.50	0.20 - 0.20	4.50 - 4.50
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.		05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023
diss,filtr	Dissolved / filtered sample.		00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.		13/12/2023	13/12/2023	13/12/2023	13/12/2023	13/12/2023	13/12/2023
*	Subcontracted - refer to subcontractor report for accreditation status.		231213-76	231213-76	231213-76	231213-76	231213-76	231213-76
**	% 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		29096850	29096863	29096855	29096865	29096859	29096867
(F)	Trigger breach confirmed							
1-4456	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Moisture Content Ratio (% of as received sample)	%	PM024	19	21	15	18	18	19
Loss on ignition	<0.7 %	TM018	9.92					
Phenol	<0.01 mg/kg	TM062 (S)	<0.01		<0.01		<0.01	
Cresols	<0.01 mg/kg	TM062 (S)	<0.01		<0.01		<0.01	
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015		<0.015		<0.015	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035		<0.035		<0.035	
Organic Carbon, Total	<0.2 %	TM132	3.7		2.58		2.87	
Sulphur, Total	<0.02 %	TM132		0.0959				0.0464
Soil Organic Matter (SOM)	<0.35 %	TM132	6.38		4.45		4.95	
pH	1 pH Units	TM133	8.2	7.83	7.6	7.97	7.68	7.55
Chromium, Hexavalent	<0.6 mg/kg	TM151	1.7		0.982		<0.6	
Cyanide, Total	<1 mg/kg	TM153	<1		<1		1.2	
PCB congener 28	<0.003 mg/kg	TM168	<0.003					
PCB congener 52	<0.003 mg/kg	TM168	<0.003					
PCB congener 101	<0.003 mg/kg	TM168	<0.003					
PCB congener 118	<0.003 mg/kg	TM168	<0.003					
PCB congener 138	<0.003 mg/kg	TM168	0.00524					
PCB congener 153	<0.003 mg/kg	TM168	0.00814					
PCB congener 180	<0.003 mg/kg	TM168	0.0112					
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168	0.0245					
Arsenic	<0.6 mg/kg	TM181	23.1		16.4		14.6	
Cadmium	<0.02 mg/kg	TM181	0.942		0.263		0.67	
Chromium	<0.9 mg/kg	TM181	36.4		19.7		23.7	
Copper	<1.4 mg/kg	TM181	92.2		43.2		41.8	
Lead	<0.7 mg/kg	TM181	2950		687		840	
Mercury	<0.1 mg/kg	TM181	1.1		0.387		0.44	
Nickel	<0.2 mg/kg	TM181	34		18.9		15.4	
Selenium	<1 mg/kg	TM181	<1		<1		<1	
Vanadium	<0.2 mg/kg	TM181	55.7		39.6		39.4	
Zinc	<1.9 mg/kg	TM181	1120		301		369	
ANC @ pH 4	<0.03 mol/kg	TM182	0.119					
ANC @ pH 6	<0.03 mol/kg	TM182	<0.03					





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

Results Legend		Customer Sample Ref.	WS1	WS1	WS2	WS2	WS3	WS3
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.20 - 0.20	0.80 - 0.80	0.50 - 0.50	2.50 - 2.50	0.20 - 0.20	4.50 - 4.50
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.		05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023	05/12/2023
diss.filt	Dissolved / filtered sample.		00:00	00:00	00:00	00:00	00:00	00:00
tot.unfilt	Total / unfiltered sample.		13/12/2023	13/12/2023	13/12/2023	13/12/2023	13/12/2023	13/12/2023
**	Subcontracted - refer to subcontractor report for accreditation status.		231213-76	231213-76	231213-76	231213-76	231213-76	231213-76
	% 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		29096850	29096863	29096855	29096865	29096859	29096867
(F)	Trigger breach confirmed							
1-466@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Sulphate, acid soluble (total)	<0.0048 %	TM221		0.161				0.102
				M				M
Boron, water soluble	<1 mg/kg	TM222	<1		<1		<1	
			M		M		M	
Water Soluble Sulphate as SO4 2:1 Extract	<0.004 g/l	TM243	<0.004		<0.004		<0.004	
			M		M		M	
Soluble Sulphate 2:1 extract as SO4 BRE	<0.004 g/l	TM243		0.0547		<0.004		0.0744
				M		M		M
Chloride 2:1 water/soil extract BRE	<0.0025 g/l	TM243		0.0129				0.0163
				M				M
Nitrate as NO3, 2:1 water soluble (BRE)	<0.0003 g/l	TM243		0.0109				0.00381
Ammoniacal N as NH4 in 2:1 extract BRE	<0.0003 g/l	TM248		0.00226				0.00173
Magnesium (BRE)	<0.008 g/l	TM282		<0.008				<0.008
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410	11.3					
Coronene	<0.2 mg/kg	TM410	<0.2					
EPH Surrogate % recovery**	%	TM415	115					
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415	30.2					



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## PAH by GCMS

Results Legend		Customer Sample Ref.	WS1	WS2	WS3			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.20 - 0.20	0.50 - 0.50	0.20 - 0.20			
M	mCERTS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)			
aq	Aqueous / settled sample.		05/12/2023	05/12/2023	05/12/2023			
diss,filtr	Dissolved / filtered sample.		00:00	00:00	00:00			
tot.unfiltr	Total / unfiltered sample.		13/12/2023	13/12/2023	13/12/2023			
*	Subcontracted - refer to subcontractor report for accreditation status.		231213-76	231213-76	231213-76			
**	% 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		29096850	29096855	29096859			
(F)	Trigger breach confirmed							
1-4*5@	Sample deviation (see appendix)							
Component	LOD/Units		Method					
Naphthalene-d8 % recovery**	%	TM218	86.9	88.9	83.9			
Acenaphthene-d10 % recovery**	%	TM218	89.8	90.9	88			
Phenanthrene-d10 % recovery**	%	TM218	90.1	92.8	83.6			
Chrysene-d12 % recovery**	%	TM218	86.3	91.5	75.9			
Perylene-d12 % recovery**	%	TM218	89.6	92.3	79.8			
Naphthalene	<0.009 mg/kg	TM218	0.0164 M	0.109 M	0.019 M			
Acenaphthylene	<0.012 mg/kg	TM218	0.0932 M	0.0872 M	0.0537 M			
Acenaphthene	<0.008 mg/kg	TM218	0.0231 M	0.0982 M	0.0277 M			
Fluorene	<0.01 mg/kg	TM218	0.0441 M	0.106 M	0.0306 M			
Phenanthrene	<0.015 mg/kg	TM218	0.824 M	2.15 M	0.664 M			
Anthracene	<0.016 mg/kg	TM218	0.18 M	0.355 M	0.117 M			
Fluoranthene	<0.017 mg/kg	TM218	2.06 M	3.96 M	1.64 M			
Pyrene	<0.015 mg/kg	TM218	1.75 M	3.25 M	1.38 M			
Benz(a)anthracene	<0.014 mg/kg	TM218	1.01 M	1.66 M	0.764 M			
Chrysene	<0.01 mg/kg	TM218	0.903 M	1.59 M	0.777 M			
Benzo(b)fluoranthene	<0.015 mg/kg	TM218	1.35 M	1.9 M	0.949 M			
Benzo(k)fluoranthene	<0.014 mg/kg	TM218	0.47 M	0.781 M	0.362 M			
Benzo(a)pyrene	<0.015 mg/kg	TM218	1.09 M	1.59 M	0.811 M			
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218	0.698 M	0.866 M	0.482 M			
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218	0.115 M	0.117 M	0.081 M			
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218	0.687 M	0.919 M	0.482 M			
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218	11.3	19.5	8.65			



# CERTIFICATE OF ANALYSIS

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SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## TPH CWG (S)

Results Legend		Customer Sample Ref.	WS1	WS2			
#	ISO17025 accredited.						
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.fit	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted - refer to subcontractor report for accreditation status.	Depth (m)	0.20 - 0.20	0.50 - 0.50			
**	% 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	Sample Type	Soil/Solid (S)	Soil/Solid (S)			
(F)	Trigger breach confirmed	Date Sampled	05/12/2023	05/12/2023			
1-4	Sample deviation (see appendix)	Sampled Time	00:00	00:00			
		Date Received	13/12/2023	13/12/2023			
		SDG Ref	231213-76	231213-76			
		Lab Sample No.(s)	29096850	29096855			
		AGS Reference					
Component	LOD/Units	Method					
GRO Surrogate % recovery**	%	TM089	113	70.5			
Aliphatics >C5-C6 (HS_1D_AL)	<0.01 mg/kg	TM089	<0.01	<0.01			
Aliphatics >C6-C8 (HS_1D_AL)	<0.01 mg/kg	TM089	0.0372	<0.01			
Aliphatics >C8-C10 (HS_1D_AL)	<0.01 mg/kg	TM089	0.062	<0.01			
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #			
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #			
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1 #	<1 #			
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414	6.17 #	8.94 #			
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1 mg/kg	TM414	<1	<1			
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5 mg/kg	TM414	7.29	10.2			
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10 mg/kg	TM414	68.9	56.6			
Aromatics >EC5-EC7 (HS_1D_AR)	<0.01 mg/kg	TM089	<0.01	<0.01			
Aromatics >EC7-EC8 (HS_1D_AR)	<0.01 mg/kg	TM089	<0.01	<0.01			
Aromatics >EC8-EC10 (HS_1D_AR)	<0.01 mg/kg	TM089	0.0422	<0.01			
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1 mg/kg	TM414	<1 #	<1 #			
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1 mg/kg	TM414	1.51 #	<1 #			
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1 mg/kg	TM414	10.2 #	7.91 #			
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414	44.4 #	35.5 #			
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414	5.48	3.04			
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414	<1	<1			
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5 mg/kg	TM414	61.6	46.5			
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10 mg/kg	TM414	69	56.6			
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<0.05 mg/kg	TM089	0.0992	<0.05			
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<0.05 mg/kg	TM089	<0.05	<0.05			
GRO >C5-C10 (HS_1D_TOTAL)	<0.02 mg/kg	TM089	0.0992	<0.02			





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## Asbestos Identification - Solid Samples

### Results Legend

- # ISO17025 accredited.
- M mCERTS accredited.
- \* Subcontracted test.
- (F) Trigger breach confirmed
- 1-5&#9@ Sample deviation (see appendix)

Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
18/12/2023	Odhran McLernon	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
18/12/23	Ashia Jackson	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
18/12/2	Ashia Jackson	N/A	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected



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Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## CEN 10:1 SINGLE STAGE LEACHATE TEST

### CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

<b>Client Reference</b>	
<b>Mass Sample taken (kg)</b>	0.114
<b>Mass of dry sample (kg)</b>	0.090
<b>Particle Size &lt;4mm</b>	>95%

<b>Site Location</b>	10 Lyndhurst Road, Hampstead
<b>Natural Moisture Content (%)</b>	26.5
<b>Dry Matter Content (%)</b>	79

<b>Case</b>	
<b>SDG</b>	231213-76
<b>Lab Sample Number(s)</b>	29096850
<b>Sampled Date</b>	05-Dec-2023
<b>Customer Sample Ref.</b>	WS1
<b>Depth (m)</b>	0.20 - 0.20

### Landfill Waste Acceptance Criteria Limits

Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
3	5	6
-	-	10
6	-	-
1	-	-
500	-	-
100	-	-
-	>6	-
-	-	-
-	-	-

Solid Waste Analysis	Result
Total Organic Carbon (%)	3.7
Loss on Ignition (%)	9.92
Sum of BTEX (mg/kg)	<0.14
Sum of 7 PCBs (mg/kg)	0.0245
Mineral Oil (mg/kg) (EH_2D_AL)	30.2
PAH Sum of 17 (mg/kg)	11.3
pH (pH Units)	8.2
ANC to pH 6 (mol/kg)	<0.03
ANC to pH 4 (mol/kg)	0.119

Eluate Analysis	C2 Conc <sup>n</sup> in 10:1 eluate (mg/l)		A2 10:1 conc <sup>n</sup> leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	Limit of Detection	Result	Limit of Detection			
Arsenic	0.0067	<0.0005	0.067	<0.005	0.5	2	25
Barium	0.0159	<0.0002	0.159	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	0.00881	<0.001	0.0881	<0.01	0.5	10	70
Copper	0.00827	<0.0003	0.0827	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.00167	<0.0004	0.0167	<0.004	0.4	10	40
Lead	0.0181	<0.0002	0.181	<0.002	0.5	10	50
Antimony	0.00395	<0.001	0.0395	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.0172	<0.001	0.172	<0.01	4	50	200
Chloride	6.8	<2	68	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	71.1	<10	711	<100	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	5.16	<3	51.6	<30	500	800	1000

### Leach Test Information

Date Prepared	13-Dec-2023
pH (pH Units)	8.29
Conductivity (µS/cm)	92
Volume Leachant (Litres)	0.876

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

20/12/2023 16:02:35



# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

## Table of Results - Appendix

Method No	Description
TM104	Determination of Fluoride using the Kone Analyser
TM182	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils
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
TM414	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
TM089	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM151	Determination of Hexavalent Chromium using Kone analyser
TM181	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM048	Identification of Asbestos in Bulk Material
TM062 (S)	Determination of Phenols in Soils by HPLC
TM152	Analysis of Aqueous Samples by ICP-MS
TM153	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM168	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM218	The determination of PAH in soil samples by GC-MS
TM222	Determination of Hot Water Soluble Boron in Soils (10:1 Water:Soil) by ICP OES.
TM248	Determination of Ammonium BRE (2:1 Extract) on solids
TM256	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM282	Extraction of Magnesium by BRE Method
TM415	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-FID
PM024	Soil preparation including homogenisation, moisture, screens of soils for Asbestos Containing Material
PM115	Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
TM018	Determination of Loss on Ignition
TM090	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM116	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	ELTRA CS800 Operators Guide
TM133	Determination of pH in Soil and Water using the GLpH pH Meter
TM221	Determination of Acid Extractable Sulphate in Soils by ICP OES
TM243	Mixed Anions In Soils By Kone
TM259	Determination of Phenols in Waters and Leachates by HPLC
TM410	Determination of Coronene in soils by GCMS

NA = not applicable.

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



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Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

Superseded Report:

## Test Completion Dates

Lab Sample No(s) Customer Sample Ref. AGS Ref. Depth Type	29096850	29096863	29096855	29096865	29096859	29096867
	WS1	WS1	WS2	WS2	WS3	WS3
	0.20 - 0.20	0.80 - 0.80	0.50 - 0.50	2.50 - 2.50	0.20 - 0.20	4.50 - 4.50
	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammoniacal N as NH4 in 2:1 extract		15-Dec-2023				14-Dec-2023
ANC at pH4 and ANC at pH 6	20-Dec-2023					
Anions by Kone (soil)	19-Dec-2023	19-Dec-2023	19-Dec-2023	19-Dec-2023	19-Dec-2023	15-Dec-2023
Anions by Kone (w)	19-Dec-2023					
Asbestos ID in Solid Samples	18-Dec-2023		18-Dec-2023		18-Dec-2023	
Boron Water Soluble	19-Dec-2023		19-Dec-2023		19-Dec-2023	
CEN 10:1 Leachate (1 Stage)	14-Dec-2023					
CEN Readings	20-Dec-2023					
Coronene	18-Dec-2023					
Cyanide Comp/Free/Total/Thiocyanate	15-Dec-2023		18-Dec-2023		15-Dec-2023	
Dissolved Metals by ICP-MS	18-Dec-2023					
Dissolved Organic/Inorganic Carbon	20-Dec-2023					
EPH by GCxGC-FID	15-Dec-2023					
EPH CWG GC (S)	15-Dec-2023		15-Dec-2023			
Fluoride	19-Dec-2023					
GRO by GC-FID (S)	15-Dec-2023		15-Dec-2023			
Hexavalent Chromium (s)	16-Dec-2023		16-Dec-2023		16-Dec-2023	
Loss on Ignition in soils	15-Dec-2023					
Magnesium (BRE)		18-Dec-2023				15-Dec-2023
Mercury Dissolved	20-Dec-2023					
Metals in solid samples by OES	18-Dec-2023		19-Dec-2023		18-Dec-2023	
Moisture at 105C	13-Dec-2023					
NO3, NO2 and TON by KONE (s)		19-Dec-2023				15-Dec-2023
PAH 16 & 17 Calc	18-Dec-2023					
PAH by GCMS	18-Dec-2023		18-Dec-2023		20-Dec-2023	
PCBs by GCMS	18-Dec-2023					
pH	19-Dec-2023	19-Dec-2023	19-Dec-2023	19-Dec-2023	19-Dec-2023	19-Dec-2023
pH Value of Filtered Water	20-Dec-2023					
Phenols by HPLC (S)	18-Dec-2023		18-Dec-2023		18-Dec-2023	
Phenols by HPLC (W)	20-Dec-2023					
Sample description	13-Dec-2023	14-Dec-2023	14-Dec-2023	14-Dec-2023	13-Dec-2023	13-Dec-2023
Total Organic Carbon	19-Dec-2023		19-Dec-2023		18-Dec-2023	
Total Sulphate		19-Dec-2023				15-Dec-2023
Total Sulphur		19-Dec-2023				15-Dec-2023
TPH CWG GC (S)	15-Dec-2023		15-Dec-2023			
VOC MS (S)	19-Dec-2023		19-Dec-2023			





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SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

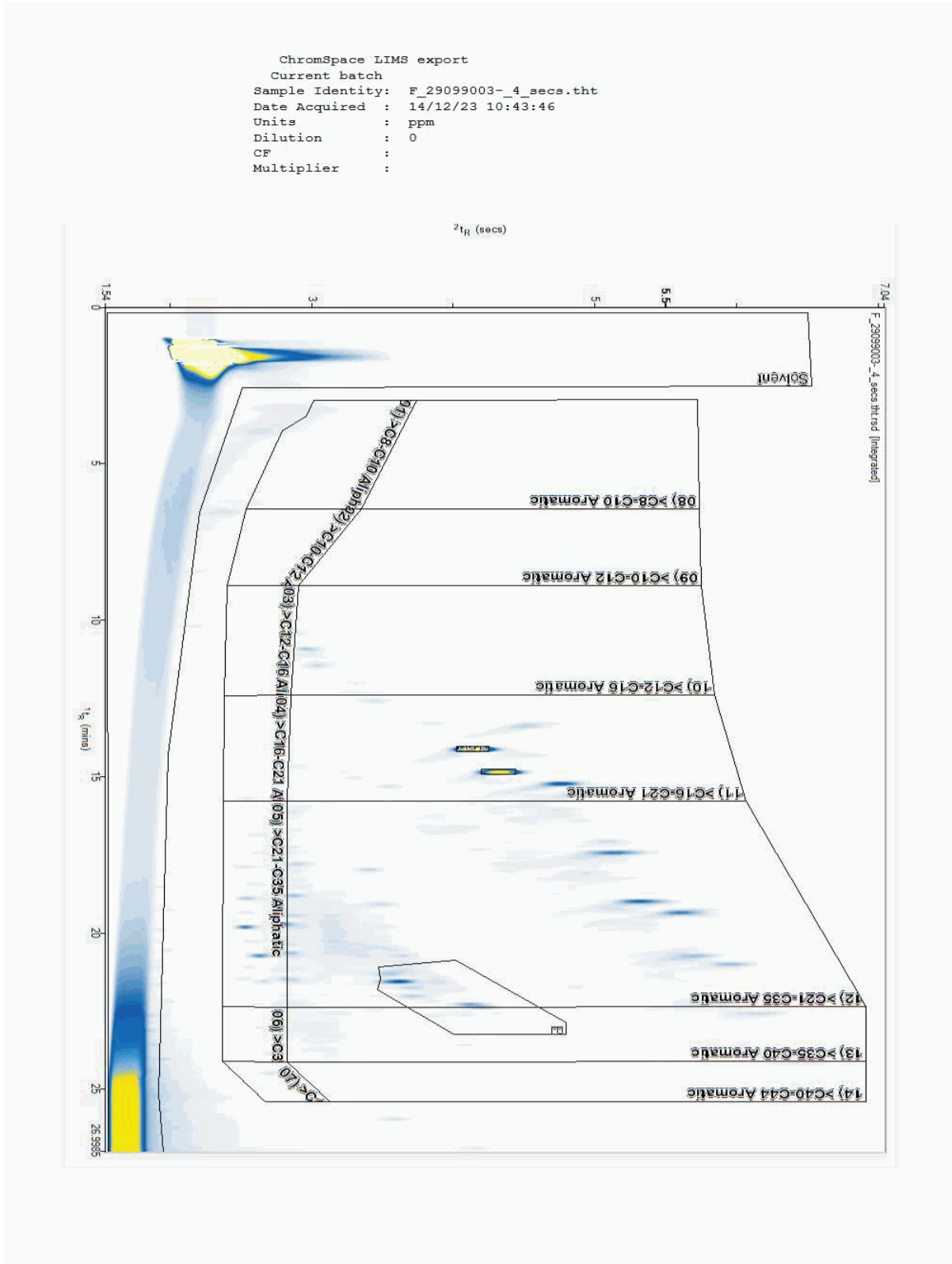
Superseded Report:  
Depth: 0.20 - 0.20

## Chromatogram

Analysis: EPH CWG GC (S)

Sample No : 29099003  
Sample ID : WS1

Depth : 0.20 - 0.20





# CERTIFICATE OF ANALYSIS

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SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

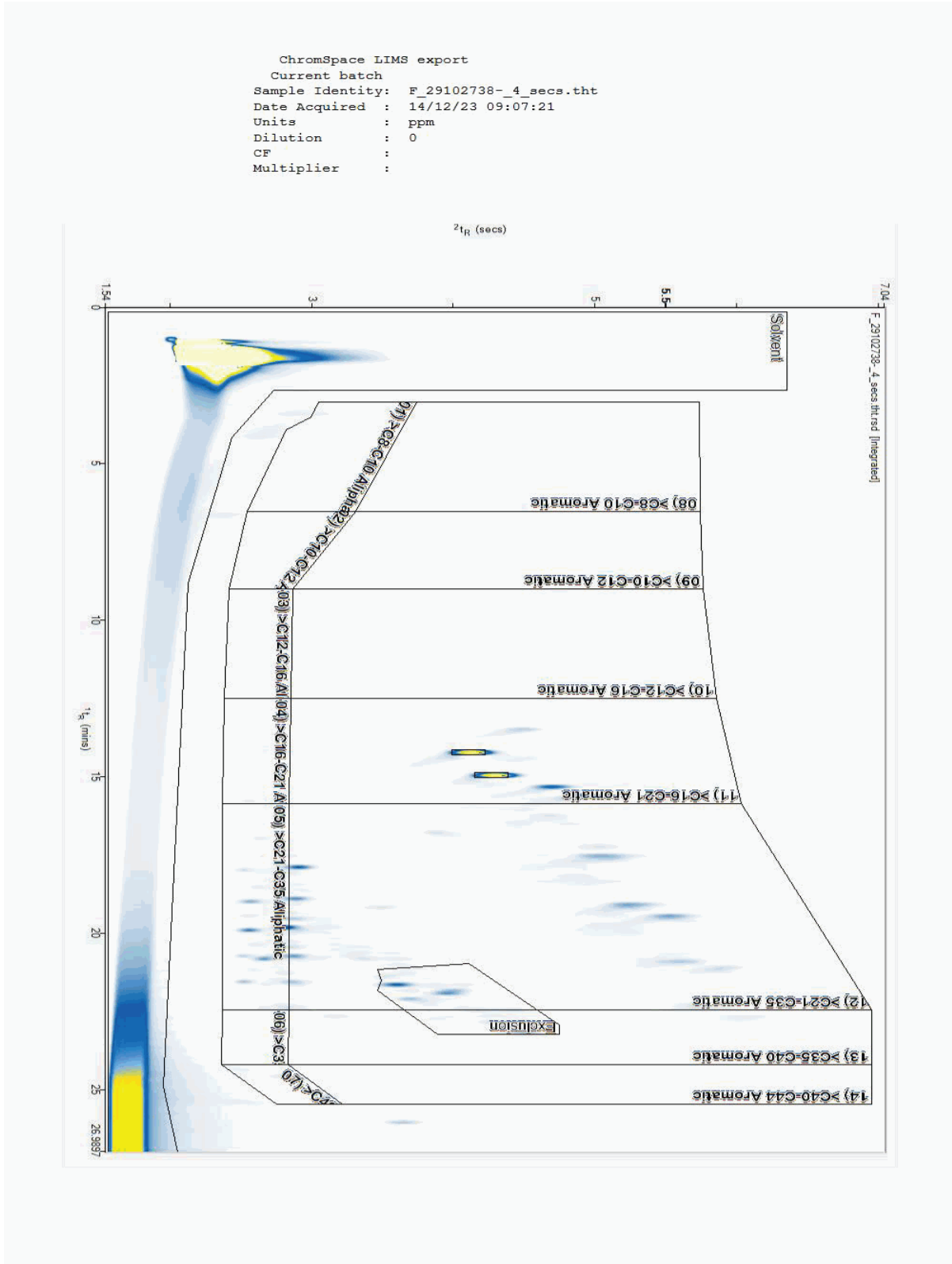
Superseded Report:  
Depth: 0.50 - 0.50

## Chromatogram

Analysis: EPH CWG GC (S)

Sample No : 29102738  
Sample ID : WS2

Depth : 0.50 - 0.50





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

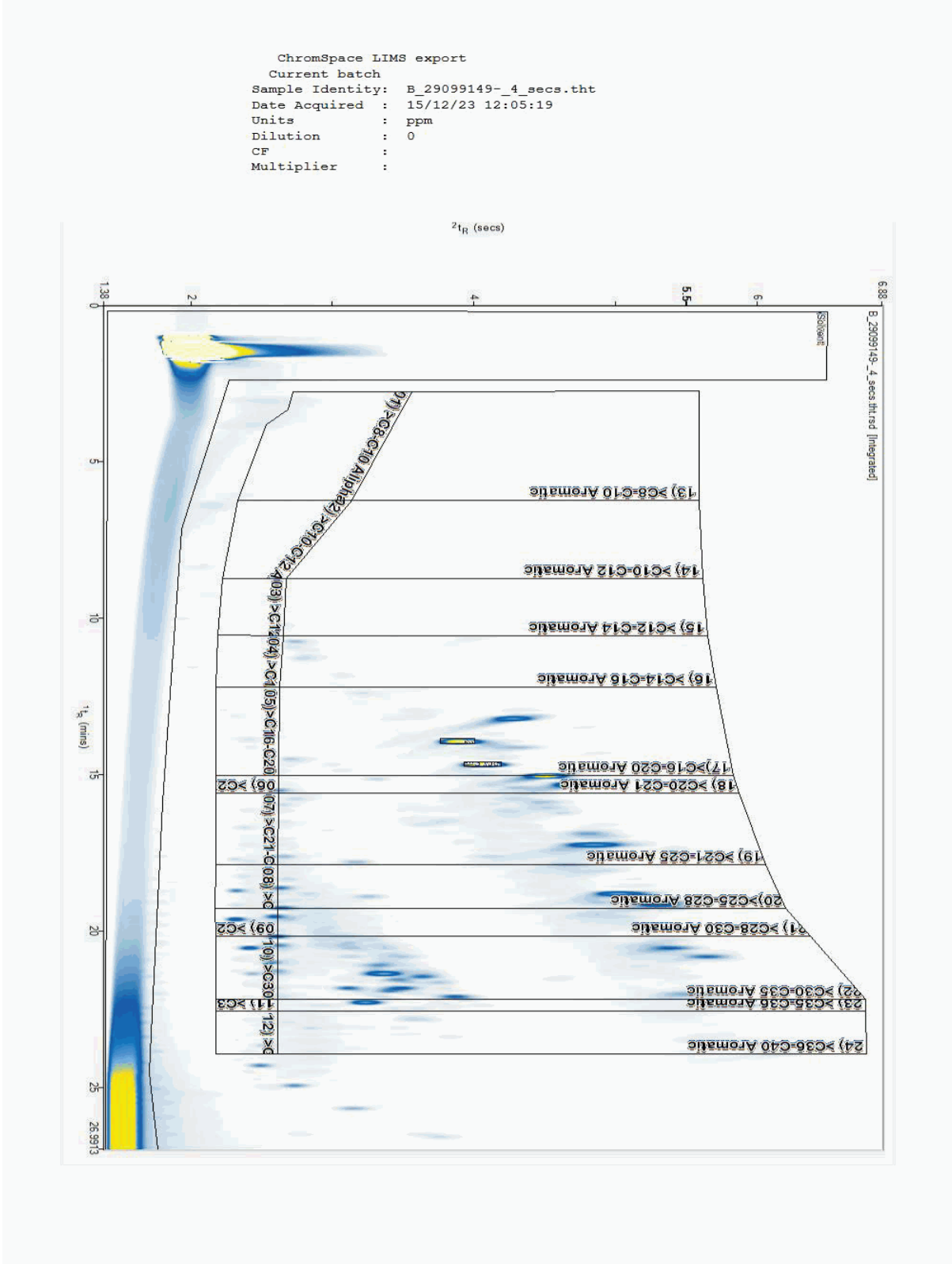
Superseded Report:  
Depth : 0.20 - 0.20

## Chromatogram

Analysis: EPH by GCxGC-FID

Sample No : 29099149  
Sample ID : WS1

Depth : 0.20 - 0.20





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

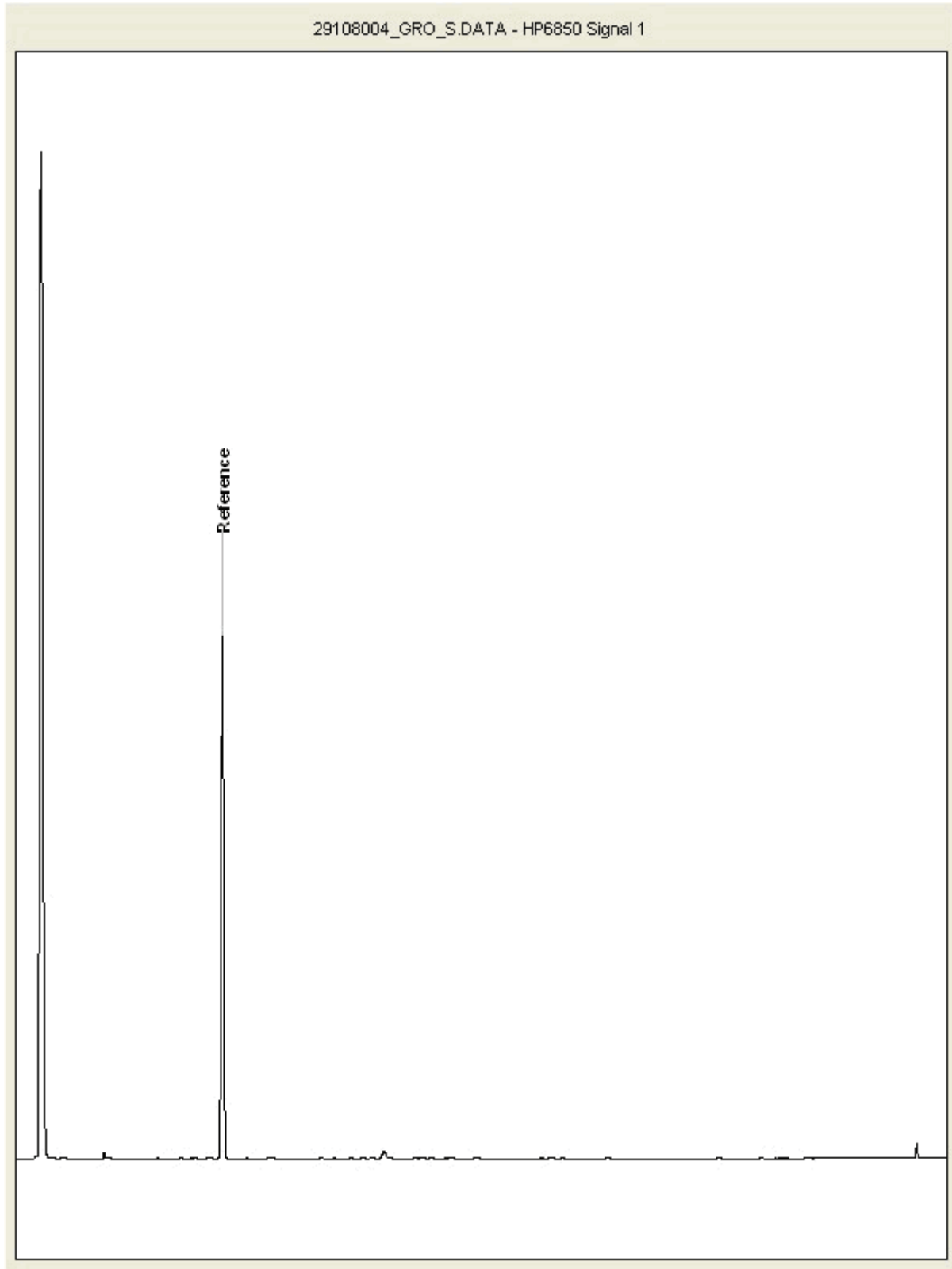
Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 29108004  
Sample ID : WS1

Depth : 0.20 - 0.20





# CERTIFICATE OF ANALYSIS

Validated

SDG: 231213-76  
Client Ref.: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

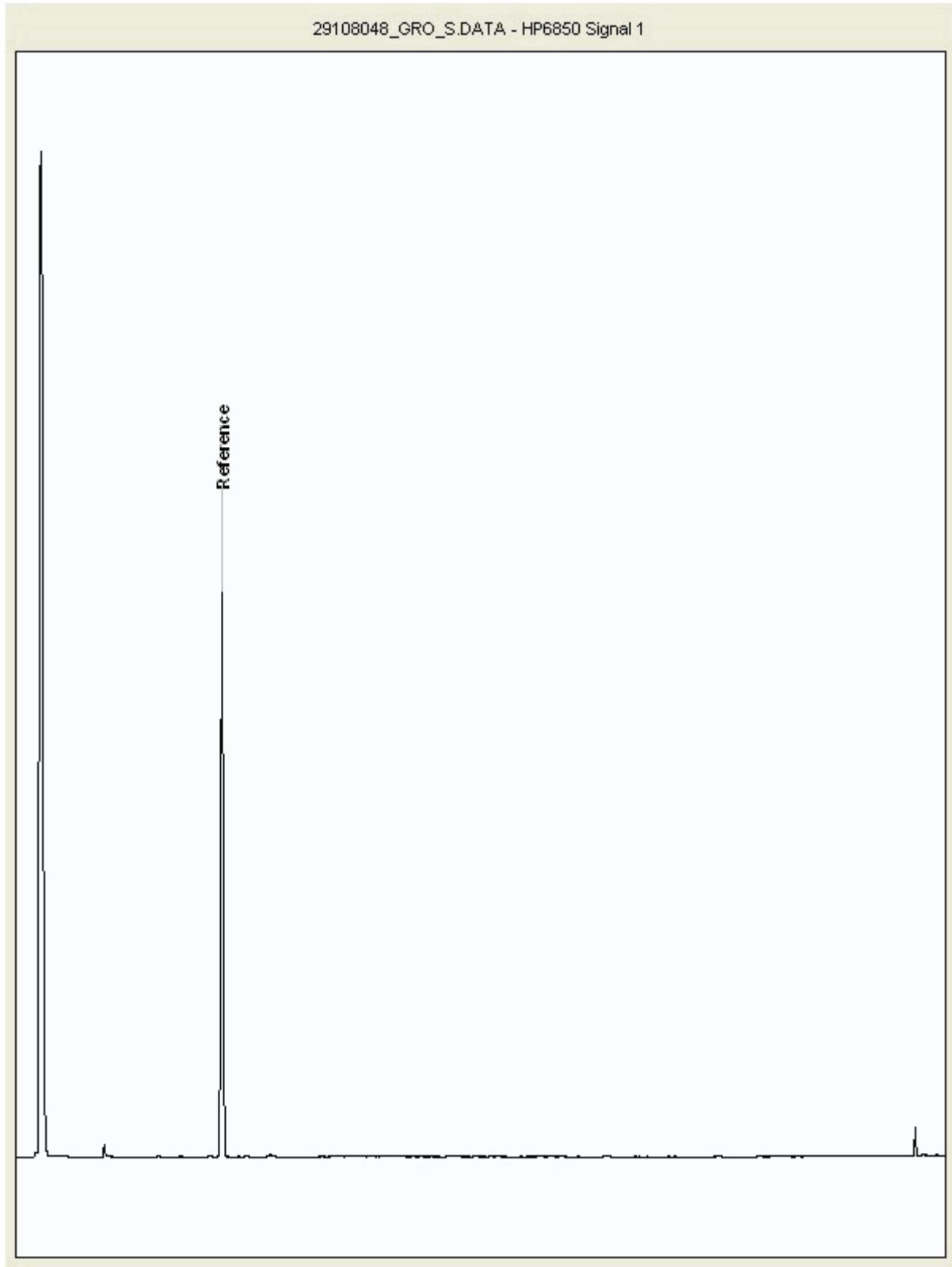
Superseded Report:  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

## Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 29108048  
Sample ID : WS2

Depth : 0.50 - 0.50





# CERTIFICATE OF ANALYSIS

SDG: 231213-76  
Client Ref: GWPR5717

Report Number: 715110  
Location: 10 Lyndhurst Road, Hampstead, London NW3 5PX

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.

#### Identification of Asbestos in Bulk Materials & Soils

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

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

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

#### Visual Estimation Of Fibre Content

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

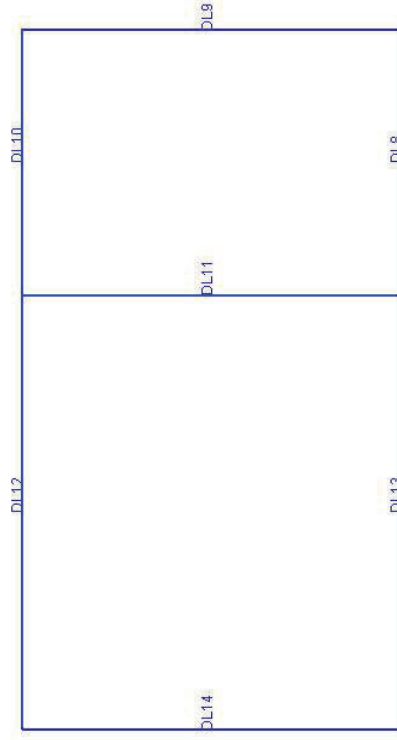
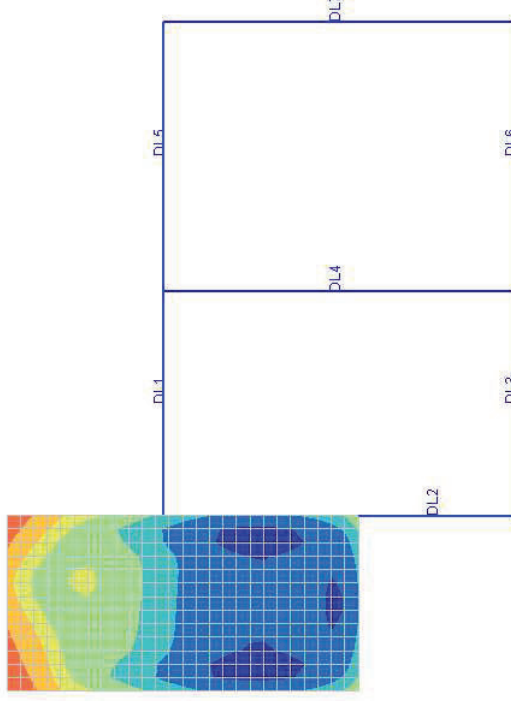
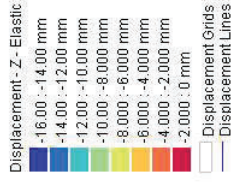
#### Respirable Fibres

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

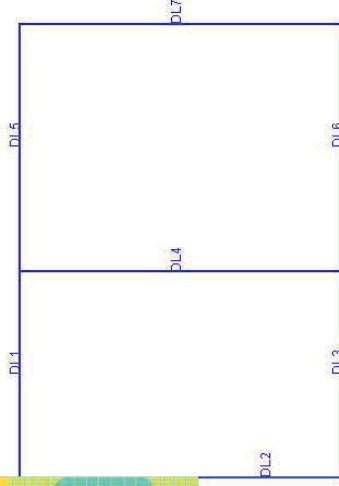
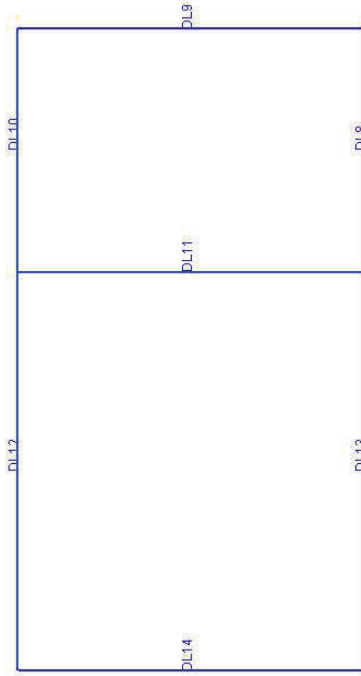
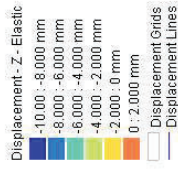
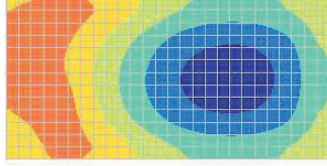
Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

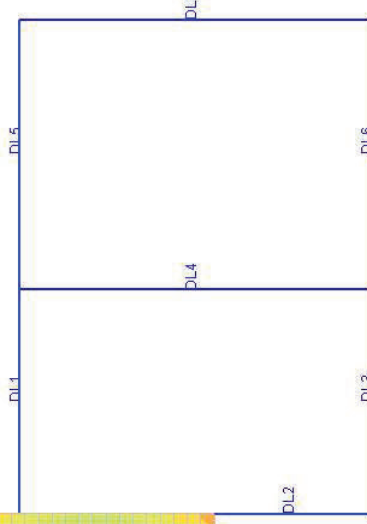
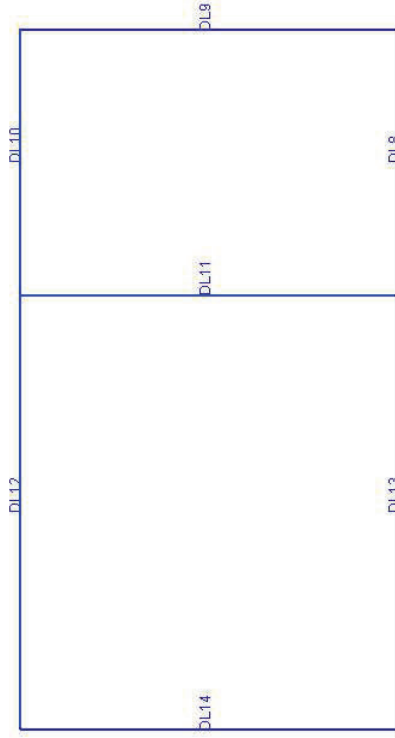
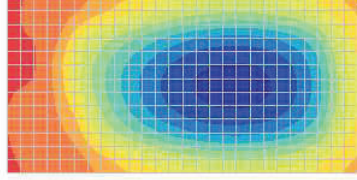
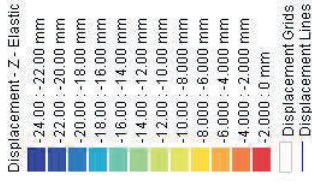
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

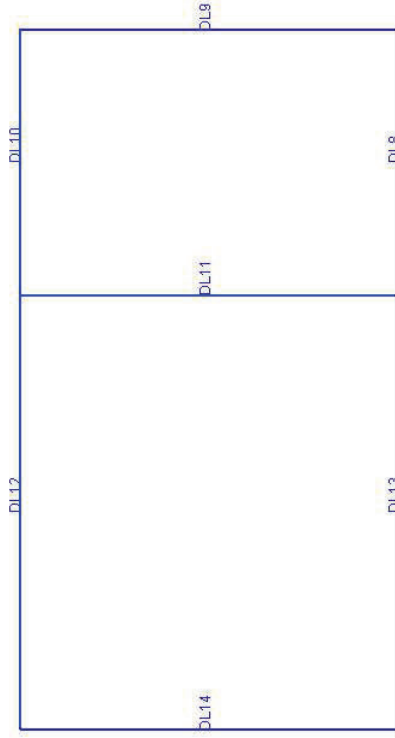
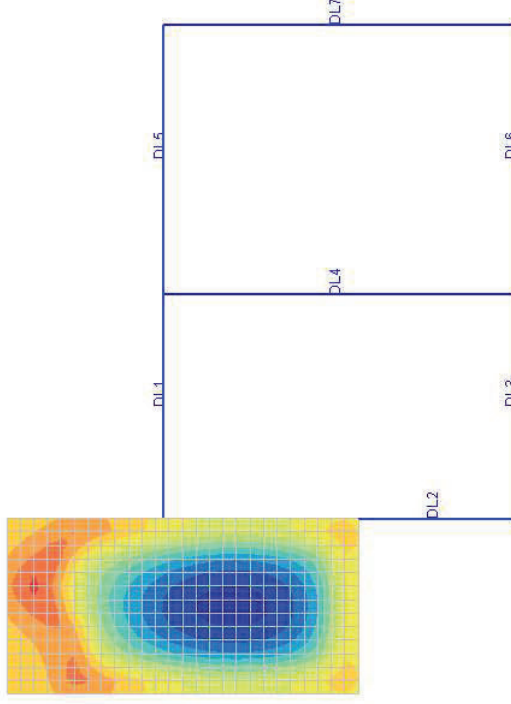
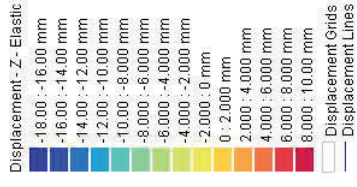
# APPENDIX G: Settlement and Heave Analysis Modelling

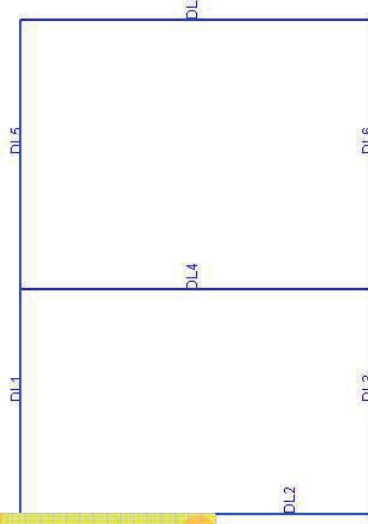
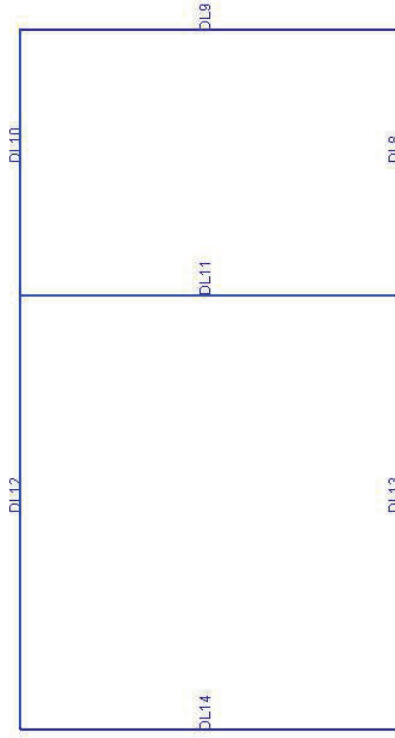
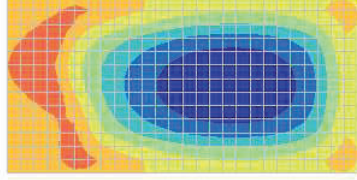
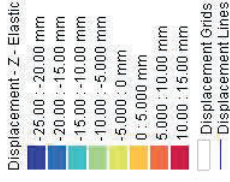




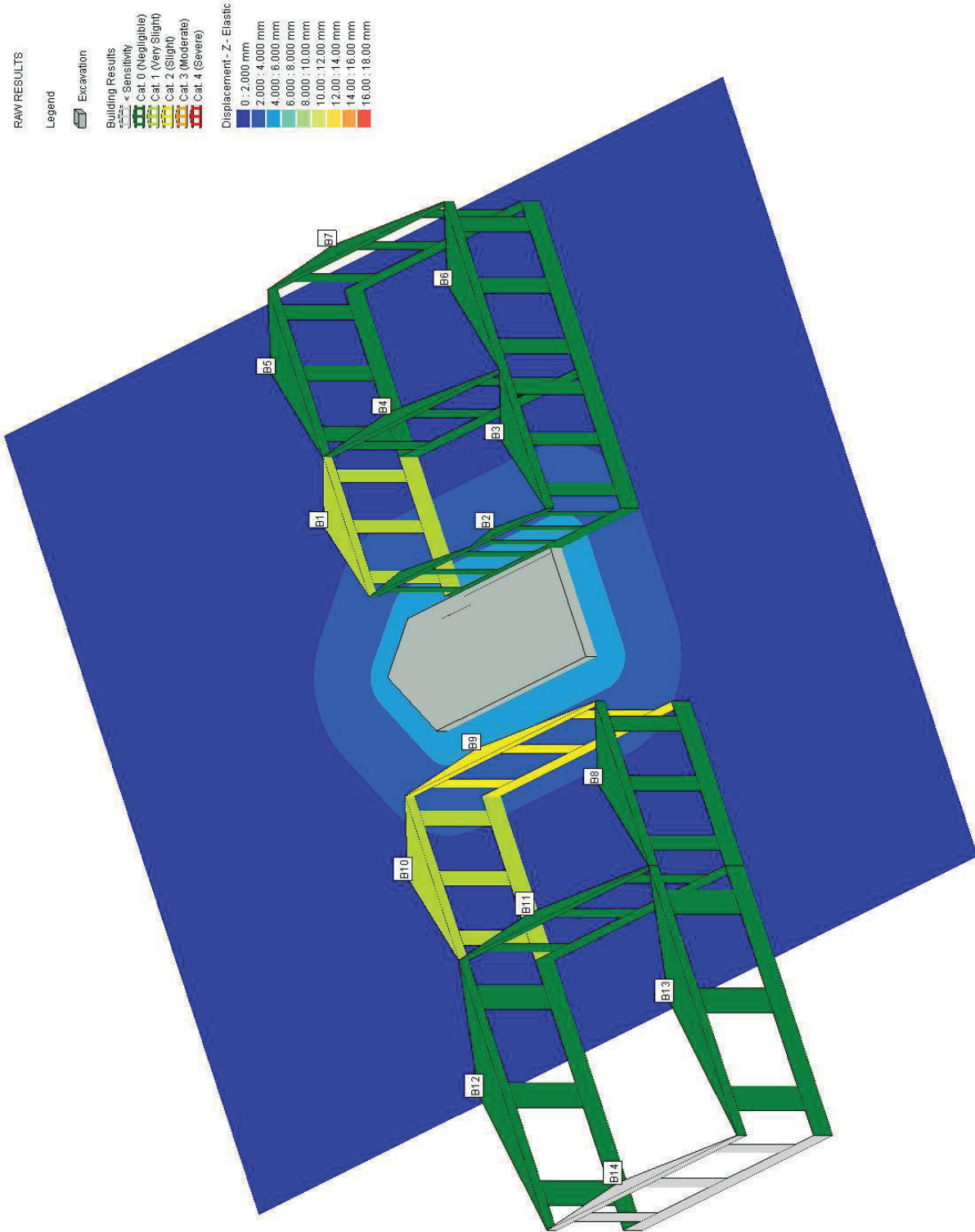






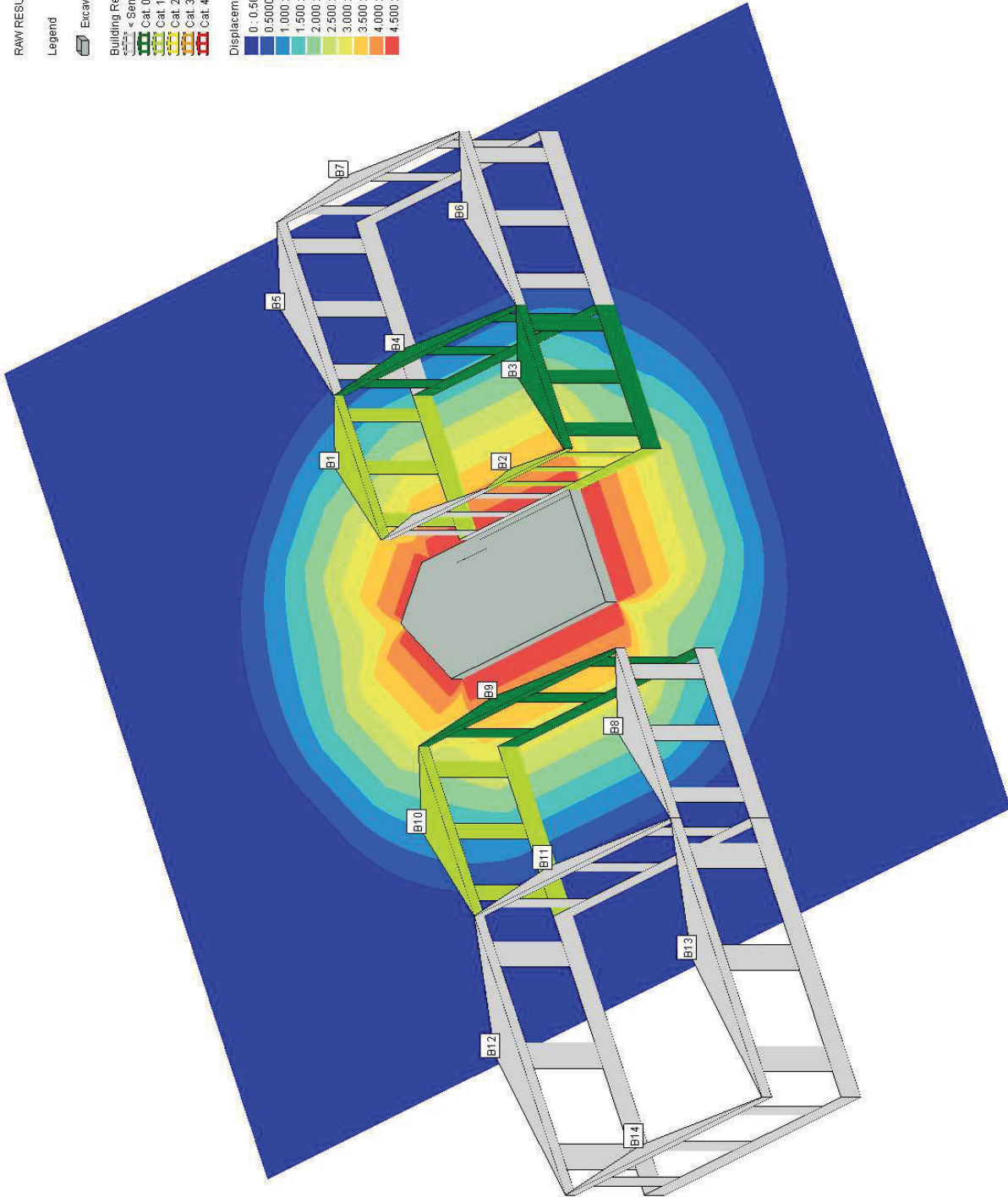


# APPENDIX H: Ground Movement Analysis and Damage Categorization Modelling



#### RAW RESULTS

- Legend
- Excavation
  - Building Results
    - < Sensitivity
    - Cat. 0 (Negligible)
    - Cat. 1 (Very Slight)
    - Cat. 2 (Slight)
    - Cat. 3 (Moderate)
    - Cat. 4 (Severe)
  - Displacement - Horizontal
    - 0 - 5000 mm
    - 0.5000 - 1.000 mm
    - 1.000 - 1.500 mm
    - 1.500 - 2.000 mm
    - 2.000 - 2.500 mm
    - 2.500 - 3.000 mm
    - 3.000 - 3.500 mm
    - 3.500 - 4.000 mm
    - 4.000 - 4.500 mm
    - 4.500 - 5.000 mm



# APPENDIX I: Waste Hazard Assessment



# Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- a) understand the origin of the waste
- b) select the correct List of Waste code(s)
- c) confirm that the list of determinands, results and sampling plan are fit for purpose
- d) select and justify the chosen metal species (Appendix B)
- e) correctly apply moisture correction and other available corrections
- f) add the meta data for their user-defined substances (Appendix A)
- g) check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



LA4WB-ZJ0QB-GUJKX

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

## Job name

231213-76

## Description/Comments

Waste hazard assessment

## Project

GWPR5717

## Site

10 Lyndhurst Road, Hampstead, London NW3 5PX

## Classified by

Name:

**Robert Terrell**

Date:

**15 Jan 2024 14:36 GMT**

Telephone:

**0333 600 1221**

Company:

**Ground and Water**

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

**HazWasteOnline™ Certification:**

-

**Course**

Hazardous Waste Classification

**Date**

-

## Purpose of classification

2 - Material Characterisation

## Address of the waste

10 Lyndhurst Road, Hampstead, London NW3 5PX

**Post Code** NW3 5PX

## SIC for the process giving rise to the waste

## Description of industry/producer giving rise to the waste

Redevelopment

## Description of the specific process, sub-process and/or activity that created the waste

Waste created during excavations

## Description of the waste

Made Ground, Claygate Member, London Clay

**Job summary**

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1-051223-0.20-0.20		Hazardous	HP 14	3
2	WS1-051223-0.80-0.80		Non Hazardous		6
3	WS2-051223-0.50-0.50		Non Hazardous		7
4	WS2-051223-2.50-2.50		Non Hazardous		10
5	WS3-051223-0.20-0.20		Non Hazardous		11
6	WS3-051223-4.50-4.50		Non Hazardous		13

**Related documents**

#	Name	Description
1	231213-76.hwol	ALS Hawarden .hwol file used to populate the Job
2	Ground and Water V2 PA	waste stream template used to create this Job


**Report**

Created by: Robert Terrell

Created date: 15 Jan 2024 14:36 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	14
Appendix B: Rationale for selection of metal species	15
Appendix C: Version	16

**Classification of sample: WS1-051223-0.20-0.20**

 **Hazardous Waste**  
Classified as **17 05 03 \***  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>WS1-051223-0.20-0.20</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
<b>19%</b> (no correction)	

**Hazard properties**

**HP 14: Ecotoxic** "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

**Aquatic Chronic 1; H410** "Very toxic to aquatic life with long lasting effects."

Because of determinands:

lead compounds with the exception of those specified elsewhere in this Annex: (Note 1 conc.: 0.295%)  
zinc oxide: (compound conc.: 0.139%)

**Determinands**

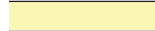




Moisture content: **19% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				8.2 pH		8.2 pH	8.2 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
3	arsenic { arsenic trioxide }				23.1 mg/kg	1.32	30.5 mg/kg	0.00305 %		
4	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
5	cadmium { cadmium sulfide }			1	0.942 mg/kg	1.285	1.211 mg/kg	0.0000942 %		
6	copper { dicopper oxide; copper (I) oxide }				92.2 mg/kg	1.126	103.807 mg/kg	0.0104 %		
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	2950 mg/kg		2950 mg/kg	0.295 %		
8	mercury { mercury dichloride }				1.1 mg/kg	1.353	1.489 mg/kg	0.000149 %		
9	nickel { nickel dihydroxide }				34 mg/kg	1.579	53.703 mg/kg	0.00537 %		
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
11	vanadium { divanadium pentaoxide; vanadium pentoxide }				55.7 mg/kg	1.785	99.435 mg/kg	0.00994 %			
	023-001-00-8	215-239-8	1314-62-1								
12	zinc { zinc oxide }				1120 mg/kg	1.245	1394.08 mg/kg	0.139 %			
	030-013-00-7	215-222-5	1314-13-2								
13	phenol				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	604-001-00-2	203-632-7	108-95-2								
14	naphthalene				0.0164 mg/kg		0.0164 mg/kg	0.00000164 %			
	601-052-00-2	202-049-5	91-20-3								
15	acenaphthylene				0.0932 mg/kg		0.0932 mg/kg	0.00000932 %			
		205-917-1	208-96-8								
16	acenaphthene				0.0231 mg/kg		0.0231 mg/kg	0.00000231 %			
		201-469-6	83-32-9								
17	fluorene				0.0441 mg/kg		0.0441 mg/kg	0.00000441 %			
		201-695-5	86-73-7								
18	phenanthrene				0.824 mg/kg		0.824 mg/kg	0.0000824 %			
		201-581-5	85-01-8								
19	anthracene				0.18 mg/kg		0.18 mg/kg	0.000018 %			
		204-371-1	120-12-7								
20	fluoranthene				2.06 mg/kg		2.06 mg/kg	0.000206 %			
		205-912-4	206-44-0								
21	pyrene				1.75 mg/kg		1.75 mg/kg	0.000175 %			
		204-927-3	129-00-0								
22	benzo[a]anthracene				1.01 mg/kg		1.01 mg/kg	0.000101 %			
	601-033-00-9	200-280-6	56-55-3								
23	chrysene				0.903 mg/kg		0.903 mg/kg	0.0000903 %			
	601-048-00-0	205-923-4	218-01-9								
24	benzo[b]fluoranthene				1.35 mg/kg		1.35 mg/kg	0.000135 %			
	601-034-00-4	205-911-9	205-99-2								
25	benzo[k]fluoranthene				0.47 mg/kg		0.47 mg/kg	0.000047 %			
	601-036-00-5	205-916-6	207-08-9								
26	benzo[a]pyrene; benzo[def]chrysene				1.09 mg/kg		1.09 mg/kg	0.000109 %			
	601-032-00-3	200-028-5	50-32-8								
27	indeno[123-cd]pyrene				0.698 mg/kg		0.698 mg/kg	0.0000698 %			
		205-893-2	193-39-5								
28	dibenz[a,h]anthracene				0.115 mg/kg		0.115 mg/kg	0.0000115 %			
	601-041-00-2	200-181-8	53-70-3								
29	benzo[ghi]perylene				0.687 mg/kg		0.687 mg/kg	0.0000687 %			
		205-883-8	191-24-2								
30	benzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
	601-020-00-8	200-753-7	71-43-2								
31	toluene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
	601-021-00-3	203-625-9	108-88-3								
32	ethylbenzene				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD	
	601-023-00-4	202-849-4	100-41-4								
33	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]				<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
34	chromium in chromium(VI) compounds { chromium(VI) oxide }				1.7 mg/kg	1.923	3.269 mg/kg	0.000327 %			
	024-001-00-0	215-607-8	1333-82-0								
35	coronene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD	
		205-881-7	191-07-1								
36	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD	
	603-181-00-X	216-653-1	1634-04-4								
37	polychlorobiphenyls; PCB				0.0245 mg/kg		0.0245 mg/kg	0.00000245 %			
	602-039-00-4	215-648-1	1336-36-3								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
38	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				34.7 mg/kg	1.462	50.716 mg/kg	0.00507 %		
		215-160-9	1308-38-9							
Total:								0.471 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

**HP 2: Oxidizing** "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because Unlikely to be oxidising below 1000mg/kg


Hazard Statements hit:

**Ox. Sol. 1; H271** "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00032%)

**Classification of sample: WS1-051223-0.80-0.80**

 **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**


Sample name:	LoW Code:	
<b>WS1-051223-0.80-0.80</b>	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>21%</b> (no correction)		

**Hazard properties**


None identified

**Determinands**

Moisture content: **21% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	 pH		PH		7.83 pH		7.83 pH	7.83 pH		
Total:								0%		

**Key**

- User supplied data
-  Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS2-051223-0.50-0.50

✔ **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>WS2-051223-0.50-0.50</b>	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
<b>15%</b> (no correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified


**Determinands**

Moisture content: 15% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.6	pH		7.6	pH	7.6 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
3	arsenic { arsenic trioxide }				16.4	mg/kg	1.32	21.653	mg/kg	0.00217 %		
	033-003-00-0	215-481-4	1327-53-3									
4	boron { diboron trioxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2									
5	cadmium { cadmium sulfide }			1	0.263	mg/kg	1.285	0.338	mg/kg	0.0000263 %		
	048-010-00-4	215-147-8	1306-23-6									
6	copper { dicopper oxide; copper (I) oxide }				43.2	mg/kg	1.126	48.638	mg/kg	0.00486 %		
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	687	mg/kg		687	mg/kg	0.0687 %		
	082-001-00-6											
8	mercury { mercury dichloride }				0.387	mg/kg	1.353	0.524	mg/kg	0.0000524 %		
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel dihydroxide }				18.9	mg/kg	1.579	29.853	mg/kg	0.00299 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]									
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8											
11	vanadium { divanadium pentaoxide; vanadium pentoxide }				39.6	mg/kg	1.785	70.693	mg/kg	0.00707 %		
	023-001-00-8	215-239-8	1314-62-1									
12	zinc { zinc oxide }				301	mg/kg	1.245	374.659	mg/kg	0.0375 %		
	030-013-00-7	215-222-5	1314-13-2									
13	phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
	604-001-00-2	203-632-7	108-95-2									
14	naphthalene				0.109	mg/kg		0.109	mg/kg	0.0000109 %		
	601-052-00-2	202-049-5	91-20-3									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	● acenaphthylene	205-917-1	208-96-8		0.0872 mg/kg		0.0872 mg/kg	0.00000872 %		
16	● acenaphthene	201-469-6	83-32-9		0.0982 mg/kg		0.0982 mg/kg	0.00000982 %		
17	● fluorene	201-695-5	86-73-7		0.106 mg/kg		0.106 mg/kg	0.0000106 %		
18	● phenanthrene	201-581-5	85-01-8		2.15 mg/kg		2.15 mg/kg	0.000215 %		
19	● anthracene	204-371-1	120-12-7		0.355 mg/kg		0.355 mg/kg	0.0000355 %		
20	● fluoranthene	205-912-4	206-44-0		3.96 mg/kg		3.96 mg/kg	0.000396 %		
21	● pyrene	204-927-3	129-00-0		3.25 mg/kg		3.25 mg/kg	0.000325 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	1.66 mg/kg		1.66 mg/kg	0.000166 %		
23	chrysene	601-048-00-0	205-923-4	218-01-9	1.59 mg/kg		1.59 mg/kg	0.000159 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	1.9 mg/kg		1.9 mg/kg	0.00019 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.781 mg/kg		0.781 mg/kg	0.0000781 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	1.59 mg/kg		1.59 mg/kg	0.000159 %		
27	● indeno[123-cd]pyrene	205-893-2	193-39-5		0.866 mg/kg		0.866 mg/kg	0.0000866 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.117 mg/kg		0.117 mg/kg	0.0000117 %		
29	● benzo[ghi]perylene	205-883-8	191-24-2		0.919 mg/kg		0.919 mg/kg	0.0000919 %		
30	benzene	601-020-00-8	200-753-7	71-43-2	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
31	toluene	601-021-00-3	203-625-9	108-88-3	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
32	● ethylbenzene	601-023-00-4	202-849-4	100-41-4	<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
33	o-xylene; [1] p-xylene; [2] m-xylene; [3] xylene [4]	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]	<0.08 mg/kg		<0.08 mg/kg	<0.000008 %		<LOD
34	● chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	0.982 mg/kg	1.923	1.888 mg/kg	0.000189 %		
35	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4	<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36	● chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		18.718 mg/kg	1.462	27.357 mg/kg	0.00274 %		
Total:								0.129 %		

Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- Determinand defined or amended by HazWasteOnline (see Appendix A)
-  Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD Below limit of detection
- CLP: Note 1 Only the metal concentration has been used for classification



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### Supplementary Hazardous Property Information

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**HP 2: Oxidizing** "waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials"

Force this Hazardous property to non hazardous because Unlikely to be oxidising below 1000mg/kg

Hazard Statements hit:

**Ox. Sol. 1; H271** "May cause fire or explosion; strong oxidiser."

Because of determinand:

chromium(VI) oxide: (compound conc.: 0.00018%)

**Classification of sample: WS2-051223-2.50-2.50**

✔ **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>WS2-051223-2.50-2.50</b>	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>18%</b> (no correction)	

**Hazard properties**

None identified

**Determinands**

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	● pH		PH		7.97 pH		7.97	pH	7.97 pH		
Total:									0%		

**Key**

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)

Classification of sample: WS3-051223-0.20-0.20

✔ **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:
<b>WS3-051223-0.20-0.20</b>	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
<b>18%</b> (no correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

**Hazard properties**

None identified

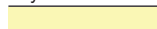
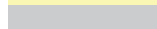
**Determinands**

Moisture content: 18% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	pH				7.68 pH		7.68 pH	7.68 pH		
2	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				1.2 mg/kg	1.884	2.261 mg/kg	0.000226 %		
	006-007-00-5									
3	arsenic { arsenic trioxide }				14.6 mg/kg	1.32	19.277 mg/kg	0.00193 %		
	033-003-00-0	215-481-4	1327-53-3							
4	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
5	cadmium { cadmium sulfide }			1	0.67 mg/kg	1.285	0.861 mg/kg	0.000067 %		
	048-010-00-4	215-147-8	1306-23-6							
6	copper { dicopper oxide; copper (I) oxide }				41.8 mg/kg	1.126	47.062 mg/kg	0.00471 %		
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead compounds with the exception of those specified elsewhere in this Annex }			1	840 mg/kg		840 mg/kg	0.084 %		
	082-001-00-6									
8	mercury { mercury dichloride }				0.44 mg/kg	1.353	0.596 mg/kg	0.0000596 %		
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel dihydroxide }				15.4 mg/kg	1.579	24.324 mg/kg	0.00243 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
10	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									
11	vanadium { divanadium pentaoxide; vanadium pentoxide }				39.4 mg/kg	1.785	70.336 mg/kg	0.00703 %		
	023-001-00-8	215-239-8	1314-62-1							
12	zinc { zinc oxide }				369 mg/kg	1.245	459.299 mg/kg	0.0459 %		
	030-013-00-7	215-222-5	1314-13-2							
13	phenol				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
14	naphthalene				0.019 mg/kg		0.019 mg/kg	0.0000019 %		
	601-052-00-2	202-049-5	91-20-3							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
15	● acenaphthylene	205-917-1	208-96-8		0.0537 mg/kg		0.0537 mg/kg	0.00000537 %		
16	● acenaphthene	201-469-6	83-32-9		0.0277 mg/kg		0.0277 mg/kg	0.00000277 %		
17	● fluorene	201-695-5	86-73-7		0.0306 mg/kg		0.0306 mg/kg	0.00000306 %		
18	● phenanthrene	201-581-5	85-01-8		0.664 mg/kg		0.664 mg/kg	0.0000664 %		
19	● anthracene	204-371-1	120-12-7		0.117 mg/kg		0.117 mg/kg	0.0000117 %		
20	● fluoranthene	205-912-4	206-44-0		1.64 mg/kg		1.64 mg/kg	0.000164 %		
21	● pyrene	204-927-3	129-00-0		1.38 mg/kg		1.38 mg/kg	0.000138 %		
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.764 mg/kg		0.764 mg/kg	0.0000764 %		
23	chrysene	601-048-00-0	205-923-4	218-01-9	0.777 mg/kg		0.777 mg/kg	0.0000777 %		
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.949 mg/kg		0.949 mg/kg	0.0000949 %		
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	0.362 mg/kg		0.362 mg/kg	0.0000362 %		
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.811 mg/kg		0.811 mg/kg	0.0000811 %		
27	● indeno[123-cd]pyrene	205-893-2	193-39-5		0.482 mg/kg		0.482 mg/kg	0.0000482 %		
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	0.081 mg/kg		0.081 mg/kg	0.0000081 %		
29	● benzo[ghi]perylene	205-883-8	191-24-2		0.482 mg/kg		0.482 mg/kg	0.0000482 %		
30	⚠ chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0	<0.6 mg/kg	1.923	<1.154 mg/kg	<0.000115 %		<LOD
31	⚠ chromium in chromium(III) compounds { chromium(III) oxide (worst case) }	215-160-9	1308-38-9		23.7 mg/kg	1.462	34.639 mg/kg	0.00346 %		
Total:								0.151 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
⚠	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: **WS3-051223-4.50-4.50**

✔ **Non Hazardous Waste**  
Classified as **17 05 04**  
in the List of Waste

**Sample details**

Sample name:	LoW Code:	
<b>WS3-051223-4.50-4.50</b>	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
<b>19%</b> (no correction)		

**Hazard properties**

None identified

**Determinands**

Moisture content: **19% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	● pH				7.55 pH		7.55 pH	7.55 pH		
Total:								0%		

**Key**

- User supplied data
- Determinand defined or amended by HazWasteOnline (see Appendix A)

## Appendix A: Classifier defined and non GB MCL determinands

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4  
Data source: WM3 1st Edition 2015  
Data source date: 25 May 2015  
Hazard Statements: None.

- **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

GB MCL index number: 006-007-00-5  
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide  
Additional Hazard Statement(s): EUH032 >= 0.2 %  
Reason for additional Hazards Statement(s):  
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

- **lead compounds with the exception of those specified elsewhere in this Annex**

GB MCL index number: 082-001-00-6  
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2  
Additional Hazard Statement(s): Carc. 2; H351  
Reason for additional Hazards Statement(s):  
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium  
[www.reach-lead.eu/substanceinformation.html](http://www.reach-lead.eu/substanceinformation.html). Review date 29/09/2015

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

- **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 21 Aug 2015  
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2; H351

• **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

• **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

GB MCL index number: 601-023-00-4

Description/Comments:

Additional Hazard Statement(s): Carc. 2; H351

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

• **coronene** (EC Number: 205-881-7, CAS Number: 191-07-1)

Description/Comments: Data from C&L Inventory Database; no entries in Registered Substances or Pesticides Properties databases; SDS: Sigma Aldrich, 1907/2006 compliant, dated 2012 - no entries; IARC – Group 3, not carcinogenic.

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=17010&HarmOnly=no?fc=true&lang=en>

Data source date: 16 Jun 2014

Hazard Statements: STOT SE 2; H371

• **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

GB MCL index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans;

POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

• **chromium(III) oxide (worst case)** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

## Appendix B: Rationale for selection of metal species

**cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}**

Worst case species

**arsenic {arsenic trioxide}**

Worst case species based on risk phrases

**boron {diboron trioxide}**

Likely to be diboron trioxide

**cadmium {cadmium sulfide}**

Worst case species based on risk phrases

**copper {dicopper oxide; copper (I) oxide}**

Most likely common species

**lead {lead compounds with the exception of those specified elsewhere in this Annex}**

Likely to be lead oxide

**mercury {mercury dichloride}**

Worst case species based on risk phrases

**nickel {nickel dihydroxide}**

Worst case species based on risk phrases

**selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}**

Worst case species based on risk phrases

**vanadium {divanadium pentaoxide; vanadium pentoxide}**

most common form

**zinc {zinc oxide}**

Likely to be zinc oxide

**chromium in chromium(VI) compounds {chromium(VI) oxide}**

Most likely

**chromium in chromium(III) compounds {chromium(III) oxide (worst case)}**

worst case

**Appendix C: Version**

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**  
 HazWasteOnline Classification Engine Version: 2024.12.5912.10931 (13 Jan 2024)  
 HazWasteOnline Database: 2024.12.5912.10931 (13 Jan 2024)

This classification utilises the following guidance and legislation:

- WM3 v1.2.GB - Waste Classification** - 1st Edition v1.2.GB - Oct 2021
- CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008
- 1st ATP** - Regulation 790/2009/EC of 10 August 2009
- 2nd ATP** - Regulation 286/2011/EC of 10 March 2011
- 3rd ATP** - Regulation 618/2012/EU of 10 July 2012
- 4th ATP** - Regulation 487/2013/EU of 8 May 2013
- Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013
- 5th ATP** - Regulation 944/2013/EU of 2 October 2013
- 6th ATP** - Regulation 605/2014/EU of 5 June 2014
- WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014
- Revised List of Waste 2014** - Decision 2014/955/EU of 18 December 2014
- 7th ATP** - Regulation 2015/1221/EU of 24 July 2015
- 8th ATP** - Regulation (EU) 2016/918 of 19 May 2016
- 9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016
- 10th ATP** - Regulation (EU) 2017/776 of 4 May 2017
- HP14 amendment** - Regulation (EU) 2017/997 of 8 June 2017
- 13th ATP** - Regulation (EU) 2018/1480 of 4 October 2018
- 14th ATP** - Regulation (EU) 2020/217 of 4 October 2019
- 15th ATP** - Regulation (EU) 2020/1182 of 19 May 2020
- The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020** - UK: 2020 No. 1567 of 16th December 2020
- The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020** - UK: 2020 No. 1540 of 16th December 2020
- GB MCL List** - version 1.1 of 09 June 2021
- GB MCL List v2.0** - version 2.0 of 20th October 2023