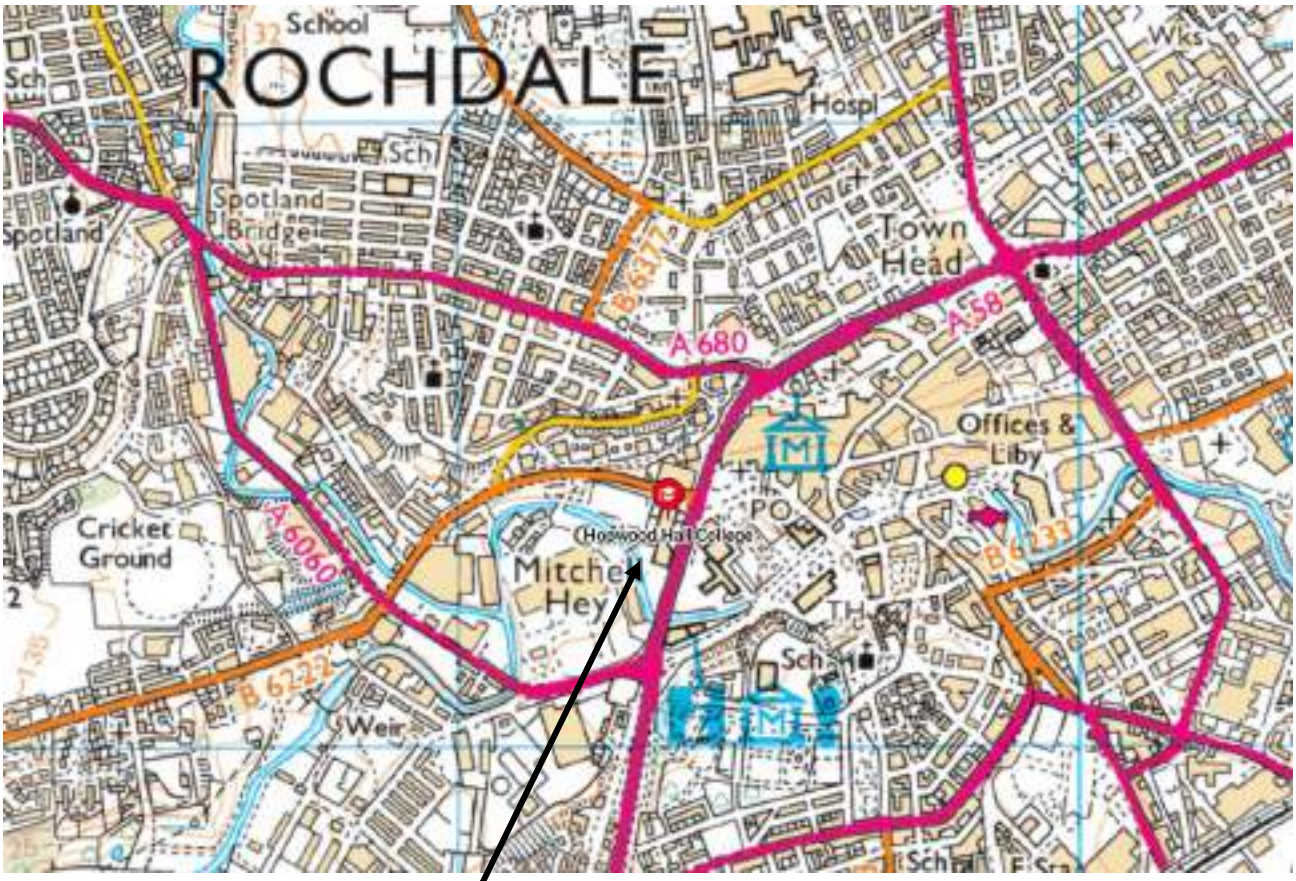
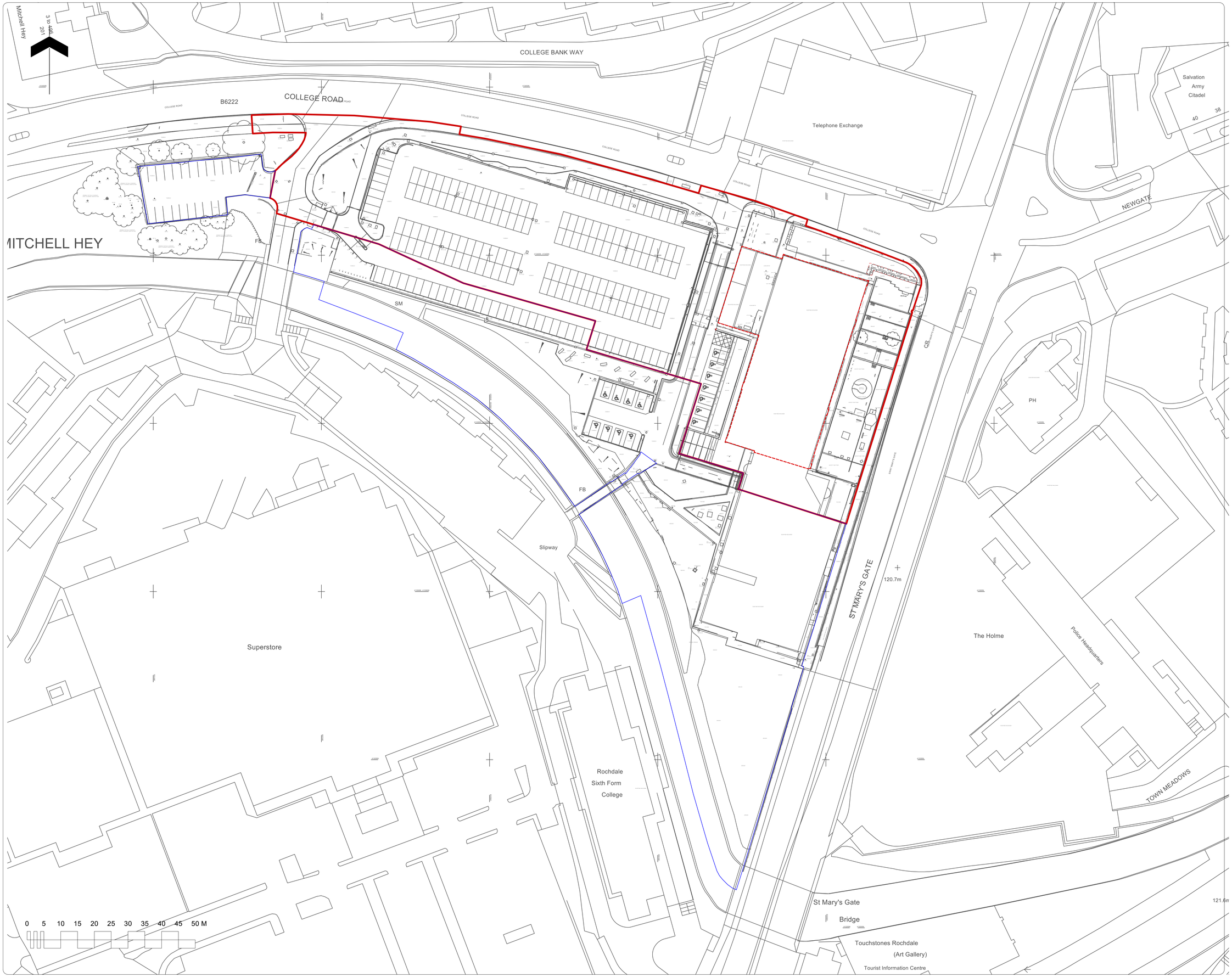
APPENDIX A - DRAWINGS

Contract Number:	TE1880
Contract:	Hopwood Hall College, Rochdale
Client:	Wilmott Dixon Construction

Site Location Plan



Scale	NTS		
Drawn by	SE	**Approved**	AR
Drawing Number	TE1880-TE-00-XX-DR-GE-001-V01		



Note

1. Do not scale from this drawing
2. To be read in conjunction with Project Risk Register REF: FS0939-ALA-XX-XX-RR-L-0001
3. To be read in conjunction with Landscape Outline Specifications REF: FE012-ALA-ZZ-XX-SP-L-0001
4. To be read in conjunction with all submitted Landscape Architect's drawings.
5. To be read in conjunction with all other consultants' drawings.

KEY

- Planning Application Boundary (10,387.618m2)
- Site Ownerhsip Boundary 8683.461m2)

ID	RISK	MITIGATION	DATE MITIGATED

RESIDUAL PROJECT RISKS

DATE	REV	DESCRIPTION OF REVISION	DRAWN BY	APPROVED BY
09/12/2024	P03	Site ownership line amended. Issued for Stage 3 S5.	MM	

REVISIONS

DEIR:
DEIR 197

STATUS
S5 - *Suitable for DfE Review & Acceptance*

ares LANDSCAPE ARCHITECTS
Ares Landscape Architects LTD
Gatecrasher,
51 Eyre Lane
Sheffield
S1 4RB
t: 0114 276 2000
e: hello@aresdesign.co.uk
w: ares.eu.com

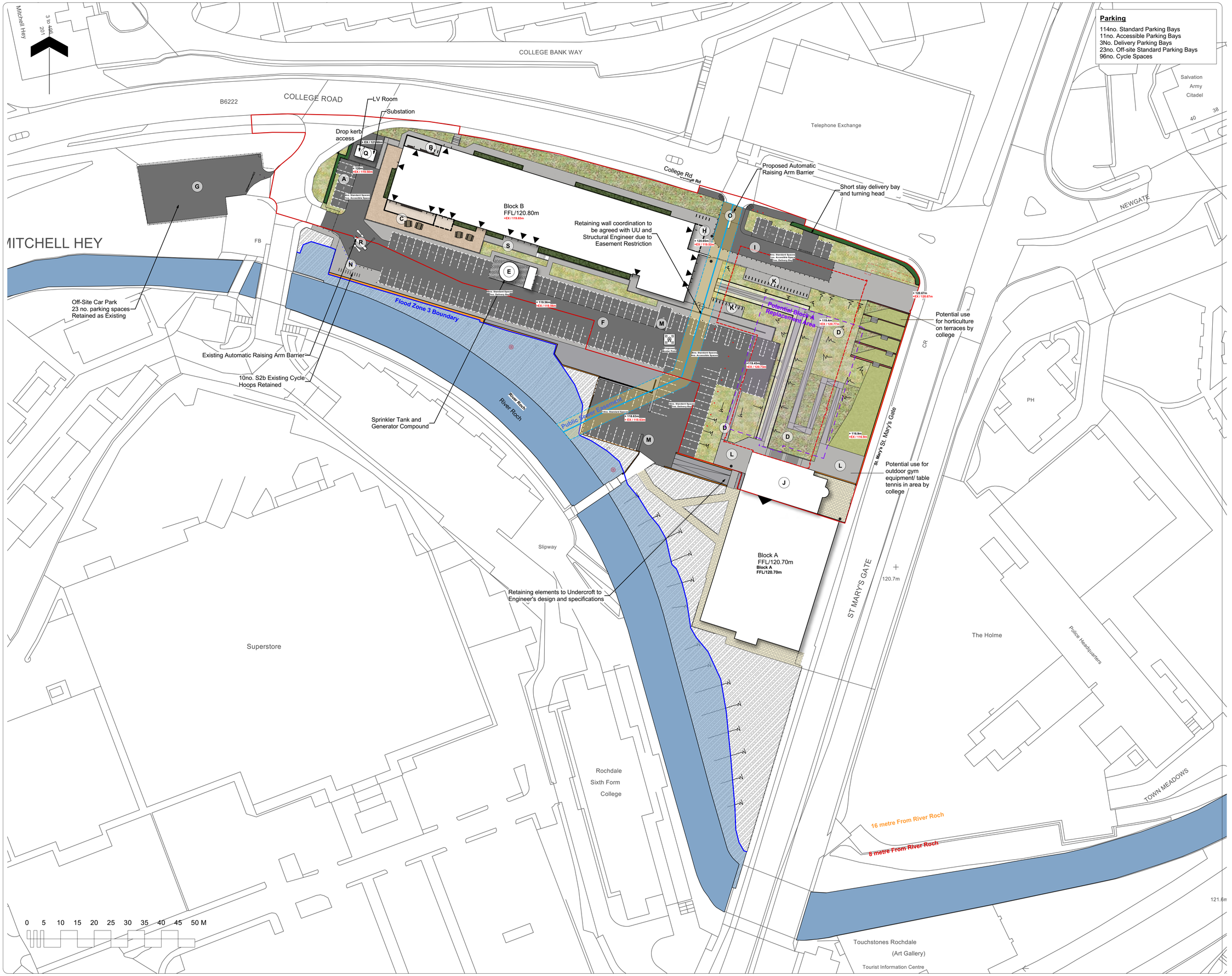
CLIENT :
Hopwood Hall College

PROJECT TITLE :
Hopwood Hall College

DRAWING TITLE :
Demolition Plan

DRAWING SCALE :	DRAWN BY :	DRAWN DATE :
1:500	LS	02/12/2024
PAPER SIZE :	APPROVED BY :	ALA PROJECT CODE:
A1	MM	ALA866

DRAWING NUMBER :	STATUS :	REVISION :
FE0012-ALA-XX-XX-D-L-0019	**S5**	**P03**



Note

1. Do not scale from this drawing
2. To be read in conjunction with Project Risk Register REF: FS0939-ALA-XX-XX-RR-L-0001
3. To be read in conjunction with Landscape Outline Specifications REF: FE012-ALA-ZZ-XX-SP-L-0001
4. To be read in conjunction with all submitted Landscape Architect's drawings.
5. To be read in conjunction with all other consultants' drawings.

KEY

- **Site Boundary**
- **Canopy**
- **Zone of Level to be Retained**
- **Scheduled for Demolition**
- **Invasive Species** *To be confirmed in latest Ecology Report*
- **Proposed Muster Point** TBC by Fire Engineer
- **Potential Location of PV panels** *Within Landscape (283.7 sqm)*
- **A** Nursery Parking - *6no. Standard Bays*
- **B** Nursery Cycle Parking - *6no. Cycle Spaces*
- **C** Nursery Outdoor Play
- **D** Proposed Meadow Planting
- **E** Sprinkler Tank and External Generator Compound
- **F** Main College Carpark
- **G** College Secondary Carpark (as Existing)
- **H** College Main Entrance
- **I** Visitor Parking
- **J** Block A New Entrance *Gullwing to Architect's Details*
- **K** Proposed Cycle Parking *Cycle provision TBC by LPA*
- **L** Campus Secured Outdoor Area *All seating shown are from existing college legacy TBC with College*
- **M** Service Bay
- **N** Existing Cycle Parking Retained
- **O** New Controlled Vehicle Access
- **P** Fire Escape Route to Muster Point
- **Q** Proposed Substation and Switch Room
- **R** Controlled Vehicle Access *Barrier Retained as Existing*
- **S** Plant Room / switch Room

RESIDUAL PROJECT RISKS

ID	RISK	MITIGATION	DATE MITIGATED

REVISIONS

DATE	REV	DESCRIPTION OF REVISION	DRAWN BY	APPROVED BY
09/12/2024	P03	Site ownership line amended. Issued for Stage 3 S5.	MM	

DEIR: **DEIR 197**

STATUS: **S5 - *Suitable for DfE Review & Acceptance***

ares LANDSCAPE ARCHITECTS
Ares Landscape Architects LTD
Gatecrasher,
51 Eyre Lane
Sheffield
S1 4RB
t: 0114 276 2000
e: hello@aresdesign.co.uk
w: ares.eu.com

CLIENT: **Hopwood Hall College**

PROJECT TITLE: **Hopwood Hall College**

DRAWING TITLE: **Whole Site Plan**

DRAWING SCALE	DRAWN BY	DRAWN DATE
1:500	LS	02/12/2024
PAPER SIZE	APPROVED BY	ALA PROJECT CODE
A1	MM	ALA866

DRAWING NUMBER: **FE0012-ALA-XX-XX-D-L-0018** STATUS: **S5** REVISION: **P03**

DO NOT SCALE

NOTES

- HAND DUG PIT LOCATION
- WINDOW SAMPLE LOCATION
- ROTARY BOREHOLE LOCATION
- CABLE PERCUSSION LOCATION
- SOAKAWAY LOCATION
- AREA NOT ACCESSIBLE
- SEWER EASEMENT

APPROXIMATE LOCATION OF FORMER INFILLED WATERCOURSE (TAKEN FROM HISTORICAL MAPS)

APPROXIMATE LOCATION OF FORMER WEIR (TAKEN FROM HISTORICAL MAPS)

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	30.01.2025	CS	ISSUED FOR INFORMATION	SE	SE

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4
9QZ
t: 01925 818 388

CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

TITLE: EXPLORATORY HOLE LOCATION PLAN

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SE	SE
CAD FILE:	DESIGN/DRAWN:	DATE:
-	CS	30.01.2025

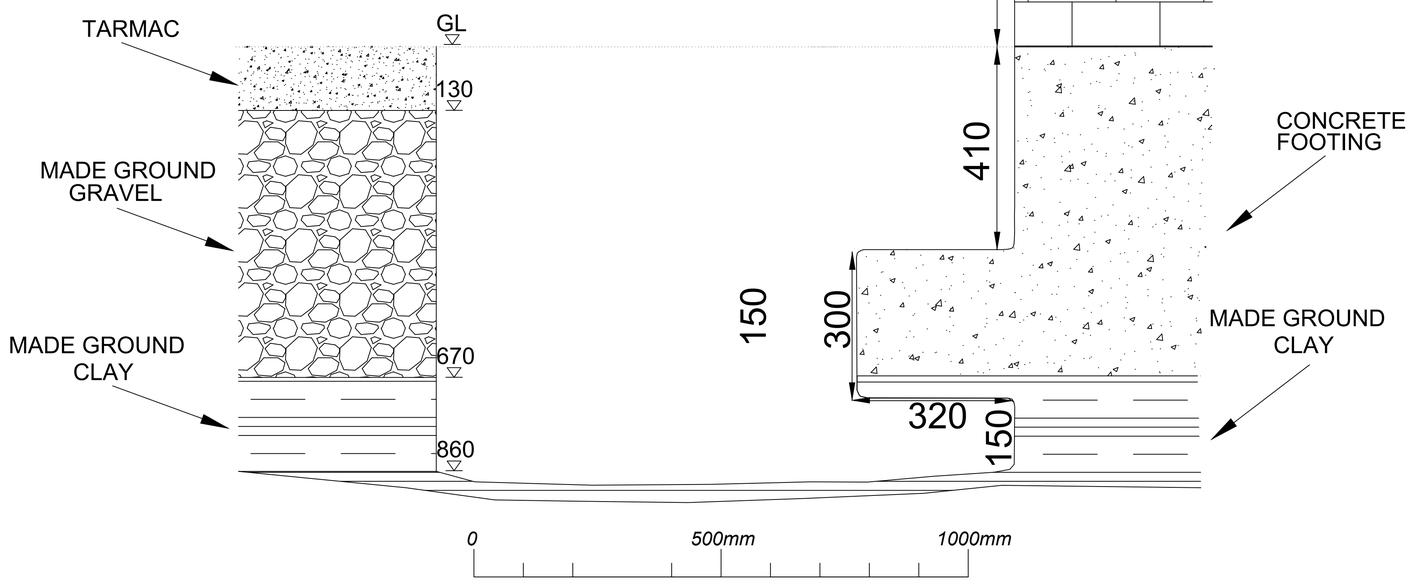
PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-008-V05	P5

HDP101

HDP101 PHOTOGRAPHIC RECORD



Coordinates
X:389251.000
Y:413436.000



Geological log

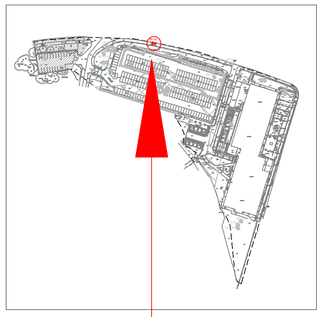
0.00 - 0.13: Black ASPHALT

0.13 - 0.54: MADE GROUND: Dark greyish brown, fine to coarse, angular to subangular, sandy, slightly ashy GRAVEL of mixed lithologies including brick, sandstone, concrete and limestone

0.54 - 0.86: MADE GROUND: Soft to firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, angular to subangular of brick

DO NOT SCALE

NOTES



REV	DATE	BY	DESCRIPTION	CHK	APD
P1	10/12/2024	CS	ISSUED FOR INFORMATION	SE	SE

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

TITLE: HAND DUG PIT 101

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SE	SE
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	10/12/2024

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-009-V01	P1

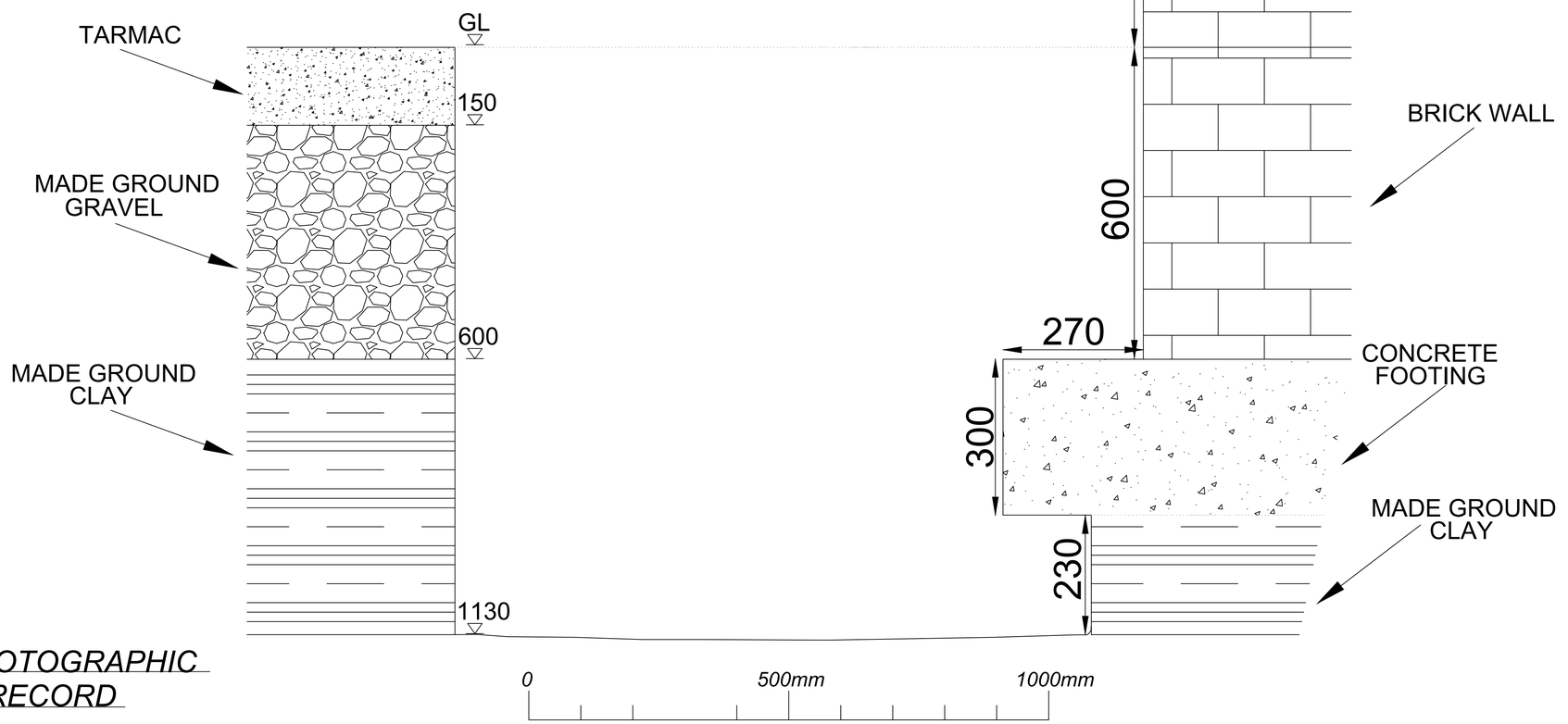
Geological log

HDP102

0.00 - 0.15: Black ASPHALT

0.15 - 0.45: MADE GROUND: Dark greyish brown, fine to coarse, angular to subangular, sandy, slightly ashy GRAVEL of mixed lithologies including brick, sandstone, concrete and limestone

0.45- 1.13: MADE GROUND: Soft to firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, angular to subangular of brick

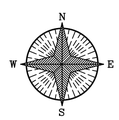


HDP102 PHOTOGRAPHIC RECORD



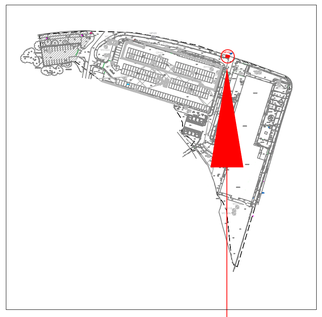


Coordinates
X:389320.000
Y:413418.000



DO NOT SCALE

NOTES



REV	DATE	BY	DESCRIPTION	CHK	APD
P1	10/12/2024	CS	ISSUED FOR INFORMATION	SE	SE

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

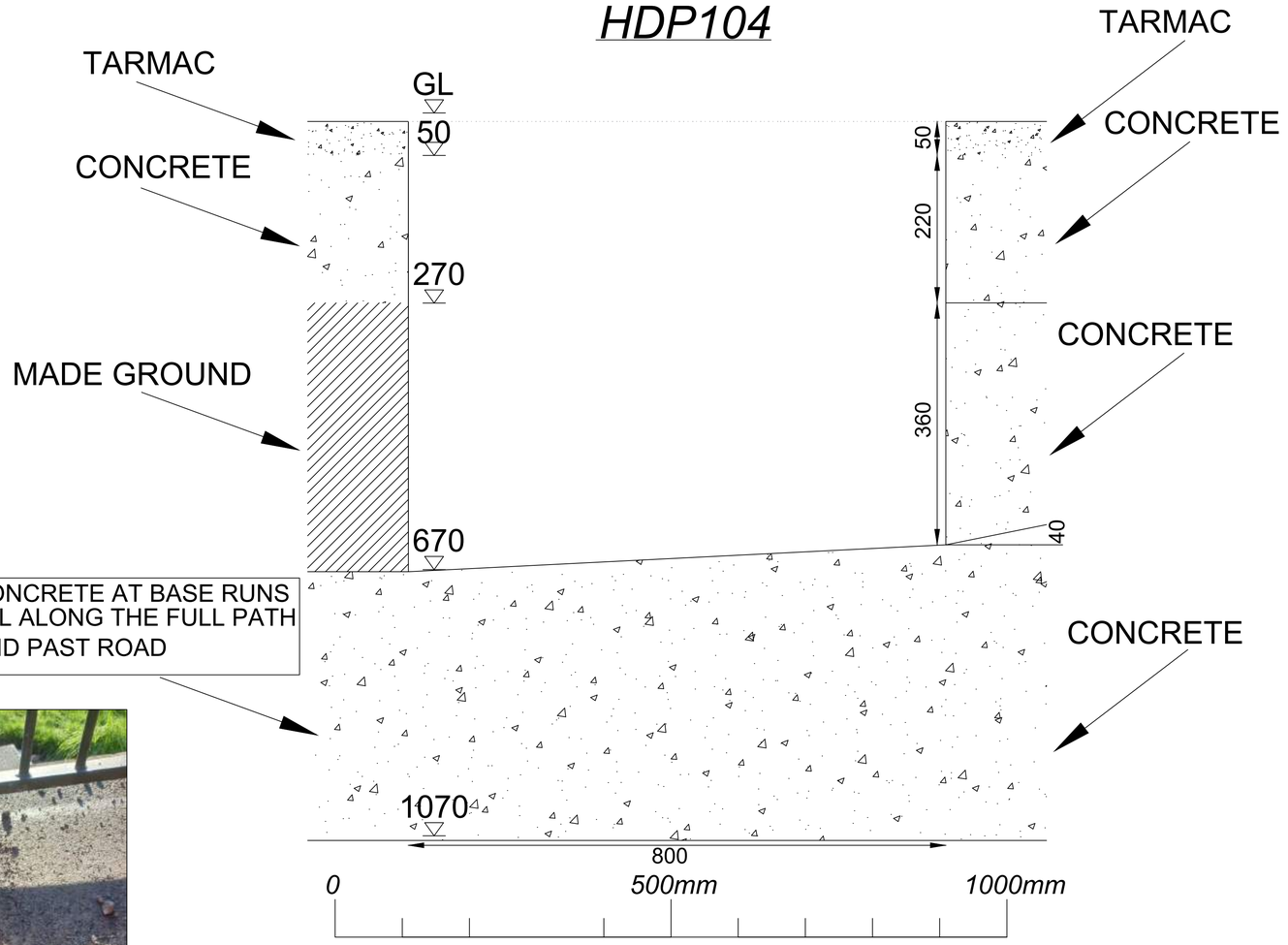
TITLE: HAND DUG PIT 102

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SE	SE
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	10/12/2024

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-010-V01	P1

Coordinates
X:389284.000
Y:413367.000

HDP104



HDP104 PHOTOGRAPHIC RECORD

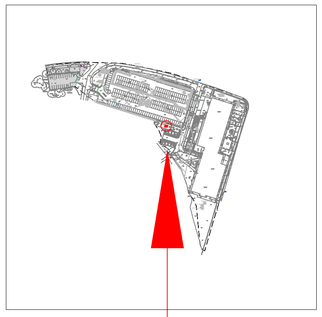


Geological log

0.00 - 0.05: Black ASPHALT
0.05 - 0.22: MADE GROUND: fine to coarse, angular to subangular, sandy GRAVEL of mixed lithologies including brick, concrete and sandstone
0.22 - 0.67: MADE GROUND: Grey CONCRETE. Hand drilled through to final base of concrete slab

DO NOT SCALE

NOTES



REV	DATE	BY	DESCRIPTION	CHK	APD
P1	10/12/2024	CS	ISSUED FOR INFORMATION	SE	SE

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

TITLE: HAND DUG PIT 104

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SE	SE
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	10/12/2024

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-011-V01	P1

Concrete foundation of brick wall encountered from 0.82m to 1.52m bgl. Hand dug pit terminated at 1.20m bgl, hand drilled through concrete to find base.

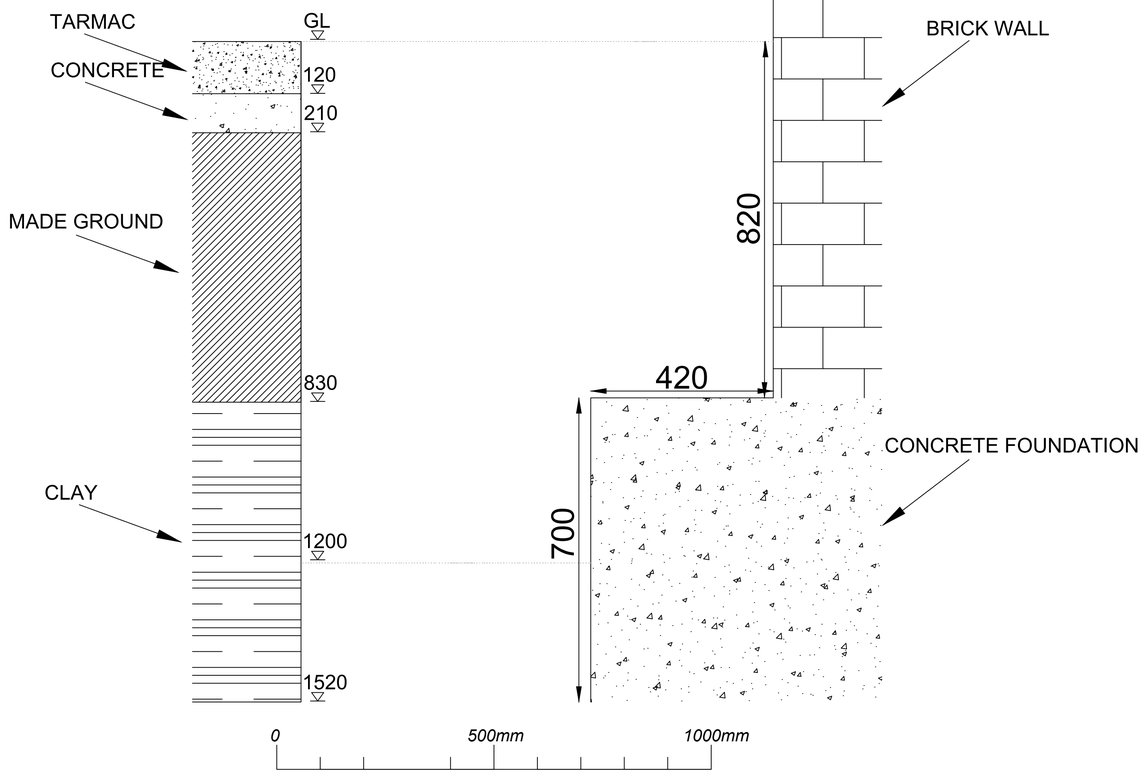
HDP105

Coordinates
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Y:413401.872

HDP105 PHOTOGRAPHIC RECORD





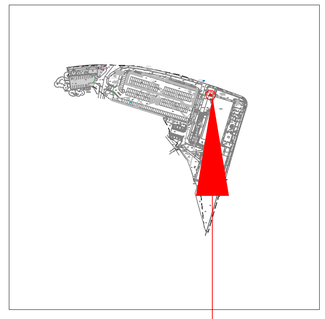


Geological log

0.00 - 0.12: Black ASPHALT
0.12 - 0.21: MADE GROUND: Brown, sandy, gravelly COBBLES of brick, sandstone and concrete
Gravel is fine to coarse, angular to subangular of brick, sandstone, concrete and limestone
0.21 - 0.83: POSSIBLE MADE GROUND: Soft to firm, brown CLAY

DO NOT SCALE

NOTES



REV	DATE	BY	DESCRIPTION	CHK	APD
P1	10/12/2024	CS	ISSUED FOR INFORMATION	SE	SE

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

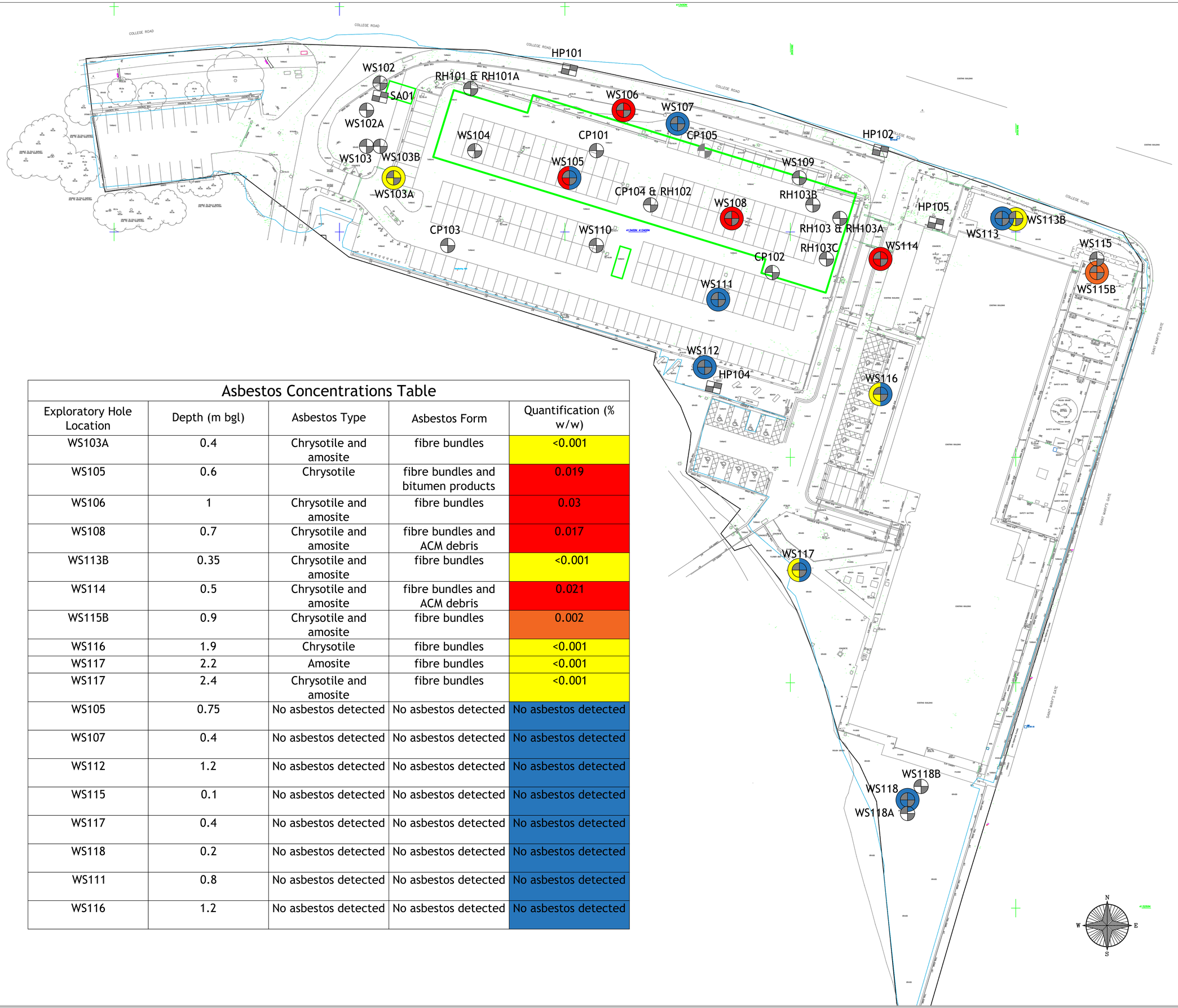
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

TITLE: HAND DUG PIT 105

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SE	SE
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	10/12/2024

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-012-V01	P1



Asbestos Concentrations Table

Exploratory Hole Location	Depth (m bgl)	Asbestos Type	Asbestos Form	Quantification (% w/w)
WS103A	0.4	Chrysotile and amosite	fibre bundles	<0.001
WS105	0.6	Chrysotile	fibre bundles and bitumen products	0.019
WS106	1	Chrysotile and amosite	fibre bundles	0.03
WS108	0.7	Chrysotile and amosite	fibre bundles and ACM debris	0.017
WS113B	0.35	Chrysotile and amosite	fibre bundles	<0.001
WS114	0.5	Chrysotile and amosite	fibre bundles and ACM debris	0.021
WS115B	0.9	Chrysotile and amosite	fibre bundles	0.002
WS116	1.9	Chrysotile	fibre bundles	<0.001
WS117	2.2	Amosite	fibre bundles	<0.001
WS117	2.4	Chrysotile and amosite	fibre bundles	<0.001
WS105	0.75	No asbestos detected	No asbestos detected	No asbestos detected
WS107	0.4	No asbestos detected	No asbestos detected	No asbestos detected
WS112	1.2	No asbestos detected	No asbestos detected	No asbestos detected
WS115	0.1	No asbestos detected	No asbestos detected	No asbestos detected
WS117	0.4	No asbestos detected	No asbestos detected	No asbestos detected
WS118	0.2	No asbestos detected	No asbestos detected	No asbestos detected
WS111	0.8	No asbestos detected	No asbestos detected	No asbestos detected
WS116	1.2	No asbestos detected	No asbestos detected	No asbestos detected

DO NOT SCALE

NOTES

- HAND DUG PIT LOCATION
- WINDOW SAMPLE LOCATION
- ROTARY BOREHOLE LOCATION
- CABLE PERCUSSION LOCATION
- SOAKAWAY LOCATION
- PROPOSED BUILDING OUTLINE

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	28.01.2025	CS	ISSUED FOR INFORMATION	AR	AR

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ
t: 01925 818 388

CLIENT: WILLMOTT DIXON CONSTRUCTION LIMITED

PROJECT: HOPWOOD HALL COLLEGE ROCHDALE

TITLE: ASBESTOS CONCENTRATIONS

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AR	AR
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	28/01/2025
PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-013-V01	P1

Site Boundary

West-southwest

East-northeast

Results from human health risk assessment has demonstrated that measured concentrations of asbestos have been reported in the Made Ground across the site at 56% of locations at concentrations between <0.001% and 0.03% w/w (amosite and chrysotile - fibre bundles, ACM debris and locally, bitumen products). Further detailed assessment required.

No measured chemical concentrations (inorganic or organic) reported to exceed GAC protective of a commercial land use.

Results from controlled waters risk assessment has demonstrated that measured groundwater concentrations of cadmium, copper, nickel, zinc, fluoranthene, and ammonia reported in excess of relevant Water Quality Standards and localised measured concentrations of glycols do not present a significant risk to the controlled waters environment when factors including the hydraulic upgradient and downgradient concentrations, aquifer sensitivity, wider commercial and industrial use of the surrounding land and surface water sample results are taken into account.

Proposed CFA piles - CFA piles are cast in place with a continuous concrete column, which effectively seals the borehole, thereby minimising vertical and lateral gas migration pathways. Therefore the proposed CFA piles represent a preferred piling solution with respect to ground gas considerations, particularly when compared with alternatives such as Vibro Stone Columns.

Pre-existing building and existing use of part of the site as a nursery means that additional post-demolition soil sampling will be required in the vicinity of the proposed contoured landscaped areas in the west of the site.

Off Site multi-storey residential

Off Site commercial properties

Historical landfill located Circa 204m west

Shallow coal mine workings are permanently flooded

Pre-existing college buildings

Pre-existing college building - to be demolished

Off Site commercial properties

Assumed localised cohesive and granular Alluvium (Secondary A Aquifer)

Concrete slab associated with former college building

4 Made Ground

Proposed contoured landscaped area

Deeper Made Ground associated with former infilled watercourse 4

Localised cohesive and granular Alluvium (Secondary A Aquifer)

Assumed Made Ground

??? ???

Loss of flush likely associated with probable coal mining

Probable coal mining-related void

Localised lense of unnamed coal

Interbedded sandstone and mudstone

Pennine Lower Coal Measures (Secondary A Aquifer)

Predominantly mudstone

Interbedded sandstone and mudstone

Dib Hole Coal

Deep confined groundwater body - artesian at RH103C

The preliminary conceptual site model identified potential on-site ground gas sources which vary between a very low, very low/low and low gas generation potential.

Ground gas monitoring has demonstrated that individual borehole gas flow rate calculations and even reasonable worst case GSV calculations mean that the site is classed as a Characteristic Situation 1 - Very Low Risk. Further consideration of coal mine gas risks using multiple lines of evidence have demonstrated a low risk for which no protection measures are required. these include:

- Workings are shallow but permanently flooded;
- Mine entries are >50m from the site boundary according to the Coal Authority information for the shaft;
- Additional lines of evidence include
  - The significant age of the mine workings (pre 1808);
  - No reports of any historical ground related issues in nearby adjacent college building structures developed pre-1977 (at which time gas protection measures were not a standard practice in UK building practices);
  - The absence of any significant ground gases or flow rates monitored at the site and determination of the site based on available data as a Characteristic Situation 1 - Very Low Risk scenario
  - The ternary plot produced for the steady gas concentrations (see below) does not indicate the presence of thermogenic methane (mine gas) in any wells monitored (either in saturated or unsaturated zone)
  - The shallow flooded mine workings are to be grouted as part of the development works thereby significantly reducing ground gas risks even further by sealing potential migration pathways, reducing void space, and mitigating the risk of any gas displacement.

A Future site users

B Current site users

C Adjacent site users

D Construction, site investigation, demolition and future maintenance workers

E Buildings, hardstanding and services

F Secondary A Aquifers

G Surface Water - River Roch

1 Inhalation of indoor and outdoor gas

2 Direct contact

3 Migration of ground gas through permeable Made Ground

4 Dust migration and inhalation/ingestion

5 Migration of mobile contaminants

6 Migration of mobile contaminants from Made Ground soils to adjacent sites along services and conduits

7 Migration of mobile contaminants through water pipes

DO NOT SCALE

NOTES

This drawing is purely schematic and is a representation of the ground conditions and process, based upon information derived from the third party reports, desk study, ground investigations, and Preliminary Risk Assessment.

Please refer to the tabular Conceptual Site Model in the Ground Investigation report for more details.

This model should be revised, following the availability of any supplementary site investigation information to ensure its relevance to actual conditions.

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04/02/2025	AR	ISSUED FOR INFORMATION	SL	SL

DRAWING STATUS: FINAL

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

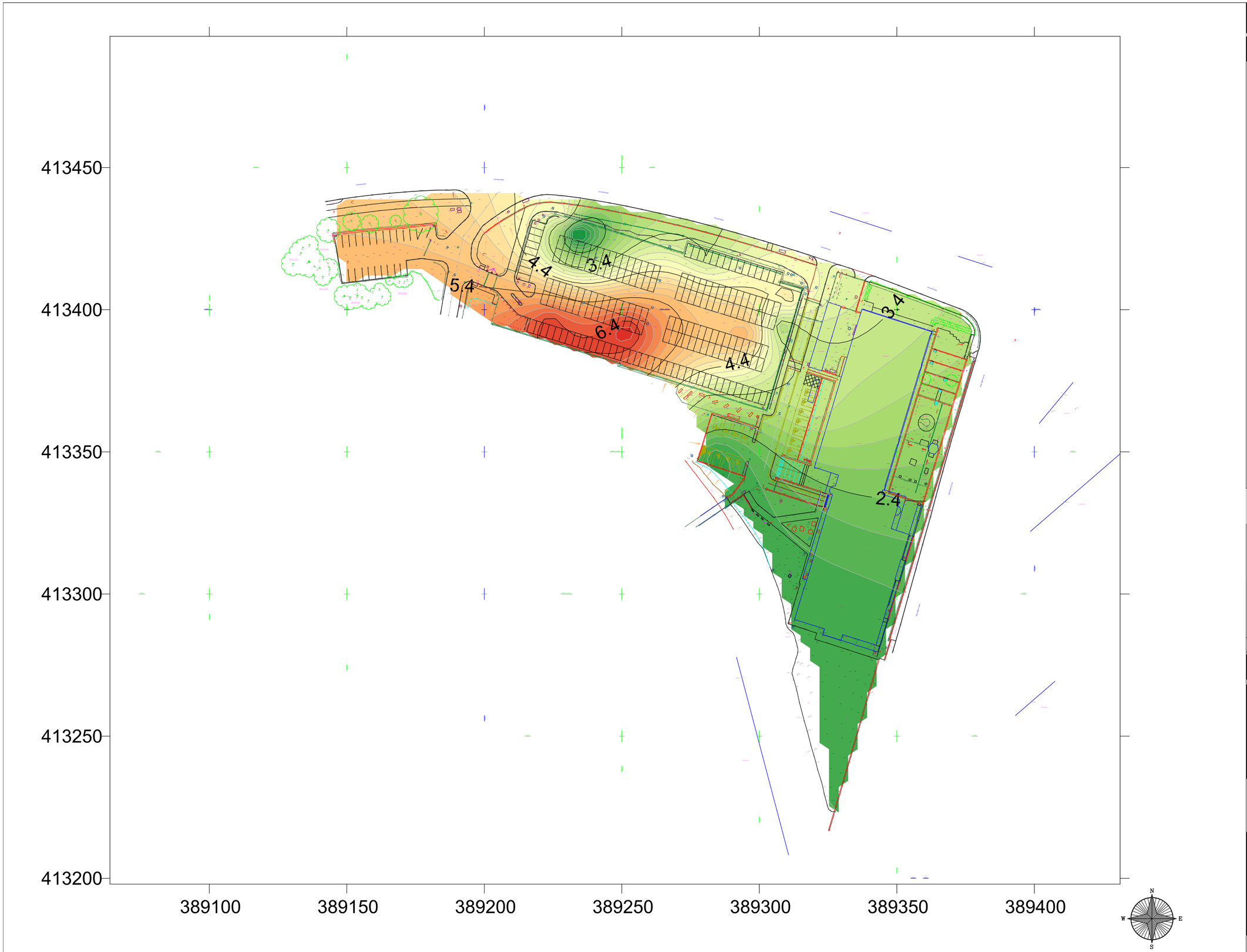
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL, ROCHDALE

TITLE: CONCEPTUAL SITE MODEL

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	SL	SL
CAD FILE:	DESIGN/DRAWN:	DATE:
–	AR	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-015-V01	P1



DO NOT SCALE

NOTES

M bgl
6.6
6.2
5.8
5.4
5
4.6
4.2
3.8
3.4
3
2.6
2.2
1.8
1.4

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

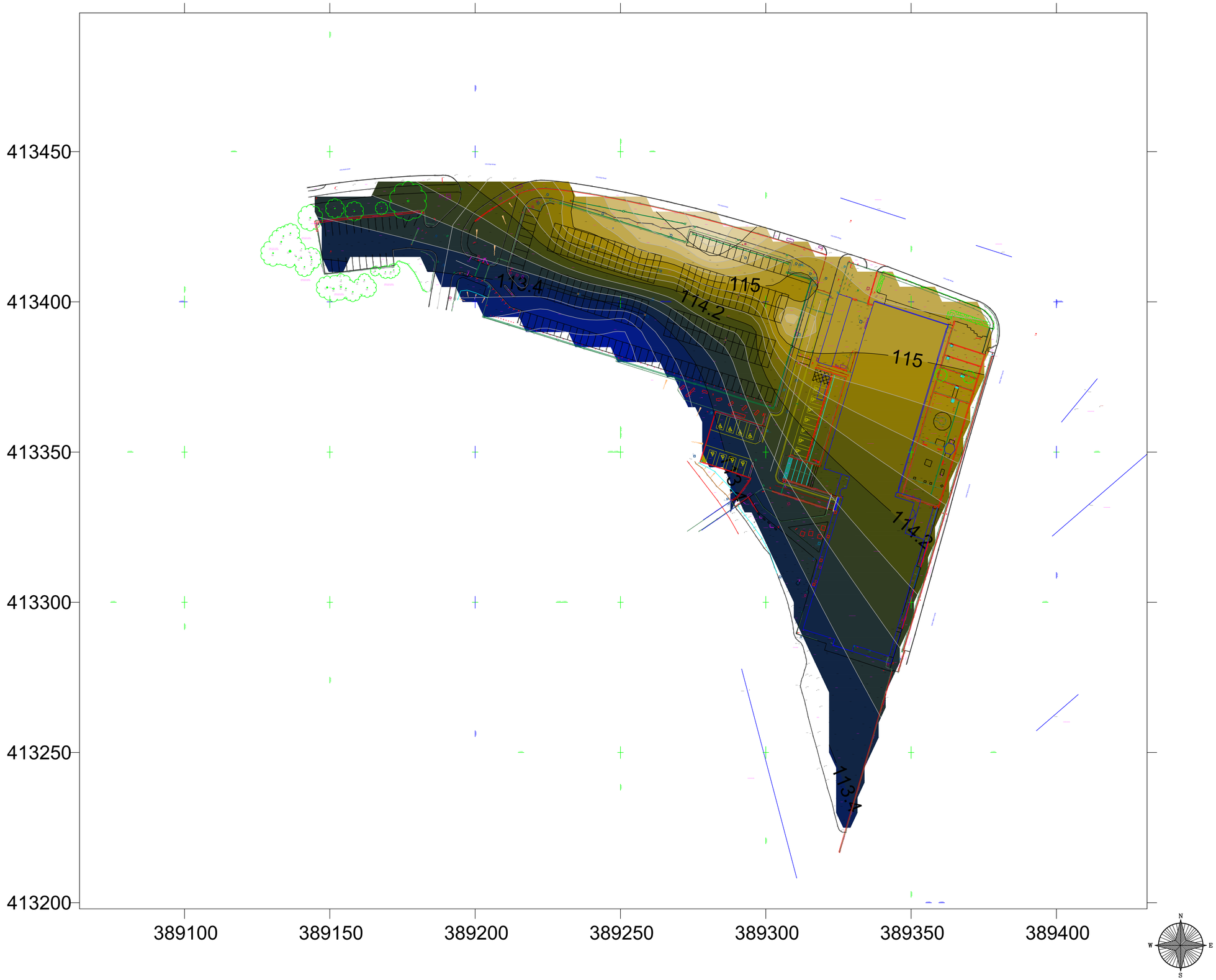
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: DEPTH OF MADE GROUND

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-017-V01	P1



DO NOT SCALE

NOTES

M bgl

- 116.2
- 116
- 115.8
- 115.6
- 115.4
- 115.2
- 115
- 114.8
- 114.6
- 114.4
- 114.2
- 114
- 113.8
- 113.6
- 113.4
- 113.2
- 113
- 112.8
- 112.6

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

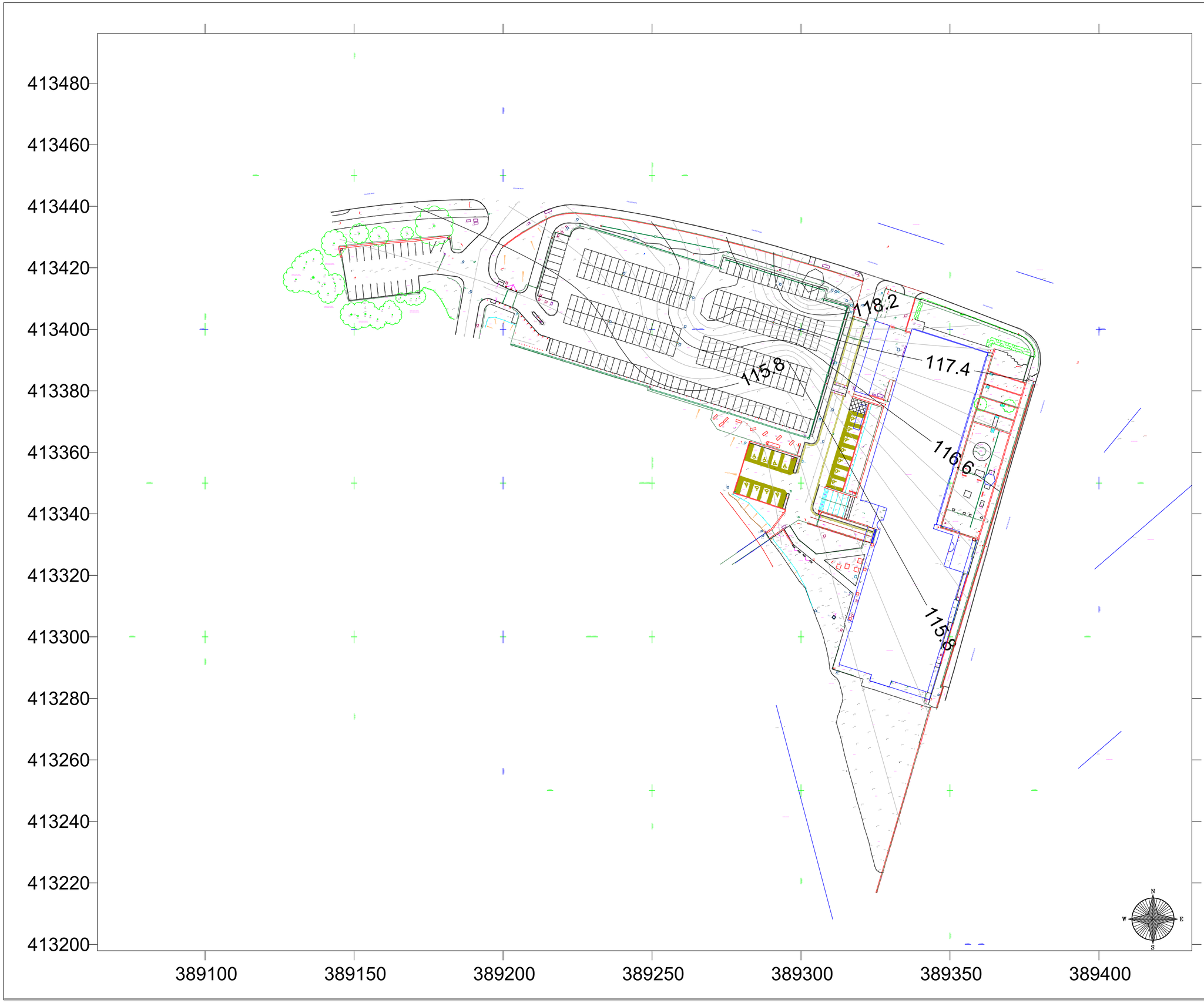
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: BEDROCK ELEVATIONS

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-018-V01	P1



DO NOT SCALE

NOTES

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

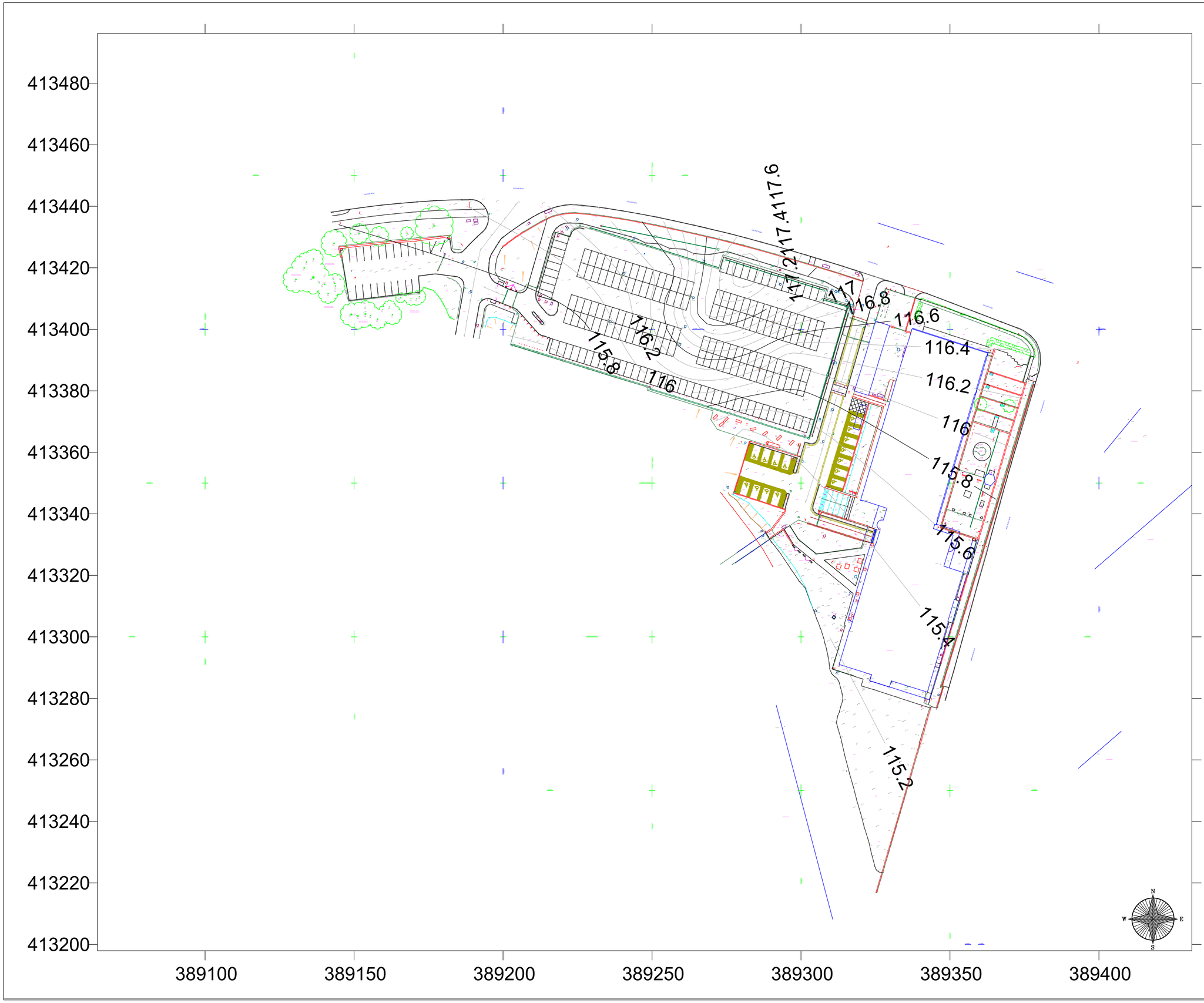
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: GROUNDWATER CONTOURS - MONITORING VISIT 1 17.12.2024

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-019-V01	P1



DO NOT SCALE

NOTES

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

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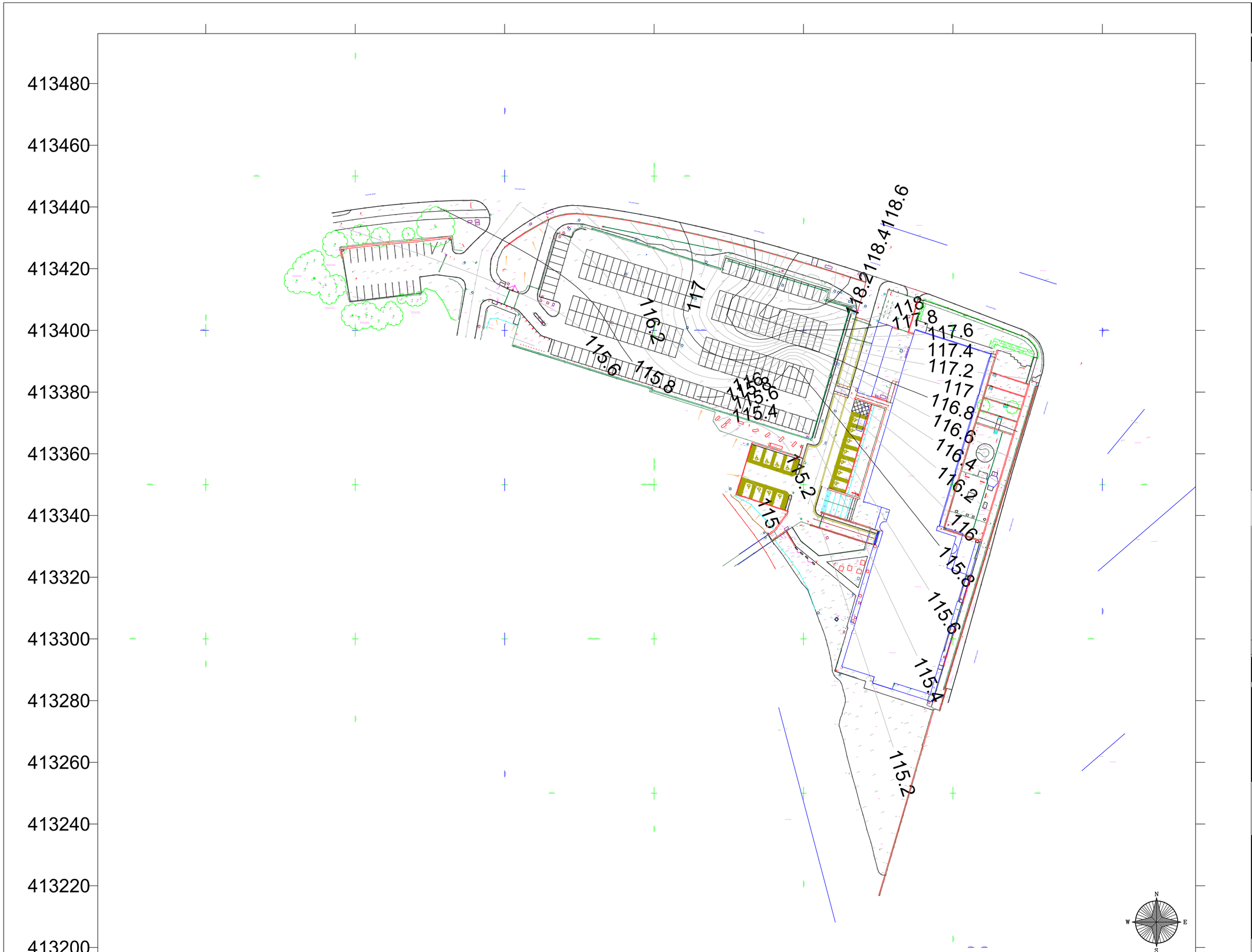
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: GROUNDWATER CONTOURS - MONITORING VISIT 2 07.01.2025

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-020-V01	P1



DO NOT SCALE

NOTES

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
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Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

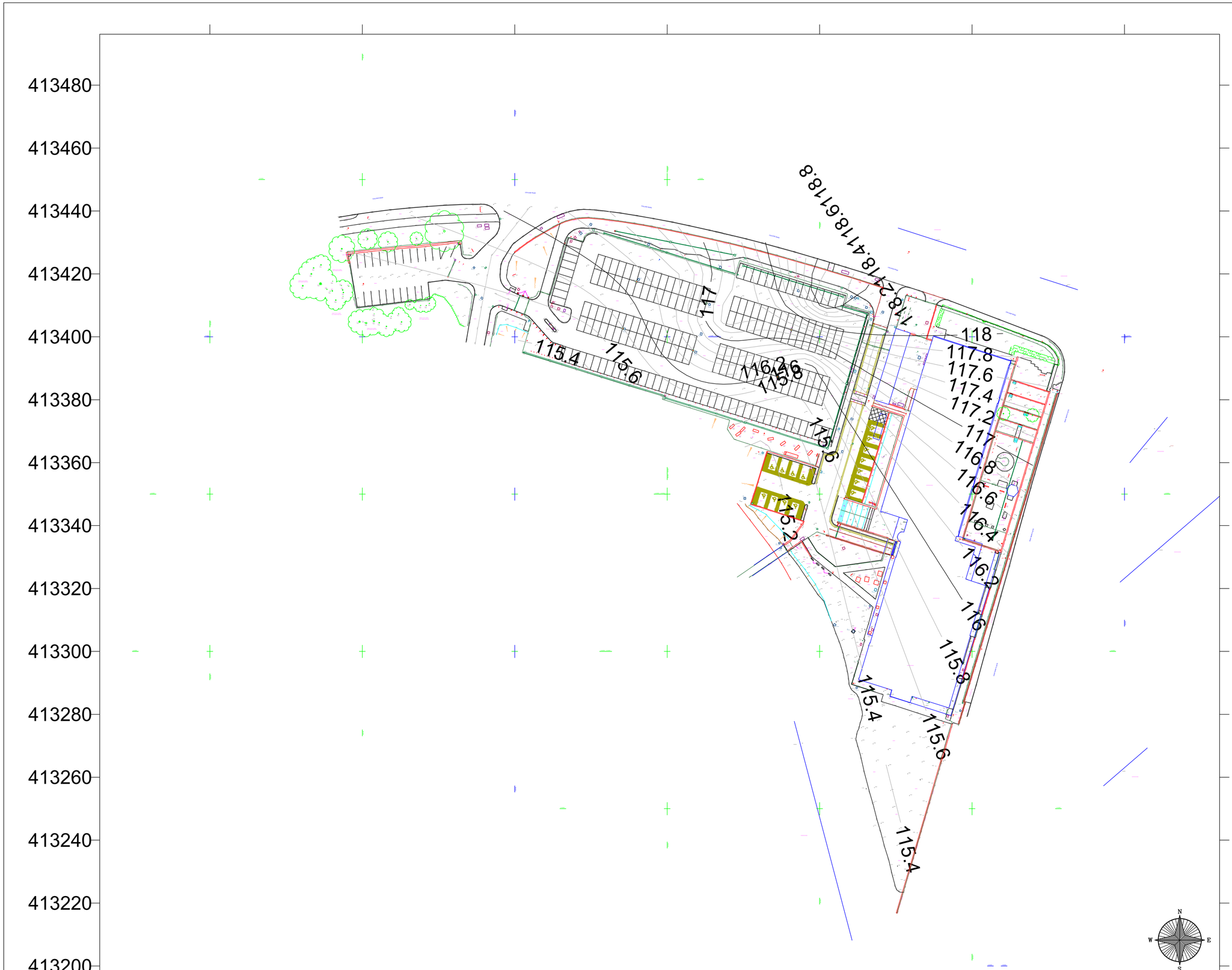
CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: GROUNDWATER CONTOURS - MONITORING VISIT 3 15.01.2025

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-021-V01	P1



DO NOT SCALE

NOTES

REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS: INFORMATION

Tier Environmental Ltd.
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Sandpiper Court
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Chester | CH4 9QZ

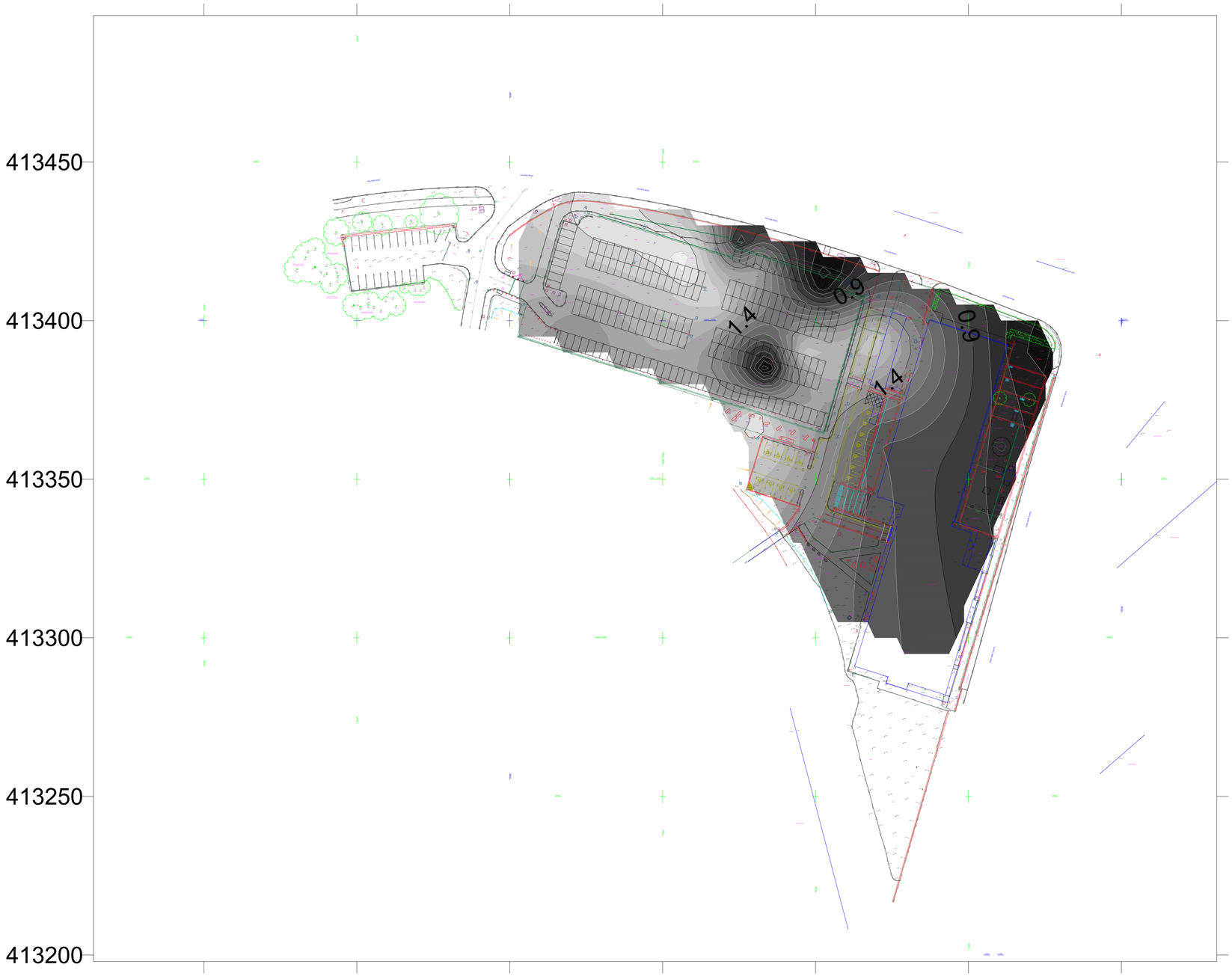
t: 01925 818 388

CLIENT: WILLMOTT DIXON

PROJECT: HOPWOOD HALL COLLEGE

TITLE: GROUNDWATER CONTOURS - MONITORING VISIT 4 24.01.2025

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025
PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-022-V01	P1



DO NOT SCALE

NOTES

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REV	DATE	BY	DESCRIPTION	CHK	APD
P1	04.02.2025	CS	ISSUED FOR INFORMATION	AP	AP

DRAWING STATUS:
INFORMATION

Tier Environmental Ltd.
Unit 5 Office Village
Sandpiper Court
Chester Business Park
Chester | CH4 9QZ

t: 01925 818 388

CLIENT:
WILLMOTT DIXON

PROJECT:
HOPWOOD HALL COLLEGE

TITLE:
THICKNESS OF PFA

SCALE @ SIZE:	CHECKED:	APPROVED:
NTS	AP	AP
CAD FILE:	DESIGN/DRAWN:	DATE:
–	CS	04/02/2025

PROJECT No:	DRAWING No:	REV:
TE1880	TE1880-TE-00-XX-DR-GE-023-V01	P1

APPENDIX B - EXPLORATORY HOLE LOGS

Borehole Log

Borehole No. **CP101**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389257.00 - 413418.00	Hole Type CP
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 27/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.09	119.44		MADE GROUND: Black high aggregate ASPHALT. Aggregate is medium to coarse, angular to subangular of limestone.
					0.16	119.37		MADE GROUND
					0.21	119.32		MADE GROUND: Grey, high aggregate CONCRETE. Aggregate is medium to coarse, subangular of limestone. Low air voids.
		0.40	D		0.50	119.03		MADE GROUND
		0.70	D					MADE GROUND: Bluish grey, medium aggregate CONCRETE. Aggregate is fine to medium, angular of limestone with medium air voids.
		0.70 - 1.20	B					MADE GROUND
		1.20	SPTL					MADE GROUND: Dark grey, clayey, sandy GRAVEL of fine to medium, angular to subrounded of brick, sandstone, frequent gravel sized silt pockets with white coating.
		1.20	S	50 (25 for 95mm/50 for 50mm)				MADE GROUND
								MADE GROUND: Medium dense to dense, grey slightly sandy SILT (possible PFA)
								MADE GROUND
		2.20	SPTL					
		2.20	S	N=23 (4,5/5,5,6,7)				
					2.60	116.93		MADE GROUND: Dense, brown, sandy GRAVEL of fine to coarse, angular to subangular of brick and sandstone, occasional limestone with frequent cobbles of sandstone.
		2.70 - 3.00	B					MADE GROUND
		2.70 - 3.00	ES					
	▼	3.10	SPTL					
	▼	3.10	S	N=27 (10 for 115mm/12,7,4,4)				
					3.90	115.63		Stiff, dark grey, gravelly CLAY. Gravel is fine to medium angular of mudstone.
								TILL
		4.20	SPTL		4.20	115.33		Extremely weak, dark grey MUDSTONE recovered as angular gravel.
		4.20	S	50 (25 for 115mm/50 for 115mm)				PENNINE MIDDLE COAL MEASURES
		4.50	B					

Continued on next sheet

Remarks

1) Groundwater encountered at 3.50m bgl rising to 3.20m after 20mins 2) No visual or olfactory evidence of contamination 3) Installed and backfilled 4) 1hr of chiselling in bedrock 5) Cased to 4.40m bgl.

Borehole Log

Borehole No. **CP101**

Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389257.00 - 413418.00	Hole Type CP
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 27/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.20	B		5.35	114.18		End of borehole at 5.35 m
		5.30 5.30	SPTL S	50 (25 for 20mm/50 for 30mm)				

Remarks

1) Groundwater encountered at 3.50m bgl rising to 3.20m after 20mins 2) No visual or olfactory evidence of contamination 3) Installed and backfilled 4) 1hr of chiselling in bedrock 5) Cased to 4.40m bgl.

Borehole Log

Borehole No. **CP102**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389296.00 - 413391.00	Hole Type CP
Location: Rochdale		Level: 119.51	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.14	119.37		MADE GROUND: Black high aggregate ASPAHLT. Aggregate is fine to coarse, angular to subangular limestone. MADE GROUND
					0.25	119.26		MADE GROUND: Dark grey, high aggregate CONCRETE. Aggregate is medium to coarse, angular to subangular limestone. MADE GROUND
					0.50	119.01		MADE GROUND: Grey, medium to high aggregate CONCRETE. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
		0.70	D		0.80	118.71		MADE GROUND: Brown, gravelly SAND. Gravel is fine to coarse, angular to subangular predominantly of brick with occasional sandstone and limestone. MADE GROUND
		1.20 1.20	SPTL S	50 (7,8/50 for 180mm)				MADSE GROUND: Medium dense to dense, light grey SILT (possible PFA) MADE GROUND
		1.70	B					
		2.20 2.20	SPTL S	N=19 (4,4/4,5,5,5)				
					2.60	116.91		MADE GROUND: Medium dense, brown, sandy GRAVEL of fine to coarse, angular to subangular sandstone and brick. MADE GROUND
	▼	3.10 3.10	SPTL S	N=22 (5,5/5,6,6,5)				
		4.00 4.00	SPTL S	50 (10,14/50 for 105mm)				
					4.20	115.31		MADE GROUND: Dense, black ashy GRAVEL of fine to coarse, angular to subangular predominantly brick and sandstone with occasional limestone and fine coal fragments. MADE GROUND
								Continued on next sheet

Remarks

1) Groundwater encountered at 3.40m bgl 2) Ashy material between 4.20m and 5.40m bgl, no other visual or olfactory evidence of contamination. 3) Cased to 5.40m 4) Installed and backfilled 5) Chiselled for 1hr into bedrock.

Borehole Log

Borehole No. **CP102**
Sheet 2 of 2

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389296.00 - 413391.00	Hole Type CP
Location:	Rochdale		Level:	119.51	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00 5.00	SPTL S	50 (7,9/50 for 180mm)				
		5.40 5.40	SPTL S	50 (25 for 70mm/50 for 40mm)	5.40	114.11		Extremely weak, dark grey MUDSTONE. PENNINE MIDDLE COAL MEASURES
		6.20 6.20	SPTL S	50 (25 for 20mm/50 for 30mm)	6.25	113.26		End of borehole at 6.25 m

Remarks
1) Groundwater encountered at 3.40m bgl 2) Ashy material between 4.20m and 5.40m bgl, no other visual or olfactory evidence of contamination. 3) Cased to 5.40m 4) Installed and backfilled 5) Chiselled for 1hr into bedrock.

Borehole Log

Borehole No. **CP103**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389224.00 - 413397.00	Hole Type CP
Location: Rochdale		Level: 119.43	Scale 1:25
Client: Willmott Dixon		Dates: 26/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.06	119.37		MADE GROUND: Black, medium to high aggregate ASPAHLT. Aggregate is fine to coarse, angular to subangular of limestone. MADE GROUND
					0.11	119.32		
					0.33	119.10		MADE GROUND: Bluish grey, high aggregate CONCRETE. Aggregate is fine, angular to subangular of limestone. MADE GROUND
								MADE GROUND: Grey, high aggregate CONCRETE. Aggregate is fine to medium, angular to subangular of limestone. Low (approx <5%) air voids MADE GROUND
		1.20 1.20	SPTL S	N=50 (4,5/50 for 235mm)				MADE GROUND: Dense, grey slightly sandy SILT (possible PFA) MADE GROUND
		2.20 2.20	SPTL S	N=16 (3,3/3,4,4,5)	2.20	117.23		MADE GROUND: Medium dense, greyish brown, sandy, gravelly SILT. Gravel is fine to coarse, angular to subangular of brick, sandstone, rare coal /ash. MADE GROUND
		3.40 3.40	SPTL S	N=10 (4,3/3,2,2,3)	3.40	116.03		MADE GROUND: Medium dense to dense greyish brown, clayey, sandy GRAVEL. Gravel is fine to coarse, angular to subangular of brick and sandstone. MADE GROUND
		4.50 4.50	SPTL S	74 (5,5/74 for 225mm)				

Continued on next sheet

Remarks

1) Groundwater encountered at 3.40m rising to 3.20m after 20mins 2) Terminated on refusal 3) Cased to 7.00m bgl 4) Chiselled for 1hr 5) Installed and Backfilled

Borehole Log

Borehole No. **CP103** Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389224.00 - 413397.00	Hole Type CP
Location: Rochdale		Level: 119.43	Scale 1:25
Client: Willmott Dixon		Dates: 26/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.30 5.30	SPTL S	N=27 (12,12/10,7,5,5)	5.10	114.33		MADE GROUND: Medium dense to dense, black ashy GRAVEL. Gravel is fine to coarse, subangular to subrounded of brick, occasional sandstone, ceramic. Slight organic odour. MADE GROUND
		6.50 6.50	SPTL S	50 (10,12/50 for 125mm)	6.50	112.93		Extremely weak, dark grey MUDSTONE PENNINE MIDDLE COAL MEASURES
		7.50 7.50	SPTL S	50 (25 for 30mm/50 for 60mm)	7.59	111.84		End of borehole at 7.59 m

Remarks
1) Groundwater encountered at 3.40m rising to 3.20m after 20mins 2) Terminated on refusal 3) Cased to 7.00m bgl 4) Chiselled for 1hr 5) Installed and Backfilled

Borehole Log

Borehole No. **CP105**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords: 389281.00 - 413418.00	Hole Type CP
Location:	Rochdale		Level: 119.50	Scale 1:25
Client:	Willmott Dixon		Dates: 04/12/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	119.45		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is medium to coarse, angular of limestone.
					0.13	119.37		MADE GROUND
								MADE GROUND: Bluish grey, high aggregate CONCRETE. Aggregate is fine to medium, angular to subangular of limestone with low to medium air voids.
					0.65	118.85		MADE GROUND
					0.70	118.80		MADE GROUND: Grey, medium to high aggregate CONCRETE with bluish grey low aggregate concrete down approx half of core to 0.30m bgl. Aggregate is fine to coarse, angular to subangular of limestone with low air voids (fine aggregate of limestone in blue grey half)
					0.75	118.75		MADE GROUND
		1.20	SPTL					*Rebar approx 25mm diameter at 0.40m bgl.*
		1.20	S	50 (5,8/50 for 240mm)				*Plastic membrane diagonally from 0.50m to 0.70m bgl.*
								MADE GROUND: Darker grey, high aggregate CONCRETE. Aggregate is medium to coarse, angular to subangular of limestone.
								MADE GROUND
								MADE GROUND: Dark grey, 'loose fill', high aggregate CONCRETE with medium to high air voids. Aggregate is medium to coarse, subangular to subrounded of limestone.
								MADE GROUND
								MADE GROUND: Dense, compacted, grey, slightly gravelly SILT. Gravel is fine to coarse, angular to subangular of sandstone. (possible PFA)
		2.30	SPTL		2.30	117.20		MADE GROUND
		2.30	S	N=16 (3,4/4,4,4,4)				MADE GROUND: Medium dense, brownish grey, clayey SAND and GRAVEL. Gravel is fine to medium, subangular to subrounded of sandstone, occasional mudstone and rare brick. Sand is fine to medium grained.
								MADE GROUND
		3.20	SPTL					
		3.20	S	N=60 (3,4/60 for 255mm)				
					3.40	116.10		Extremely weak, dark grey, occasional weathered brown MUDSTONE recovered as clayey gravel to approx 3.50m bgl. PENNINE MIDDLE COAL MEASURES
					4.20	115.30		End of borehole at 4.20 m

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.40m bgl rising to 3.00m bgl after 20mins 3) No visual or olfactory evidence of contamination 4) Cased to 3.40m 5) Chiselled for 1hr. 6) Installed and backfilled.

Borehole Log

Borehole No.
HDP101
Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389251.00 - 413436.00	Hole Type WS
Location:	Rochdale		Level:	119.40	Scale 1:25
Client:	Willmott Dixon		Dates:	27/11/2024 -	Logged By

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.13	119.27		MADE GROUND: Black ASPHALT MADE GROUND
					0.54	118.86		MADE GROUND; Dark greyish brown, fine to coarse, angular to subangular, sandy, slightly ashy GRAVEL of mixed lithologies including brick, sandstone, concrete and limestone. MADE GROUND *Concrete footing of retaining wall from 0.32m to 0.62m bgl North face of pit.*
	▼				0.86	118.54		MADE GROUND: Soft to firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, angular to subangular of brick. MADE GROUND End of borehole at 0.86 m

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Remarks
1) Groundwater encountered as slow seepage at base of pit 2) Slightly ashy between 0.13m and 0.54m bgl, no further sign of contamination 3) Backfilled with arisings 4) Excavated for foundation inspection.

Borehole Log

Borehole No.
HDP102
Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords: 389320.00 - 413418.00	Hole Type WS
Location:	Rochdale		Level: 119.99	Scale 1:25
Client:	Willmott Dixon		Dates: 27/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	119.84		MADE GROUND: Black ASPHALT MADE GROUND
					0.45	119.54		MADE GROUND; Dark greyish brown, fine to coarse, angular to subangular, sandy, slightly ashy GRAVEL of mixed lithologies including brick, sandstone, concrete and limestone. MADE GROUND
								MADE GROUND: Soft to firm, brown, slightly sandy, slightly gravelly CLAY. Gravel is fine to medium, angular to subangular of brick. MADE GROUND *Concrete footing of retaining wall from 0.60m to 0.87m in north face of pit*
					1.13	118.86		End of borehole at 1.13 m

Remarks
1) No groundwater encountered 2) Slightly ashy between 0.15m and 0.45m bgl, no further sign of visual or olfactory contamination. 3) Backfilled with arisings 4) Excavated for foundation inspection.

Borehole Log

Borehole No. **HDP104**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389284.00 - 413367.00	Hole Type WS
Location:	Rochdale		Level:	119.86	Scale 1:25
Client:	Willmott Dixon		Dates:	27/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	119.81		MADE GROUND: Black ASPHALT MADE GROUND
					0.22	119.64		MADE GROUND: Grey CONCRETE MADE GROUND *Concrete from 0.05m to base of pit in southern pit wall*
								MADE GROUND: Fine to coarse, angular to subangular sandy GRAVEL of mixed lithologies including brick, concrete and sandstone. MADE GROUND
					0.67	119.19		MADE GROUND: Grey CONCRETE. Hand drilled through to base of concrete slab at 1.07m. MADE GROUND
					1.07	118.79		End of borehole at 1.07 m

1
2
3
4
5

Remarks

1) No groundwater encountered 2)No visual or olfactory evidence of contamination 3) Backfilled with arisings 4) Excavated for foundation inspection

Borehole Log

Borehole No. **HDP105**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389332.00 - 413401.00	Hole Type WS
Location:	Rochdale		Level:	119.29	Scale 1:25
Client:	Willmott Dixon		Dates:	27/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.12	119.17		MADE GROUND: Black ASPAHLT MADE GROUND
					0.21	119.08		MADE GROUND: Grey CONCRETE MADE GROUND
								MADE GROUND: Brown, sandy, gravelly COBBLES of occasional sandstone and concrete. Gravel is fine to coarse, angular to subangular of brick, sandstone, concrete and limestone. MADE GROUND
					0.83	118.46		*Concrete foundation of brick wall encountered from 0.82 to 1.52m bgl. Hand dug pit terminated at 1.20m bgl, hand drilled through concrete find base of slab at 1.52m bgl*
								POSSIBLE MADE GROUND: Soft to firm, brown CLAY POSSIBLE MADE GROUND
					1.52	117.77		End of borehole at 1.52 m

1
2
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4
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Remarks

1) No groundwater encountered 2) Terminated at target depth 3) No visual or olfactory evidence of contamination 4) Backfilled with arisings 5) Excavated for foundation inspection.

Rotary Core Log

Borehole No. **RH101**

Sheet 1 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		0.05	ES				0.12	119.40		MADE GROUND: Black, medium aggregate ASPHALT. Aggregate is medium to coarse, angular to subangular of limestone and occasional granite. MADE GROUND
							0.50	119.02		MADE GROUND: Grey, medium to high aggregate CONCRETE. Aggregate is medium to coarse, angular ti subangular of limestone. Low (<5%) air voids MADE GROUND
							0.70	118.82		MADE GROUND: Red BRICK MADE GROUND
		1.10 - 2.20	B							MADE GROUND: Dense, grey, sandy SILT with occasional medium, angular gravel of brick and rare clinker. (Possible PFA) MADE GROUND
							2.20	117.32		MADE GROUND: Friable brownish grey, gravelly CLAY with frequent cobbles of brick. Gravel is fine to coarse, angular to subangular of brick. MADE GROUND
	▼	3.00 3.00	D SPTL S							
		3.30 - 4.00	B				3.30	116.22		POSSIBLE MADE GROUND: Firm to stiff, reddish brown, silty CLAY with occasional cobbles of sandstone. MADE GROUND
		4.00 4.00	D SPTL S				4.00	115.52		Stiff, reddish brown, silty CLAY. TILL *Switch from dynamic sampling to rotary coring.*
							4.50	115.02		Extremely weak to very weak, highly fractured, grey MUDSTONE recovered as clay coated gravel and cobbles. 70% flush return. TILL
		4.77 - 4.80	C				4.80	114.72		Very weak, thinly laminated grey MUDSTONE. Discontinuities are horizontal to 20°, very closely

Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 2 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										spaced, planar smooth to planar rough, wall strength very weak clay infilled. PENNINE MIDDLE COAL MEASURES *60% flush return.*
							5.35	114.17		Soft to firm, dark grey, gravelly CLAY. Gravel is fine to medium, subangular to subrounded of MUDSTONE TILL *95% flush return between 5.35m to 6.35m bgl*
							5.66	113.86		Very weak, thinly laminated, dark grey MUDSTONE. Discontinuities are horizontal to 20°, very closely spaced, planar smooth, wall strength very weak, clean clay infill. PENNINE LOWER COAL MEASURES *discontinuities are 90°, stepped smooth, wall strength very weak, stained reddish brown between 5.93m to 6.08m bgl.*
		6.28 - 6.35	C							*0% flush return between 6.35m and 7.85m bgl due to suspected highly fractured band. Drilling polymer added.*
		6.71 - 6.78	C							*Becoming extremely weak and clay coated between 7.25m and 7.40m bgl.*
							7.40	112.12		Extremely weak to very weak, thinly laminated to thickly laminated, greyish brown, interbedded SANDSTONE and SILTSTONE. Discontinuities are horizontal to 10°, extremely closely to very closely spaced, planar smooth, wall strength extremely weak, clean infill. PENNINE LOWER COAL MEASURES
		7.71 - 7.75	C							
							7.90	111.62		Extremely weak to very weak, thinly laminated, grey occasionally stained reddish brown SILTSTONE. Discontinuities are horizontal to 10° and occasional 90°, very closely to closely spaced, wall strength, extremely weak, undulating smooth slightly silty infill. PENNINE LOWER COAL MEASURES
							8.35	111.17		Very weak, very thinly to thinly bedded, greyish brown occasionally stained reddish brown, fine grained SANDSTONE. Discontinuities are horizontal to 10° and 110° to 130° very closely spaced, planar rough to undulating striated, wall strength very weak, clean infill. Becoming extremely weak from 9.00m bgl PENNINE LOWER COAL MEASURES *Loss of flush due to suspected highly fractured rock. Casing extended to 9.00m bgl.*
		9.02 - 9.15	C							
							9.40	110.12		Extremely weak, very narrow to thinly laminated, grey to dark grey, interbedded SILTSTONE and SANDSTONE. Discontinuities are horizontal to 10°, extremely closely spaced, planar rough, wall strength extremely weak, clean infill to silt/clay infill. PENNINE LOWER COAL MEASURES
		9.56 - 9.61	C							

Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 3 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		10.15 - 10.40	C				10.10	109.42		Medium strong, thinly bedded, light grey SANDSTONE. Discontinuities are horizontal 10°, very closely to closely spaced, planar smooth to rough stepped, wall strength very weak, clean to sand / silt infill. PENNINE LOWER COAL MEASURES
		10.77 - 10.80	C							
		11.71 - 11.74	C							
		12.84 - 12.90	C							*only 0.75m run due to cleaning out settled polymar as first run of the day. 40% flush return between 12.15m to 12.90m bgl.*
		13.42 - 13.50	C							*no flush return, likely due to highly fractured rock around 12.00m bgl.*
		14.22 - 14.26	C				13.28	106.24		Extremely weak, very narrow to thinly laminated, grey to dark grey SILTSTONE. Discontinuities are horizontal to 10° occasional 40° very closely to closely spaced, stepped rough, wall strength extremely weak, clean to occasional clay infill. PENNINE LOWER COAL MEASURES
							14.30	105.22		Medium strong, thinly bedded, dark grey SILTSTONE. Discontinuities are horizontal to 20°, closely becoming very closely spaced, stepped rough, wall strength weak, clean infill. PENNINE LOWER COAL MEASURES

Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 4 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		15.12 - 15.16	C							*weathered to coarse, angular gravel between 15.30m and 15.45m bgl.*
										10% flush return between 15.50m and 17.50m bgl. Drillers suspected increased flush loss around 6.00-8.00m bgl so cased to 10.50m bgl and drilling polymer added, 100% flush return from 17.50m to 18.30m bgl.
							17.20	102.32		Very weak, thinly bedded, dark grey SILTSTONE. Discontinuities are horizontal to 10° very closely spaced, stepped rough, wall strength extremely weak, clean to slightly clayey infill.
		17.30 - 17.39	C							PENNINE LOWER COAL MEASURES
							17.50	102.02		Medium strong, thinly bedded, dark grey SILTSTONE. Discontinuities are horizontal to 20°, closely becoming very closely spaced, stepped rough, wall strength weak, clean infill. PENNINE LOWER COAL MEASURES
		18.30 - 18.42	C							*60% flush return between 18.30m and 19.80m bgl.*
		19.23 - 19.30	C							
							19.30	100.22		Very weak, very thinly bedded to narrowly bedded, dark grey SILTSTONE. Discontinuities are horizontal to 60° very closely spaced, planar rough to stepped rough, wall strength extremely weak, clean occasional sand and clay infill. PENNINE LOWER COAL MEASURES
							19.80	99.72		*weathered to gravel between 19.45m to 19.55m bgl and 19.60m to 19.65m bgl*
							20.00	99.52		Weak Flush, assumed to be SILTSTONE

Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 5 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389230.00 - 413433.00	Hole Type RO
Location:	Rochdale		Level:	119.52	Scale 1:25
Client:	Willmott Dixon		Dates:	18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										PENNINE MIDDLE COAL MEASURES *coring stopped at 19.80m bgl continued with rotary open hole.* Hard grey fractured MUDSTONE, with bands of of sandstone. Full flush PENNINE MIDDLE COAL MEASURES

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Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No.
RH101
Sheet 6 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389230.00 - 413433.00	Hole Type RO
Location:	Rochdale		Level:	119.52	Scale 1:25
Client:	Willmott Dixon		Dates:	18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							29.00	90.52		Coal flash in MUDSTONE PENNINE MIDDLE COAL MEASURES
										Continued on next sheet

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Remarks
1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 7 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389230.00 - 413433.00	Hole Type RO
Location:	Rochdale		Level:	119.52	Scale 1:25
Client:	Willmott Dixon		Dates:	18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							30.30	89.22		Hard COAL COAL
							30.80	88.72		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
							32.00	87.52		Hard grey SANDSTONE PENNINE MIDDLE COAL MEASURES
							34.50	85.02		Hard grey fractured SANDSTONE - lost flush (partial flush) PENNINE MIDDLE COAL MEASURES
							35.00	84.52		Continued on next sheet

31 32 33 34 35

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101**

Sheet 8 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										Hard drilling, possible fractured SANDSTONE PENNINE MIDDLE COAL MEASURES
							39.70	79.82		Weak drilling, partial flush. Assumed to be fractured SANDSTONE. PENNINE MIDDLE COAL MEASURES
							40.00	79.52		End of borehole at 40.00 m

36 37 38 39 40

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 3.20m bgl. 3) No visual or olfactory evidence of contamination. 4) Cased to 10.50m bgl. 5) Installed and backfilled.

Rotary Core Log

Borehole No. **RH101A**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389230.00 - 413433.00	Hole Type RO
Location: Rochdale		Level: 119.52	Scale 1:25
Client: Willmott Dixon		Dates: 18/11/2024 -	Logged By SE

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							0.12	119.40		MADE GROUND: Black, medium aggregate ASPAHLT. Aggregate is medium to coarse, angular to subangular of gravel and limestone. MADE GROUND
		0.50	B				0.45 0.54	119.07 118.98		MADE GROUND: Grey, medium to high aggregate CONCRETE. Aggregate is medium to coarse, angular to subangular of limestone. Low (0%) air voids. MADE GROUND
		1.10 1.10	D SPTL S							MADE GROUND: Red BRICK MADE GROUND
		2.00	SPTL S							MADE GROUND: Grey, sandy SILT with occasional medium angular gravel of brick and rare clinker. (possible PFA) Dense becoming wet from 2.00m bgl. MADE GROUND
							2.20 2.21	117.32 117.31		MADE GROUND: Possible metal, drill bit slipping, cant grip to cut through. SPT refusal, no progress. Terminated on suspected metal obstruction. MADE GROUND
										End of borehole at 2.21 m

Remarks

1) Hand dug pit to 1.20m bgl. 2) No groundwater encountered 3) No visual or olfactory evidence of contamination 4) Cased to 2.00m bgl 5) Terminated due to obstruction, moved west approx 0.50m and redrilled (see RH101).

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 1 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		0.05	ES				0.35	119.29		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is fine to coarse, subangular to angular of limestone. MADE GROUND
		0.70	D				0.80	118.84		MADE GROUND; Dense becoming medium dense, dark grey clayey, sandy GRAVEL of fine to medium, angular to subrounded of brick, sandstone, frequent gravel sized silt pockets with white coating. MADE GROUND
		1.20	SPTL S							MADE GROUND: Dense, dark grey, slightly gravelly SILT. Gravel is fine to coarse, angular to subangular of brick and sandstone (possible PFA) MADE GROUND
		1.70 - 2.00	B							
		2.00	SPTL S							*Lenses of fine to medium grained sand at 2.20m*
		3.00	SPTL S				2.65	116.99		MADE GROUND: Dense, brown, sandy GRAVEL of fine to coarse, angular to subangular of brick and sandstone, occasional limestone with frequent cobbles of sandstone. MADE GROUND
		4.00	SPTL S							
		5.00								Continued on next sheet

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 2 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
			SPTLS				5.10	114.54		Stiff, dark grey, gravelly CLAY. Gravel is fine to medium angular of mudstone. TILL
		5.40	SPTLS				5.30	114.34		Extremely weak, dark grey MUDSTONE recovered as angular gravel. PENNINE MIDDLE COAL MEASURES
							6.05	113.59		Extremely weak, dark grey MUDSTONE weathered to clayey gravel PENNINE MIDDLE COAL MEASURES
		6.20	SPTLS				6.20	113.44		Strong, dark grey, fine grained SANDSTONE. Discontinuities are 10° to 20° occasional 80°, very closely to closely spaced, stepped rough to stepped smooth, wall strength strong, clean infill. PENNINE MIDDLE COAL MEASURES
		6.00 - 7.50	5	100	35	29				*Becoming light grey from 6.70m bgl.*
							6.84	112.80		Weak, narrowly laminated grey interbedded MUDSTONE and SANDSTONE. Discontinuities are horizontal to 30°, very closely spaced, undulating rough to undulating smooth, wall strength extremely weak to weak, clean to clayey infill. Occasional bands of mudstone weathered to brown, extremely weak. PENNINE MIDDLE COAL MEASURES
		7.50 - 9.00	36	96	44	45	8.00	111.64		Strong grey, narrowly laminated grey fine grained SANDSTONE. Discontinuities are horizontal to 10°, very closely to closely spaced, planar rough to planar smooth, wall strength medium strong to strong, clean infill. PENNINE MIDDLE COAL MEASURES
										Weathered to gravel between 8.19m to 8.25m
										50% flush return between 9.00m to 10.50m bgl. Limited recovery between 10.20m and 10.40m bgl.
		9.00 - 10.50	32	96	23	23	9.19	110.45		Very weak, dark grey, thinly laminated MUDSTONE. Discontinuities are 10° to 80°, very closely to closely spaced, undulating rough to undulating smooth, wall strength very weak, clean, occasional weathered brown infill. PENNINE MIDDLE COAL MEASURES
							9.66	109.98		Strong to very strong, grey becoming stained . weathered brown inbands, fine grained SANDSTONE with coal flashes Discontinuities 10° to 80° closely spaced to medium spaced,
										Continued on next sheet

6 7 8 9 10

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 3 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										undulating striated, wall strength strong, clean infill. PENNINE MIDDLE COAL MEASURES
										assumed weathered to gravel. Becoming strong from 10.40m bgl.
		10.50 - 12.00	24	96	51	45				*95% flush returns between 10.50m and 13.50m bgl, 85% between 13.50m and 15.00m bgl.*
		12.00 - 13.50	30	100	16	10				*Weathered to subangular gravel between 12.11m to 12.28m bgl.*
							12.94	106.70		Weak, thinly laminated dark grey MUDSTONE with occasional black flashes. Discontinuities are 10° to 40° occasional 80° very closely spaced, undulating rough to planar smooth, wall strength very weak, clean infill with slight weathered / brown staining. PENNINE MIDDLE COAL MEASURES
		13.50 - 15.00	29	100	30	30				*Weathered to subangular, fine to medium gravel bands between 12.72m to 13.30m bgl and 14.83m to 14.84m bgl.*
										Continued on next sheet

11 12 13 14 15

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 4 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										50% flush returns
		15.00 - 16.50	61	100	24	24	15.50	104.14		Weak, thinly laminated highly fractured, dark grey MUDSTONE. Discontinuities are 10° to 80°, extremely closely becoming very closely to closely spaced from 16.10m bgl. Stepped smooth to undulating smooth, wall strength very weak to weak, clean infill. PENNINE MIDDLE COAL MEASURES
							16.50	103.14		Greyish brown SANDSTONE and MUDSTONE PENNINE MIDDLE COAL MEASURES *Coring stopped at 16.50m bgl continued with rotary openhole.*

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Continued on next sheet

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 5 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description
				TCR	SCR	RQD				

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Continued on next sheet

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 6 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							27.00	92.64		Hard greyish brown SANDSTONE PENNINE MIDDLE COAL MEASURES
							28.40	91.24		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
							30.00	89.64		Continued on next sheet

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Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 7 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										Hard, greyish brown MUDSTONE and SANDSTONE PENNINE MIDDLE COAL MEASURES
							31.50	88.14		Hard, grey SANDSTONE PENNINE MIDDLE COAL MEASURES
							33.00	86.64		Hard grey MUDSTONE with some fractures. PENNINE MIDDLE COAL MEASURES
							34.20	85.44		Possible COAL / SHALE COAL
							34.40	85.24		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
										Continued on next sheet

31 32 33 34 35

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH102 / CP104
Sheet 8 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							37.00	82.64		Weak, grey fractured SANDSTONE PENNINE MIDDLE COAL MEASURES
							37.50	82.14		Hard, grey MUDSTONE and SANDTONE PENNINE MIDDLE COAL MEASURES
							40.00	79.64		End of borehole at 40.00 m

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Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH102 / CP104**

Sheet 1 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES					MADE GROUND: Black, high aggregate ASPHALT. Aggregate is fine to coarse, subangular to angular of limestone. MADE GROUND
					0.35	119.29		
		0.70	D					MADE GROUND; Dense becoming medium dense, dark grey clayey, sandy GRAVEL of fine to medium, angular to subrounded of brick, sandstone, frequent gravel sized silt pockets with white coating. MADE GROUND
					0.80	118.84		
		1.20 1.20	SPTL S	50 (7,8/50 for 180mm)				MADE GROUND: Dense, dark grey, slightly gravelly SILT. Gravel is fine to coarse, angular to subangular of brick and sandstone (possible PFA) MADE GROUND
		1.70 - 2.00	B					
		2.00 2.00	SPTL S	N=19 (4,4/4,5,5,5)				*Lenses of fine to medium grained sand at 2.20m*
					2.65	116.99		
		3.00 3.00	SPTL S	N=22 (5,5/5,6,6,5)				MADE GROUND: Dense, brown, sandy GRAVEL of fine to coarse, angular to subangular of brick and sandstone, occasional limestone with frequent cobbles of sandstone. MADE GROUND
		4.00 4.00	SPTL S	50 (10,14/50 for 105mm)				
								Continued on next sheet

Remarks

1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH102 / CP104**

Sheet 2 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00 5.00	SPTL S	50 (7,9/50 for 180mm)	5.10	114.54		Stiff, dark grey, gravelly CLAY. Gravel is fine to medium angular of mudstone. TILL
					5.30	114.34		Extremely weak, dark grey MUDSTONE recovered as angular gravel. PENNINE MIDDLE COAL MEASURES
		5.40 5.40	SPTL S	50 (25 for 70mm/50 for 40mm)				
					6.05	113.59		Extremely weak, dark grey MUDSTONE weathered to clayey gravel PENNINE MIDDLE COAL MEASURES
		6.20 6.20	SPTL S	50 (25 for 20mm/50 for 30mm)	6.20	113.44		Strong, dark grey, fine grained SANDSTONE. Discontinuities are 10° to 20° occasional 80°, very closely to closely spaced, stepped rough to stepped smooth, wall strength strong, clean infill. PENNINE MIDDLE COAL MEASURES
								Becoming light grey from 6.70m bgl.
					6.84	112.80		Weak, narrowly laminated grey interbedded MUDSTONE and SANDSTONE. Discontinuities are horizontal to 30°, very closely spaced, undulating rough to undulating smooth, wall strength extremely weak to weak, clean to clayey infill. Occasional bands of mudstone weathered to brown, extremely weak. PENNINE MIDDLE COAL MEASURES
					8.00	111.64		Strong grey, narrowly laminated grey fine grained SANDSTONE. Discontinuities are horizontal to 10°, very closely to closely spaced, planar rough to planar smooth, wall strength medium strong to strong, clean infill. PENNINE MIDDLE COAL MEASURES
								Weathered to gravel between 8.19m to 8.25m
								50% flush return between 9.00m to 10.50m bgl. Limited recovery between 10.20m and 10.40m bgl.
					9.19	110.45		Very weak, dark grey, thinly laminated MUDSTONE. Discontinuities are 10° to 80°, very closely to closely spaced, undulating rough to undulating smooth, wall strength very weak, clean, occasional weathered brown infill. PENNINE MIDDLE COAL MEASURES
					9.66	109.98		Strong to very strong, grey becoming stained . weathered brown inbands, fine grained SANDSTONE with coal flashes Discontinuities 10° to 80° closely spaced to medium spaced,
								Continued on next sheet

Remarks

1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH102 / CP104**

Sheet 3 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389269.00 - 413406.00	Hole Type CP+RC
Location: Rochdale		Level: 119.64	Scale 1:25
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								undulating striated, wall strength strong, clean infill. PENNINE MIDDLE COAL MEASURES
								assumed weathered to gravel. Becoming strong from 10.40m bgl.
								95% flush returns between 10.50m and 13.50m bgl, 85% between 13.50m and 15.00m bgl.
								Weathered to subangular gravel between 12.11m to 12.28m bgl.
					12.94	106.70		Weak, thinly laminated dark grey MUDSTONE with occasional black flashes. Discontinuities are 10° to 40° occasional 80° very closely spaced, undulating rough to planar smooth, wall strength very weak, clean infill with slight weathered / brown staining. PENNINE MIDDLE COAL MEASURES
								Weathered to subangular, fine to medium gravel bands between 12.72m to 13.30m bgl and 14.83m to 14.84m bgl.
								Continued on next sheet

11 12 13 14 15

Remarks

1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH102 / CP104**

Sheet 4 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								50% flush returns
					15.50	104.14		Weak, thinly laminated highly fractured, dark grey MUDSTONE. Discontinuities are 10° to 80°, extremely closely becoming very closely to closely spaced from 16.10m bgl. Stepped smooth to undulating smooth, wall strength very weak to weak, clean infill. PENNINE MIDDLE COAL MEASURES
					16.50	103.14		Greyish brown SANDSTONE and MUDSTONE PENNINE MIDDLE COAL MEASURES *Coring stopped at 16.50m bgl continued with rotary openhole.*
								Continued on next sheet

16 17 18 19 20

Remarks

1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No.
RH102 / CP104
Sheet 5 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				

21
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23
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Continued on next sheet

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No.
RH102 / CP104
Sheet 6 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					27.00	92.64		Hard greyish brown SANDSTONE PENNINE MIDDLE COAL MEASURES
					28.40	91.24		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
					30.00	89.64		Continued on next sheet

26 27 28 29 30

Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH102 / CP104**

Sheet 7 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Hard, greyish brown MUDSTONE and SANDSTONE PENNINE MIDDLE COAL MEASURES
					31.50	88.14		Hard, grey SANDSTONE PENNINE MIDDLE COAL MEASURES
					33.00	86.64		Hard grey MUDSTONE with some fractures. PENNINE MIDDLE COAL MEASURES
					34.20	85.44		Possible COAL / SHALE COAL
					34.40	85.24		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
								Continued on next sheet

31 32 33 34 35

Remarks

1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Borehole Log

Borehole No.
RH102 / CP104
Sheet 8 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389269.00 - 413406.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.64	Scale 1:25
Client:	Willmott Dixon		Dates:	29/11/2024 -	Logged By AM AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					37.00	82.64		Weak, grey fractured SANDSTONE PENNINE MIDDLE COAL MEASURES
					37.50	82.14		Hard, grey MUDSTONE and SANDTONE PENNINE MIDDLE COAL MEASURES
					40.00	79.64		End of borehole at 40.00 m

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Remarks
1) Groundwater encountered at 4.20m rising to 4.35m bgl during rotary set up and rising to 1.70m bgl overnight 2) Rotary open hole follow on from CP104 3) Black ashy material encountered from 0.48 to 0.80m and 4.20m to 5.40m bgl. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: -	Hole Type RO
Location: Rochdale		Level:	Scale 1:25
Client: Willmott Dixon		Dates: 26/11/2024 -	Logged By SE

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							0.07			MADE GROUND: Black, medium to high aggregate ASPHALT. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
							0.27			MADE GROUND: Grey, high aggregate CONCRETE. Aggregate is fine to coarse, subangular of limestone with 2mm rebar. Plastic / rubber sheet at base. Low air voids (<5%) MADE GROUND
		1.00 1.00 - 2.00	SPTL S B							MADE GROUND: Dense, compacted grey, slightly gravelly SILT. Gravel is fine to medium, angular of brick. (possible PFA) MADE GROUND
		2.00 2.00 - 3.00	SPTL S B				2.10			MADE GROUND: Medium dense, greyish brown, sandy, fine to coarse, angular to subangular GRAVEL of brick with occasional cobbles of brick. MADE GROUND
							2.50			POSSIBLE MADE GROUND: Medium dense, brown, SAND and GRAVEL Gravel is fine to coarse subangular to subrounded of sandstone. POSSIBLE MADE GROUND
		3.00	SPTL S				3.00			POSSIBLE MADE GROUND: Stiff, brownish grey, slightly gravelly, silty CLAY. Gravel is fine to medium, subangular to subrounded of sandstone and mudstone. POSSIBLE MADE GROUND
							3.30			*Gravel band between 3.16m and 3.25m. Gravel is fine to coarse, subangular to subrounded of sandstone.* Very weak, thinly laminated, dark grey MUDSTONE. Discontinuities are horizontal 20°, very closely to closely spaced, stepped rough, wall strength very weak, clean to clayey infill. PENNINE LOWER COAL MEASURES
							4.06			Medium strong, grey weathered, reddish brown, fine grained SANDSTONE. Discontinuities are 45-60° closely spaced, smooth stepped, wall strength weak to medium strong, clay infill weathered to orangish brown. PENNINE LOWER COAL MEASURES
							4.70			*100% flush return but easy drilling from 4.50m to 6.00m bgl* Medium strong, grey, fine grained SANDSTONE. Discontinuities are horizontal, closely spaced, wall strength medium to strong, clean infill,

Continued on next sheet

Remarks

1) Groundwater encountered at 3.00m bgl. rising to 1.80m after 20mins 2) Moved back 0.30m (see RH103A) 3) No visual or olfactory evidence of contamination 4) Backfilled with bentonite. 5) Cased to 3.00m bgl

Rotary Core Log

Borehole No. **RH103**

Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: -	Hole Type RO
Location: Rochdale		Level:	Scale 1:25
Client: Willmott Dixon		Dates: 26/11/2024 -	Logged By SE

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
			15							stained reddish brown. PENNINE LOWER COAL MEASURES *Weathered to gravel between 4.90m and 5.25m bgl.* *Fracture 45° to 80° between 5.40m to 5.50m bgl.*
			3				6.00			Brownish grey, fine to coarse, angular GRAVEL of sandstone. Lost flush. GLACIOFLUVIAL DEPOSITS
							6.25			Medium strong, grey, thickly laminated to thinly bedded fine grained SANDSTONE. PENNINE MIDDLE COAL MEASURES
							6.50 6.51			Loss of flush. Core barrel stuck and loss of drill bit (possible cast iron obstruction) MADE GROUND End of borehole at 6.51 m

6 7 8 9 10

Remarks

1) Groundwater encountered at 3.00m bgl. rising to 1.80m after 20mins 2) Moved back 0.30m (see RH103A) 3) No visual or olfactory evidence of contamination 4) Backfilled with bentonite. 5) Cased to 3.00m bgl

Borehole Log

Borehole No. **RH103A**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389311.00 - 413403.00	Hole Type RO
Location:	Rochdale		Level:	119.22	Scale 1:50
Client:	Willmott Dixon		Dates:	26/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	119.15		MADE GROUND: Black, medium to high aggregate ASPAHLT. Aggregate is fine to coarse, angular to subangular of limestone. MADE GROUND
					0.27	118.95		MADE GROUND: Grey, high aggregate CONCRETE. Aggregate is fine to medium, subangular of limestone. Low air voids (<5%) MADE GROUND
								MADE GROUND: Compacted grey slightly gravelly SILT. Gravel is fine to medium, angular to subangular of brick. (possible PFA) MADE GROUND
					2.10	117.12		MADE GROUND: Dense, greyish brown, sandy GRAVEL of fine to coarse, angular to subangular brick with occasional cobbles of brick. MADE GROUND
					4.50	114.72		Hard grey SANDSTONE with clayey, weak mudstone bands. PENNINE MIDDLE COAL MEASURES
					6.00	113.22		Loss of flush, drilling rods dropped to 6.50m bgl, core barrel sticking on possible cast iron. MADE GROUND
					6.50	112.72		End of borehole at 6.50 m

Remarks

1) Groundwater encountered at 3.00m bgl rising to 1.80m overnight 2) Terminated on possible metal obstruction 3) Backfilled with bentonite 4) No visual or olfactory evidence of contamination

Rotary Core Log

Borehole No.
RH103B
Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389305.00 - 413406.00	Hole Type RO
Location:	Rochdale		Level:	119.56	Scale 1:25
Client:	Willmott Dixon		Dates:	26/11/2024 -	Logged By SE

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							0.07	119.49		MADE GROUND: Black, medium to high aggregate ASPAHLT. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
							0.28	119.28		MADE GROUND: Grey, medium to high aggregate CONCRETE. Aggregate is fine to coarse, subangular of limestone. Low air voids (<5%) MADE GROUND
							0.30	119.26		MADE GROUND: Red BRICK (possible footing) MADE GROUND
										End of borehole at 0.30 m

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Remarks
1) No groundwater encountered 2) Terminated due to obstruction 3) No visual or olfactory evidence of contamination 4) Core reinstated.

Rotary Core Log

Borehole No. **RH103C**

Sheet 1 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							0.13	119.40		MADE GROUND: Black, medium to high aggregate ASPHALT. Aggregate is fine to coarse, angular to subangular of limestone MADE GROUND
							0.29	119.24		
							0.30	119.23		MADE GROUND: Dark grey, medium to high aggregate CONCRETE. Aggregate is fine to medium, angular to subangular limestone. Low <5% air voids. MADE GROUND
		0.50	B				0.50	119.03		
										MADE GROUND: Grey, medium to coarse aggregate CONCRETE. Aggregate is fine to coarse, angular to subangular of limestone. MADE GROUND
										MADE GROUND: Compacted, brownish grey sandy GRAVEL of fine to coarse, angular to subangular brick with occasional sandstone. Occasional cobbles of brick. MADE GROUND
		1.20 - 1.65	D							
		1.20 - 2.00	B							
										MADE GROUND: Dense grey SILT becoming loose at base. (possible PFA) MADE GROUND
		2.00 - 2.45	D							
		2.00 - 2.50	B				2.10	117.43		
										MADE GROUND: Medium dense becoming brownish grey, sandy gravelly SILT. Gravel is fine to medium, angular to subangular predominantly of brick occasional sandstone. (possible PFA) MADE GROUND
		2.50 - 3.00	B				2.50	117.03		
										MADE GROUND: Brown clayey, sandy GRAVEL of fine to coarse, subangular to subrounded brick and sandstone. MADE GROUND
		3.00 - 3.45	D				3.00	116.53		
										Soft quickly becoming firm to stiff, reddish brown CLAY, becoming gravelly from 3.75m bgl. Gravel is medium to coarse angular of mudstone. TILL
							3.90	115.63		
		4.21 - 4.29	C							Weak to medium strong, narrowly laminated MUDSTONE. Discontinuities are 10° to 50° very closely to closely spaced planar striated to undulating striated, wall strength weak to medium strong, clean to slight clay infill. PENNINE MIDDLE COAL MEASURES *Switched from dynamic sampling to rotary coring from 3.90m bgl.*
		3.90 - 4.70	30	100	0	0				
							4.65	114.88		
		4.95 - 5.00	C							Medium strong, greyish brown, fine grained SANDSTONE. Discontinuities are horizontal to 20°, closely to very closely spaced, smooth stepped, wall strength strong, clean infill.

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 2 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		4.70 - 5.80	42	100	19	19				PENNINE MIDDLE COAL MEASURES *90% flush return between 4.70m o 5.80m bgl. 20% flush return between 5.80m to 7.00m bgl. 50% flush return between 7.00m to 8.50m bgl. 90% flush return 8.50m to 9.00m bgl.*
		5.75 - 5.80	C							
		6.14 - 6.23	C							*Fractured to gravel sized pieces between 5.95m to 6.20m bgl, 6.50m to 6.65m bgl and 6.84m to 7.30m bgl.*
		5.80 - 7.00	78	100	19	11				
		7.41 - 7.48	C							*Coal flashes between 7.50m to 8.00m bgl.*
		7.00 - 8.50	14	82	8	8	7.78	111.75		
		7.93 - 8.00	C							Medium strong, dark grey, narrowly laminated MUDSTONE. Discontinuities are horizontal to 10°, very closely spaced, planar rough to planar striated wall strength very weak clean to clayey infill. PENNINE MIDDLE COAL MEASURES *no recovery between 8.20m to 8.40m bgl presumed to be highly fractured / weathered to clayey gravel.*
		8.23 - 8.30	C							
		8.50 - 9.00	4	100	40	40	8.50	111.03		Medium strong to strong, grey, fine grained SANDSTONE. Discontinuities are horizontal to 10° occasionally 80°, closely spaced, planar rough to undulating smooth, wall strength medium strong, clean (clay infill between 8.50 and 8.65m bgl.) PENNINE MIDDLE COAL MEASURES *Drill bit stuck in suspected fracture, partial loss of flush, regained soon after.* *50% to 60% flush returns from 9.00m to 15.00m bgl.*
		9.42 - 9.71 9.00 - 10.50	U 40	100	82	76				*Partial core weathered / stained brown ironstone between 9.33m to 9.39m bgl, 9.69m to 9.73m bgl, 10.10m to 10.35m bgl and 10.45m to 10.50m bgl.*

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 3 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
		10.11 - 10.19	C							
							10.80	108.73		Weak brown IRONSTONE. Discontinuities are 60°, very closely to closely spaced, undulating rough to undulating striated, wall strength weak, clean infill
		11.14 - 11.21	C				11.15	108.38		PENNINE MIDDLE COAL MEASURES
		10.50 - 12.00	64	100	14	14	11.26	108.27		Medium strong to strong, grey, fine grained SANDSTONE. Discontinuities are horizontal to 10° occasionally 80°, closely spaced, planar rough to undulating smooth, wall strength medium strong, clean infill.
							11.50	108.03		PENNINE MIDDLE COAL MEASURES
							11.83	107.70		Medium strong, fine grained brown SANDSTONE with ironstone inclusions / staining. Highly fractured. Discontinuities are horizontal to 75° very closely spaced, undulating smooth , slight clay infill.
		12.26 - 12.32	C							PENNINE MIDDLE COAL MEASURES
										Very strong, grey, fine grained SANDSTONE. Discontinuities are 70° to 90° closely spaced, undulating smooth to undulating striated stained brown, clean infill.
		12.00 - 13.50	64	100	43	37				PENNINE MIDDLE COAL MEASURES
		12.89 - 13.03	U							Strong to very strong, grey MUDSTONE. Discontinuities are horizontal to 20° closely, occasionally very closely spaced, undulating rough to undulating smooth, wall strength medium strong, clean infill stained brown.
										PENNINE MIDDLE COAL MEASURES
										Highly fractured between 12.50m to 12.80m bgl and 13.60m to 13.73m bgl.
		13.80 - 13.88	C							
		13.50 - 15.00	64	100	24	6				
		14.62 - 14.70	C							*Fractured bands typically 50mm thick between 14.50m to 15.00m bgl. 50% to 60% flush return.*
							15.00	104.53		

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 4 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
										Hard grey fractured MUDSTONE PENNINE MIDDLE COAL MEASURES *Coring stopped at 15.00m bgl continued with rotary open hole.*
							16.80	102.73		COAL Flash COAL
							17.00	102.53		Hard grey SANDSTONE PENNINE MIDDLE COAL MEASURES
							18.30	101.23		Hard grey MUDSTONE with coal flashes and sandstone bands. PENNINE MIDDLE COAL MEASURES
										Continued on next sheet

16 17 18 19 20

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No.
RH103C
Sheet 5 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring			Depth (m)	Level (m)	Legend	Stratum Description
				TCR	SCR	RQD				

21
22
23
24
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Continued on next sheet

Remarks
1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 6 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							28.50	91.03		Hard brown SANDSTONE PENNINE MIDDLE COAL MEASURES
							29.00	90.53		Hard COAL COAL
							29.30	90.23		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
							29.70	89.83		Lost flush. Easy drilling, possibly very weak fractured MUDSTONE PENNINE MIDDLE COAL MEASURES
										Continued on next sheet

26 27 28 29 30

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 7 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							30.80	88.73		Hard brown, fractured SANDSTONE (flush returned) PENNINE MIDDLE COAL MEASURES
							31.20	88.33		Hard grey fractured MUDSTONE PENNINE MIDDLE COAL MEASURES

31 32 33 34 35

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Rotary Core Log

Borehole No. **RH103C**

Sheet 8 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Depth (m)	Type / FI	Coring TCR	Coring SCR	Coring RQD	Depth (m)	Level (m)	Legend	Stratum Description
							38.00	81.53		Hard grey MUDSTONE and sandstone bands very fractured PENNINE MIDDLE COAL MEASURES
							38.40	81.13		Large fracture
							38.50	81.03		MADE GROUND Hard greyish brown SANDSTONE with some fractures and coal dust. PENNINE MIDDLE COAL MEASURES
							40.00	79.53		End of borehole at 40.00 m

36 37 38 39 40

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 1 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.13	119.40		MADE GROUND: Black, medium to high aggregate ASPHALT. Aggregate is fine to coarse, angular to subangular of limestone MADE GROUND
					0.29	119.24		
					0.30	119.23		MADE GROUND: Dark grey, medium to high aggregate CONCRETE. Aggregate is fine to medium, angular to subangular limestone. Low <5% air voids. MADE GROUND
		0.50	B		0.50	119.03		
								MADE GROUND: Grey, medium to coarse aggregate CONCRETE. Aggregate is fine to coarse, angular to subangular of limestone. MADE GROUND
								MADE GROUND: Compacted, brownish grey sandy GRAVEL of fine to coarse, angular to subangular brick with occasional sandstone. Occasional cobbles of brick. MADE GROUND
		1.20 - 1.65	D					
		1.20 - 2.00	B					
								MADE GROUND: Dense grey SILT becoming loose at base. (possible PFA) MADE GROUND
		2.00 - 2.45	D					
		2.00 - 2.50	B		2.10	117.43		MADE GROUND: Medium dense becoming brownish grey, sandy gravelly SILT. Gravel is fine to medium, angular to subangular predominantly of brick occasional sandstone. (possible PFA) MADE GROUND
		2.50 - 3.00	B		2.50	117.03		MADE GROUND: Brown clayey, sandy GRAVEL of fine to coarse, subangular to subrounded brick and sandstone. MADE GROUND
		3.00 - 3.45	D		3.00	116.53		Soft quickly becoming firm to stiff, reddish brown CLAY, becoming gravelly from 3.75m bgl. Gravel is medium to coarse angular of mudstone. TILL
					3.90	115.63		Weak to medium strong, narrowly laminated MUDSTONE. Discontinuities are 10° to 50° very closely to closely spaced planar striated to undulating striated, wall strength weak to medium strong, clean to slight clay infill. PENNINE MIDDLE COAL MEASURES *Switched from dynamic sampling to rotary coring from 3.90m bgl.*
		4.21 - 4.29	C					
					4.65	114.88		Medium strong, greyish brown, fine grained SANDSTONE. Discontinuities are horizontal to 20°, closely to very closely spaced, smooth stepped, wall strength strong, clean infill.
		4.95 - 5.00	C					

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 2 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.75 - 5.80	C					PENNINE MIDDLE COAL MEASURES *90% flush return between 4.70m o 5.80m bgl. 20% flush return between 5.80m to 7.00m bgl. 50% flush return between 7.00m to 8.50m bgl. 90% flush return 8.50m to 9.00m bgl.*
		6.14 - 6.23	C					*Fractured to gravel sized pieces between 5.95m to 6.20m bgl, 6.50m to 6.65m bgl and 6.84m to 7.30m bgl.*
		7.41 - 7.48	C					*Coal flashes between 7.50m to 8.00m bgl.*
					7.78	111.75		Medium strong, dark grey, narrowly laminated MUDSTONE. Discontinuities are horizontal to 10°, very closely spaced, planar rough to planar striated wall strength very weak clean to clayey infill.
		7.93 - 8.00	C					PENNINE MIDDLE COAL MEASURES
		8.23 - 8.30	C					*no recovery between 8.20m to 8.40m bgl presumed to be highly fractured / weathered to clayey gravel.*
					8.50	111.03		Medium strong to strong, grey, fine grained SANDSTONE. Discontinuities are horizontal to 10° occasionally 80°, closely spaced, planar rough to undulating smooth, wall strength medium strong, clean (clay infill between 8.50 and 8.65m bgl.)
								PENNINE MIDDLE COAL MEASURES
								Drill bit stuck in suspected fracture, partial loss of flush, regained soon after.
								50% to 60% flush returns from 9.00m to 15.00m bgl.
		9.42 - 9.71	U					*Partial core weathered / stained brown ironstone between 9.33m to 9.39m bgl, 9.69m to 9.73m bgl, 10.10m to 10.35m bgl and 10.45m to 10.50m bgl.*
								Continued on next sheet

6 7 8 9 10

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 3 of 8

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389308.00 - 413394.00	Hole Type CP+RC
Location: Rochdale		Level: 119.53	Scale 1:25
Client: Willmott Dixon		Dates: 28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		10.11 - 10.19	C					
					10.80	108.73		Weak brown IRONSTONE. Discontinuities are 60°, very closely to closely spaced, undulating rough to undulating striated, wall strength weak, clean infill PENNINE MIDDLE COAL MEASURES
		11.14 - 11.21	C		11.15	108.38		Medium strong to strong, grey, fine grained SANDSTONE. Discontinuities are horizontal to 10° occasionally 80°, closely spaced, planar rough to undulating smooth, wall strength medium strong, clean infill. PENNINE MIDDLE COAL MEASURES
					11.26	108.27		
					11.50	108.03		Medium strong, fine grained brown SANDSTONE with ironstone inclusions / staining. Highly fractured. Discontinuities are horizontal to 75° very closely spaced, undulating smooth , slight clay infill. PENNINE MIDDLE COAL MEASURES
					11.83	107.70		Very strong, grey, fine grained SANDSTONE. Discontinuities are 70° to 90° closely spaced, undulating smooth to undulating striated stained brown, clean infill. PENNINE MIDDLE COAL MEASURES
		12.26 - 12.32	C					
		12.89 - 13.03	U					Strong to very strong, grey MUDSTONE. Discontinuities are horizontal to 20° closely, occasionally very closely spaced, undulating rough to undulating smooth, wall strength medium strong, clean infill stained brown. PENNINE MIDDLE COAL MEASURES *Highly fractured between 12.50m to 12.80m bgl and 13.60m to 13.73m bgl.*
		13.80 - 13.88	C					
		14.62 - 14.70	C					*Fractured bands typically 50mm thick between 14.50m to 15.00m bgl. 50% to 60% flush return.*
					15.00	104.53		Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 4 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		15.00		50 (25 for 70mm/50 for 40mm)				Hard grey fractured MUDSTONE PENNINE MIDDLE COAL MEASURES *Coring stopped at 15.00m bgl continued with rotary open hole.*
					16.80	102.73		COAL Flash COAL
					17.00	102.53		Hard grey SANDSTONE PENNINE MIDDLE COAL MEASURES
					18.30	101.23		Hard grey MUDSTONE with coal flashes and sandstone bands. PENNINE MIDDLE COAL MEASURES
		19.50		50 (25 for 115mm/50 for 30mm)				

16 17 18 19 20

Continued on next sheet

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No.
RH103C
Sheet 5 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				

21
22
23
24
25

Continued on next sheet

Remarks
1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 6 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					28.50	91.03		Hard brown SANDSTONE PENNINE MIDDLE COAL MEASURES
					29.00	90.53		Hard COAL COAL
					29.30	90.23		Hard grey MUDSTONE PENNINE MIDDLE COAL MEASURES
					29.70	89.83		Lost flush. Easy drilling, possibly very weak fractured MUDSTONE PENNINE MIDDLE COAL MEASURES

Continued on next sheet

26 27 28 29 30

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 7 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					30.80	88.73		Hard brown, fractured SANDSTONE (flush returned) PENNINE MIDDLE COAL MEASURES
					31.20	88.33		Hard grey fractured MUDSTONE PENNINE MIDDLE COAL MEASURES
								Continued on next sheet

31
32
33
34
35

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Borehole Log

Borehole No. **RH103C**

Sheet 8 of 8

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389308.00 - 413394.00	Hole Type CP+RC
Location:	Rochdale		Level:	119.53	Scale 1:25
Client:	Willmott Dixon		Dates:	28/11/2024 -	Logged By SE AND DRILLERS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					38.00	81.53		Hard grey MUDSTONE and sandstone bands very fractured PENNINE MIDDLE COAL MEASURES
					38.40	81.13		Large fracture
					38.50	81.03		MADE GROUND Hard greyish brown SANDSTONE with some fractures and coal dust. PENNINE MIDDLE COAL MEASURES
					40.00	79.53		End of borehole at 40.00 m

36
37
38
39
40

Remarks

1) No groundwater strike but groundwater rise to 1.10m overnight but drained when drilling started. (Possible flush returning to borehole). 2) Installed and backfilled 3) No visual or olfactory evidence of contamination. 4) Cased to 6.00m

Trial Pit Log

Trialpit No **SA01**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389209.00 - 413430.00 Level: 119.43	Date 26/11/2024
Location: Rochdale		Dimensions (m): 2.2 × 0.75, Depth 1.98	Scale 1:25
Client: Willmott Dixon			Logged SE

Water Strike	Samples and In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							MADE GROUND TOPSOIL: Grass over brown, sandy LOAM with frequent rootlets. TOPSOIL
				0.32	119.11		MADE GROUND: Dark brown, sandy gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick, sandstone, concrete, occasional plastic and metal. rare electrical wiring. Frequent cobbles of brick, concrete, sandstone rare kerbstone, occasional boulders of sandstone. MADE GROUND
				1.98	117.45		MADE GROUND: Possible cobbles and boulders at base. Cannot excavate further due to restricted working room. MADE GROUND
				1.98	117.45		End of pit at 1.98 m

1 2 3 4 5

Remarks: 1) No groundwater encountered 2) No visual or olfactory evidence of contamination. 3) Possible obstruction at base (cobbles / boulders) 4) Excavated for soakaway testing. 5) Backfilled with arisings.

Stability: Stable

Borehole Log

Borehole No. **WS102**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389209.00 - 413433.00	Hole Type WS
Location: Rochdale		Level: 119.43	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.17	119.26		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional gravel of brick, sandstone and timber TOPSOIL
								MADE GROUND: Dark greyish brown, clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, sandstone, occasional glass and timber. MADE GROUND
					0.61	118.82		MADE GROUND: Brick COBBLES MADE GROUND
					0.82	118.61		End of borehole at 0.82 m

1
2
3
4

Remarks

1) Hand dug pit 2) Not able to progress with window sampling due to obstructions at base. 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS102A**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389206.00 - 413427.00	Hole Type WS
Location: Rochdale		Level: 119.68	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.24	119.44		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional gravel of brick, sandstone and timber TOPSOIL
					0.67	119.01		MADE GROUND: Dark greyish brown, clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, sandstone, occasional glass and timber. MADE GROUND
					0.69	118.99		MADE GROUND Brick COBBLES MADE GROUND End of borehole at 0.69 m

Remarks

1) Hand dug pit 2) Not able to progress with window sampling due to obstructions at base. 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS103**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389206.00 - 413419.00	Hole Type WS
Location: Rochdale		Level: 119.52	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.19	119.33		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional gravel of brick, sandstone and timber TOPSOIL
					0.52	119.00		MADE GROUND: Dark greyish brown, clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, sandstone, occasional glass and timber. MADE GROUND
					0.61	118.91		MADE GROUND: Sandstone COBBLES MADE GROUND End of borehole at 0.61 m

Remarks

1) Hand dug pit 2) Not able to progress with window sampling due to obstructions at base. 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No.
WS103A
Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389212.00 - 413412.00	Hole Type WS
Location:	Rochdale		Level:	119.43	Scale 1:20
Client:	Willmott Dixon		Dates:	19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.22	119.21		MADE GROUND TOPSOIL: Grass over dark brown, silty, sandy LOAM with occasional gravel of brick and timber fragments TOPSOIL
					0.80	118.63		MADE GROUND: Greyish brown, clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, sandstone, occasional concrete, timber and rare glass. MADE GROUND
					0.85	118.58		MADE GROUND: Sandstone COBBLES MADE GROUND End of borehole at 0.85 m

1
2
3
4

Remarks
1) Hand dug pit 2) Not able to progress with window sampling due to obstructions at base. 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS103B**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389209.00 - 413419.00	Hole Type WS
Location: Rochdale		Level: 119.43	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	119.23		MADE GROUND TOPSOIL: Grass over dark brown, silty, sandy LOAM with occasional gravel of brick and timber fragments TOPSOIL Greyish brown, clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, sandstone, occasional concrete and timber. MADE GROUND
					0.80 0.82	118.63 118.61		MADE GROUNF: Brick COBBLES MADE GROUND End of borehole at 0.82 m

Remarks

1) Hand dug pit 2) Not able to progress with window sampling due to obstructions at base. 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS104**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389230.00 - 413418.00	Hole Type WS
Location:	Rochdale		Level:	119.69	Scale 1:20
Client:	Willmott Dixon		Dates:	19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.11	119.58		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is medium to coarse, subangular of limestone. MADE GROUND
		0.40	ES		0.38	119.31		MADE GROUND: Grey, medium aggregate CONCRETE. Gravel is angular to subangular of limestone. Low air voids (<5%) content MADE GROUND
					0.47	119.22		MADE GROUND: Grey, fine to coarse, subangular to subrounded GRAVEL of loose concrete and limestone. MADE GROUND
					0.62	119.07		MADE GROUND: Grey, medium aggregate CONCRETE with brick. Aggregates are medium to coarse, subangular of limestone with occasional brick. Low air void (<5%) content. MADE GROUND
		1.00	SPTL					
		1.00	S	50 (25 for 80mm/50 for 125mm)				MADE GROUND: Dense, light grey, slightly sandy, slightly gravelly SILT. Gravel is fine, subangular of brick. (possible PFA) MADE GROUND
					1.21	118.48		*Core barrel refusing at 0.96m bgl.* End of borehole at 1.21 m

Remarks

1) hand dug pit to 0.96m bgl, difficult to dig beyond, refusal of core barrel at 0.96m bgl 2) Terminated due to refusal of SPT 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Installed.

Borehole Log

Borehole No. **WS105**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389251.00 - 413412.00	Hole Type WS
Location:	Rochdale		Level:	119.60	Scale 1:20
Client:	Willmott Dixon		Dates:	19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.07	119.53		MADE GROUND: Black, high aggregate ASPAHLT. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
					0.44	119.16		MADE GROUND: Grey, medium to high aggregate of CONCRETE. Aggregate is medium to coarse angular of limestone. Low air void content (<5%) MADE GROUND
		0.60	ES		0.65	118.95		MADE GROUND: Reddish brown, sandy GRAVEL of fine to coarse, angular to subangular crushed brick and rare concrete. MADE GROUND
		0.75	ES					MADE GROUND: Dense, very compacted, light grey, sandy SILT with occasional fine brick fragments. (possible PFA) MADE GROUND
								Casing bowing from 0.80m bgl so SPT put on. SPT rod stuck from 1.21m bgl
		1.20 1.20	SPTL S	50 (25 for 95mm/50 for 155mm)	1.21	118.39		End of borehole at 1.21 m

Remarks

1) No groundwater encountered 2) Backfilled with arisings. 3) No visual or olfactory evidence of contamination 4) No install 5) Hand dug pit to 0.80m bgl, difficult to progress beyond. Core barrel put down from 0.80m bgl refused to progress so SPT taken. SPT rod stuck at 1.21m bgl preventing further progress.

Borehole Log

Borehole No. **WS106**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389263.00 - 413427.00	Hole Type WS
Location: Rochdale		Level: 119.52	Scale 1:20
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.35	119.17		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is fine to coarse, subangular to angular of limestone. MADE GROUND
		1.00	ES					MADE GROUND: Greyish brown, slightly sandy, clayey GRAVEL with medium cobble content. Sand is fine to medium, gravel is fine to coarse, subangular to angular of brick, sandstone, slate and limestone and slag. Cobbles are angular of brick and concrete MADE GROUND
		1.20 1.20	SPTL S	N=6 (3,3/3,2,1,0)				*Poor recovery due to cobble.*
	▼							
		2.00 2.00	SPTL S	N=9 (1,1/2,2,2,3)	2.10	117.42		MADE GROUND: Dark brown to dark grey, gravelly SILT. Gravel is fine to medium, subangular to subrounded of sandstone and brick. Lenses of black anthracite coal and fine to coarse sand. (possible PFA) MADE GROUND
		3.00 3.00	SPTL S	N=21 (3,3/4,4,5,8)				
		3.80 3.80	SPTL S	50 (10,13/50 for 220mm)	3.80	115.72		MADE GROUND: No recovery, assumed MADE GROUND COBBLES. MADE GROUND
								Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 1.50m bgl 3) Terminated on refusal 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS106**

Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389263.00 - 413427.00	Hole Type WS
Location: Rochdale		Level: 119.52	Scale 1:20
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					4.10	115.42		End of borehole at 4.10 m

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered at 1.50m bgl 3) Terminated on refusal 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings.

Borehole Log

Borehole No. **WS107**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389275.00 - 413424.00	Hole Type WS
Location:	Rochdale		Level:	119.51	Scale 1:20
Client:	Willmott Dixon		Dates:	19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.06	119.45		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is fine to coarse, subangular to angular of limestone. MADE GROUND
					0.12	119.39		
					0.20	119.31		MADE GROUND: Grey, high aggregate CONCRETE. Gravel is medium to coarse, angular to subangular of limestone. Low air voids (<5%) MADE GROUND
		0.40	ES					
		0.65	ES		0.60	118.91		MADE GROUND: Grey, medium to high aggregate CONCRETE. Gravel is medium, angular to subrounded of limestone. Low air voids (<5%) MADE GROUND
								MADE GROUND: Reddish brown, fine to coarse, angular GRAVEL of crushed brick. MADE GROUND
								MADE GROUND: Light grey, friable SILT/SAND (possible PFA) MADE GROUND
		1.20	SPTLS	50 (7,13/50 for 145mm)	1.34	118.17		*Obstruction at 1.33m bgl possible brick or concrete*
		1.20						End of borehole at 1.54 m

1 2 3 4

Remarks

1) Hand dug pit to 1.20m 2) Terminated due to possible brick or concrete 3) No visual or olfactory evidence of contamination 4) Cased to 1.00m bgl.

Borehole Log

Borehole No. **WS108**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389287.00 - 413403.00	Hole Type WS
Location:	Rochdale		Level:	119.61	Scale 1:20
Client:	Willmott Dixon		Dates:	21/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.02	ES		0.10	119.51		MADE GROUND: Black high aggregate ASPAHLT. Aggregate is medium to coarse, angular of limestone. MADE GROUND
					0.42	119.19		MADE GROUND: Grey, medium to high aggregate CONCRETE. Aggregate is medium to coarse, angular of limestone with plastic layer at base. MADE GROUND
		0.60	SPTLS	22 (53 for 155mm/22 for 65mm)				MADE GROUND: Dark greyish black, slightly clayey, sandy GRAVEL of fine to coarse, angular to subangular of mixed lithologies including brick, sandstone, rare plastic and metal MADE GROUND
		0.60						*Refusal of core barrel at 0.60m bgl, SPT undertaken.*
		0.70	ES		0.79	118.82		End of borehole at 0.79 m

Remarks

1) Hand dug pit to 0.50m bgl due to difficulty progressing though made ground. 2) Core barrel refusal at 0.60m bgl 3) No groundwater encountered 4) Terminated on refusal - possible obstruction. 6) No visual or olfactory evidence of contamination.

Borehole Log

Borehole No. **WS109**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389302.00 - 413412.00	Hole Type WS
Location: Rochdale		Level: 119.56	Scale 1:20
Client: Willmott Dixon		Dates: 21/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.07	119.49		MADE GROUND: Black, medium to high aggregate of ASPHALT. Aggregate is medium to coarse, subangular of limestone. MADE GROUND
		0.40 - 0.60	ES		0.28 0.34	119.28 119.22		MADE GROUND: Grey, medium to coarse aggregate CONCRETE. Aggregate is fine to coarse, angular to subangular of limestone, plastic layer at base. Low air void content (<5%) MADE GROUND
		0.60 0.60	SPTLS	50 (25 for 145mm/50 for 155mm)	0.70	118.86		MADE GROUND: Grey, medium to coarse aggregate CONCRETE. Aggregate is fine to coarse, angular to subangular of limestone, plastic layer at base. Low air void content (<5%) MADE GROUND MADE GROUND: Very stiff, light grey, slightly gravelly SILT. Gravel is fine to medium, angular of brick. (possible PFA) MADE GROUND End of borehole at 0.70 m

1
2
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4

Remarks

1) Hand dug pit to 0.30m bgl due to difficult digging. 2) No groundwater encountered 3) No visual or olfactory evidence of contamination. 4) Terminated due to refusal.

Borehole Log

Borehole No. **WS110**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389257.00 - 413397.00	Hole Type WS
Location:	Rochdale		Level:	119.69	Scale 1:20
Client:	Willmott Dixon		Dates:	19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.11	119.58		MADE GROUND: Black ASPHALT. Aggregate is fine to coarse, angular to subangular of limestone.
					0.11	119.58		MADE GROUND
								MADE GROUND: Greyish brown, sandy, fine to coarse, angular to subangular GRAVEL of brick, limestone and sandstone.
								MADE GROUND
								MADE GROUND: CONCRETE
								MADE GROUND
		0.61	ES		0.60	119.09		MADE GROUND: Greyish brown, sandy, fine to coarse, angular to subangular GRAVEL of brick, limestone and sandstone.
					0.65	119.04		MADE GROUND
					0.66	119.03		MADE GROUND: Brick obstruction
								MADE GROUND
								End of borehole at 0.66 m

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2
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4

Remarks

1) Hand dug pit to 0.66m bgl 2) Terminated due to obstruction 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) No install, backfilled with arisings.

Borehole Log

Borehole No. **WS111**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389284.00 - 413385.00	Hole Type WS
Location:	Rochdale		Level:	119.74	Scale 1:20
Client:	Willmott Dixon		Dates:	21/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.15	119.59		MADE GROUND: Black, medium to high aggregate ASPHALT. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
					0.50	119.24		MADE GROUND: Grey, medium aggregate content CONCRETE. Plastic at base. Aggregate is fine to coarse, angular to subangular of limestone. Low air void content (<5%) MADE GROUND
		0.60	ES		0.65	119.09		MADE GROUND: Compacted, grey sandy, fine to medium angular to subangular, ashy GRAVEL of sandstone, concrete and brick. MADE GROUND
		0.60	SPTL S	50 (25 for 125mm/50 for 175mm)	0.73	119.01		MADE GROUND: COBBLE of brick. MADE GROUND
		0.80	ES		1.05	118.69		MADE GROUND: Very stiff, light grey, slightly sandy, slightly gravelly SILT. Gravel is medium to coarse, angular to subangular of brick. Refusal of core barrel at 0.80m bgl. (possible PFA) MADE GROUND
								End of borehole at 1.05 m

Remarks

1) Hand dug pit to 0.70m bgl due to difficulty progressing through made ground 2) No groundwater encountered 3) Ashy gravel encountered at 0.50m to 0.65m bgl. 4) Terminated due to obstruction.

Borehole Log

Borehole No. **WS112**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389281.00 - 413370.00	Hole Type WS
Location: Rochdale		Level: 118.86	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.08	118.78		MADE GROUND: Black, low to medium aggregate of ASPHALT. Aggregate is fine to medium, angular of limestone. MADE GROUND
					0.48	118.38		MADE GROUND: Dark grey, gravelly, medium grained SAND. Gravel is fine to coarse, angular to subangular of brick and occasional limestone. Boulder of brick 0.2m to 0.41m bgl. MADE GROUND
					0.60	118.26		MADE GROUND: Grey, high aggregate CONCRETE. Aggregate is medium to coarse, subangular to subrounded of limestone. MADE GROUND
		0.80	ES					MADE GROUND: Dark grey, sandy, slightly ashy GRAVEL of fine to coarse, angular to subangular mixed lithologies including brick, concrete, limestone and occasional clinker. MADE GROUND
					1.10	117.76		MADE GROUND: Medium dense, light grey, friable, silty, slightly gravelly SAND. Gravel is fine to medium, angular of brick. Cobble of brick at 1.50m to 1.60m bgl and 1.90 to 1.92m bgl. (possible PFA) MADE GROUND
		1.20 1.20 1.20	ES SPTL S	N=16 (6,4/6,4,3,3)				*Occasional medium to coarse, angular gravel of sandstone at 1.30m to 1.50m bgl.*
		2.00 2.00	SPTL S	N=31 (4,7/12,13,4,2)				*Fine to coarse, angular to subangular gravel of brick, ash, possible clinker at 2.15m to 2.40m bgl.*
		3.00 3.00	SPTL S	N=1 (1,0/0,1,0,0)	3.10	115.76		POSSIBLE MADE GROUND: Very loose, grey, mottled dark grey, clayey, silty SAND POSSIBLE MADE GROUND
		3.50	ES		3.40	115.46		Very loose to loose, greyish brown, silty, fine grained SAND GLACIOFLUVIAL DEPOSITS
								Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) No groundwater encountered 3) Terminated at target depth 4) Slightly ashy and occasional clinker at 0.60m to 3.10m bgl 5) Cased to 4.00m bgl 6) Collapse of borehole 4.00-5.00m bgl

Borehole Log

Borehole No. **WS112**

Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389281.00 - 413370.00	Hole Type WS
Location: Rochdale		Level: 118.86	Scale 1:20
Client: Willmott Dixon		Dates: 19/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		4.00 4.00	SPTL S	N=1 (1,0/0,0,1,0)				
		5.00 5.00	SPTL S	N=6 (1,2/1,2,2,1)				
					5.45	113.41		End of borehole at 5.45 m

5

6

7

8

Remarks

1) Hand dug pit to 1.20m bgl 2) No groundwater encountered 3) Terminated at target depth 4) Slightly ashy and occasional clinker at 0.60m to 3.10m bgl 5) Cased to 4.00m bgl 6) Collapse of borehole 4.00-5.00m bgl

Borehole Log

Borehole No. **WS113**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389347.00 - 413403.00	Hole Type WS
Location: Rochdale		Level: 119.59	Scale 1:20
Client: Willmott Dixon		Dates: 20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.12	119.47		MADE GROUND TOPSOIL: Grass over, dark brown, slightly silty, sandy LOAM with occasional rootlets. TOPSOIL
								MADE GROUND: Dark brown, sandy, gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick and concrete. MADE GROUND
					0.55	119.04		
					0.61	118.98		MADE GROUND: COBBLES of brick and occasional concrete. MADE GROUND
								End of borehole at 0.61 m

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2
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4

Remarks

1) Hand dug pit to 0.61m bgl 2) Terminated due to obstruction 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) No install, backfilled with arisings.

Borehole Log

Borehole No. **WS113B**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389350.00 - 413403.00	Hole Type WS
Location: Rochdale		Level: 119.59	Scale 1:20
Client: Willmott Dixon		Dates: 20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.35	ES		0.14	119.45		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional rootlets. TOPSOIL
								MADE GROUND: Dark brown, sandy, gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick, concrete, sandstone. Occasional cobbles of brick and sandstone. Cobble content increasing from 0.50m bgl. MADE GROUND
					0.67	118.92		MADE GROUND: COBBLES of concrete and brick. MADE GROUND
					0.71	118.88		End of borehole at 0.71 m

Remarks

1) Hand dug pit to 0.61m bgl 2) Terminated due to obstruction 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) No install, backfilled with arisings.

Borehole Log

Borehole No. **WS114**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389320.00 - 413394.00	Hole Type WS
Location: Rochdale		Level: 118.43	Scale 1:20
Client: Willmott Dixon		Dates: 29/11/2024 -	Logged By AM

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.30	118.13		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is fine to coarse, subangular to angular of limestone. MADE GROUND
		0.50	ES					MADE GROUND: Greyish brown, slightly sandy, clayey GRAVEL with medium cobble content. Sand is fine to medium, gravel is fine to coarse, subangular to angular of brick, sandstone, slate and limestone of slag. Cobbles are angular of brick and concrete MADE GROUND
					1.10	117.33		
		1.20 1.20	SPTL S	N=5 (1,1/1,2,1,1)				MADE GROUND: Soft to firm, dark brown to dark grey, gravelly SILT. Gravel is fine to medium, subangular of sandstone and brick lenses of black anthracite coal. Sand is fine to coarse. (possible PFA) MADE GROUND
		2.00 2.00	SPTL S	N=22 (4,4/5,5,6,6)				
					2.90	115.53		
		3.00 3.00	SPTL S	N=18 (4,4/5,5,4,4)				POSSIBLE MADE GROUND: Firm, reddish brown, mottled grey, gravelly SILT. Gravel is fine to coarse, subangular to subrounded of mudstone and sandstone. POSSIBLE MADE GROUND
		3.60 3.60	SPTL S	50 (25 for 30mm/50 for 65mm)				
					3.80	114.63		End of borehole at 3.80 m

1 2 3 4

Remarks

1) Hand dug pit to 1.20m bgl 2) No groundwater encountered 3) Terminated on refusal 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings. 6) No install

Borehole Log

Borehole No. **WS115**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389368.00 - 413394.00	Hole Type WS
Location: Rochdale		Level: 120.41	Scale 1:20
Client: Willmott Dixon		Dates: 20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.15	120.26		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional rootlets. Cobbles of sandstone and brick. TOPSOIL
					0.60	119.81		MADE GROUND: Dark brown, sandy, gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick and occasional sandstone. MADE GROUND
		1.20	SPTLS	50 (9,11/50 for 210mm)	0.62	119.79		MADE GROUND: COBBLES, possibly concrete and brick. MADE GROUND
		1.20						End of borehole at 0.62 m

1
2
3
4

Remarks

Hand dug pit to 0.62m bgl 2) Terminated due to obstruction 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) Backfilled with arisings no install.

Borehole Log

Borehole No. **WS115B**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389368.00 - 413394.00	Hole Type WS
Location:	Rochdale		Level:	120.41	Scale 1:20
Client:	Willmott Dixon		Dates:	20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.16	120.25		MADE GROUND TOPSOIL: Grass over dark brown, slightly silty, sandy LOAM with occasional rootlets. TOPSOIL
								MADE GROUND: Dark brown, sandy, gravelly CLAY. Gravel is fine to coarse, angular to subangular of brick and occasional sandstone. MADE GROUND
								Cobbles of sandstone from 0.45m bgl.
					0.80	119.61		
		0.90	ES					MADE GROUND: Grey, stiff, gravelly SILT. Gravel is fine to medium, angular to subangular of brick, occasional concrete. Gravel content increasing around 1.05m bgl. (possible PFA) MADE GROUND
					1.40	119.01		
					1.46	118.95		MADE GROUND: COBBLES of sandstone and concrete. MADE GROUND
								End of borehole at 1.46 m

1 2 3 4

Remarks

1) Hand dug pit to 1.20m bgl 2) Terminated on refusal - obstruction 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) No install, backfilled with arisings.

Borehole Log

Borehole No. **WS116**

Sheet 1 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389320.00 - 413364.00	Hole Type WS
Location: Rochdale		Level: 119.14	Scale 1:20
Client: Willmott Dixon		Dates: 21/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.05	ES		0.07	119.07		MADE GROUND: Black, high aggregate ASPHALT. Aggregate is medium to coarse, angular to subangular of limestone. MADE GROUND
		0.10 - 0.40	B					MADE GROUND: Greyish dark brown SAND AND GRAVEL. Gravel is fine to coarse, angular to subangular of brick, sandstone, limestone, concrete and rare plastic. Sand is fine to meidum. MADE GROUND
		0.20	ES					
					0.90	118.24		MADE GROUND: Red brick COBBLES MADE GROUND
					1.10	118.04		MADE GROUND: Medium dense, reddish brown and dark brownish grey, slightly ashy, slightly clayey, fine to coarse, angular to subangular GRAVEL of brick, concrete, occasional clinker / asphalt. Occasional cobbles of concrete and limestone. MADE GROUND
		1.20	ES					*Clayey pocket between 1.50m and 1.60m bgl*
		1.20	SPTL					
		1.20	S	N=22 (5,5/4,6,6,6)				
		1.90	ES		1.85	117.29		MADE GROUND: Firm, dark grey, gravelly CLAY/SILT. Gravel is fine to coarse, angular to subangular of brick. (possible PFA) MADE GROUND
		2.00	D					
		2.00	SPTL					
		2.00	S	N=14 (4,5/5,3,3,3)				
					2.60	116.54		MADE GROUND: Red brick COBBLES MADE GROUND
		2.70	ES					
		3.00	SPTL		3.00	116.14		MADE GROUND: Very loose, grey mottled greyish brown, silty SAND with rare fine gravel of brick. MADE GROUND
		3.00	S	N=4 (2,1/0,1,1,2)				
		3.10	ES					
					3.30	115.84		Loose, brownish grey silty SAND. Wet material between 3.30m and 3.50m bgl. GLACIOFLUVIAL DEPOSITS
		3.40	ES					

Continued on next sheet

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered as wet material at 3.30m bgl and water strike at 4.00m bgl. 3) Terminated at target depth 4) Slightly ashy material between 1.10m and 1.85m bgl.

Borehole Log

Borehole No. **WS116**

Sheet 2 of 2

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389320.00 - 413364.00	Hole Type WS
Location: Rochdale		Level: 119.14	Scale 1:20
Client: Willmott Dixon		Dates: 21/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		4.00 4.00	SPTL S	N=8 (2,3/2,2,2,2)				
		5.00 5.00	SPTL S	50 (8,8/50 for 165mm)				
					5.45	113.69		End of borehole at 5.45 m

5

6

7

8

Remarks

1) Hand dug pit to 1.20m bgl 2) Groundwater encountered as wet material at 3.30m bgl and water strike at 4.00m bgl. 3) Terminated at target depth 4) Slightly ashy material between 1.10m and 1.85m bgl.

Borehole Log

Borehole No. **WS117**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389302.00 - 413325.00	Hole Type WS
Location: Rochdale		Level: 119.77	Scale 1:20
Client: Willmott Dixon		Dates: 20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.14	119.63		MADE GROUND TOPSOIL: Grass over, dark brown, slightly silty, sandy LOAM with occasional rootlets. TOPSOIL
		0.40	ES					MADE GROUND: Dark brown, slightly clayey, sandy GRAVEL of fine to coarse, angular to subangular of brick, concrete, sandstone, limestone and occasional clinker. MADE GROUND
		1.00	D		0.95	118.82		MADE GROUND: Firm, light grey, sandy SILT. (possible PFA) MADE GROUND
		1.10	ES					*Gravel and cobbles of brick, limestone, rare plastic ??*
		1.20		N=12 (7,5/4,4,2,2)				
		2.00		N=9 (4,4/3,3,2,1)				
					2.10	117.67		MADE GROUND: Red crushed BRICK MADE GROUND
		2.20	ES					
		2.40	ES		2.38	117.39		MADE GROUND: Dense, dark grey, slightly clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, occasional concrete, limestone and sandstone. MADE GROUND
		2.60		13 (63 for 135mm/13 for 85mm)				*Refusal of core barrel at 2.60m*
					2.89	116.88		MADE GROUND: Obstruction, suspected brick. MADE GROUND
					2.90	116.87		End of borehole at 2.90 m

Remarks

1) Hand dug pit to 1.20m bgl 2) No groundwater encountered. 3) No visual or olfactory evidence of contamination 4) Terminated on refusal, possible obstruction.

Borehole Log

Borehole No. **WS118**

Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389326.00 - 413274.00	Hole Type WS
Location:	Rochdale		Level:	120.75	Scale 1:20
Client:	Willmott Dixon		Dates:	20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					MADE GROUND TOPSOIL: Grass over, dark brown, slightly silty, sandy LOAM with occasional rootlets. TOPSOIL
					0.42	120.33		MADE GROUND: Concrete COBBLES MADE GROUND
					0.43	120.32		End of borehole at 0.43 m

Remarks

1) Hand dug pit to 0.43m bgl 2) Terminated due to obstruction 3) Moved 1.00m south se WS118a 3) No groundwater encountered 4) No visual or olfactory evidence of contamination. 5) No install, backfilled with arisings.

Borehole Log

Borehole No.
WS118A
Sheet 1 of 1

Project Name:	Hopwood Hall College	Project No. TE1880	Co-ords:	389326.00 - 413274.00	Hole Type WS
Location:	Rochdale		Level:	120.75	Scale 1:20
Client:	Willmott Dixon		Dates:	20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				MADE GROUND: Grass over, dark brown, slightly silty, sandy LOAM with occasional rootlets. (TOPSOIL) MADE GROUND
					0.56	120.19		MADE GROUND: Concrete COBBLES MADE GROUND
					0.57	120.18		End of borehole at 0.57 m

Remarks
1) Hand dug pit to 0.43m bgl 2) Terminated due to obstruction 3) Moved 2.00m east see WS118b 3) No groundwater encountered 4) No visual or olfactory evidence of contamination. 5) No install, backfilled with arisings.

Borehole Log

Borehole No. **WS118B**

Sheet 1 of 1

Project Name: Hopwood Hall College	Project No. TE1880	Co-ords: 389329.00 - 413277.00	Hole Type WS
Location: Rochdale		Level: 120.75	Scale 1:20
Client: Willmott Dixon		Dates: 20/11/2024 -	Logged By SE

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.19	120.56		MADE GROUND TOPSOIL: Grass over, dark brown, slightly silty, sandy loam with occasional rootlets. MADE GROUND
					0.52	120.23		MADE GROUND: Dark brown, slightly clayey, gravelly SAND. Gravel is fine to coarse, angular to subangular of brick, concrete and limestone. MADE GROUND
					0.56	120.19		MADE GROUND: COBBLES of sandstone, brick and concrete at base. MADE GROUND
								End of borehole at 0.56 m

1 2 3 4

Remarks

1) Hand dug pit to 0.56m bgl 2) Terminated due to obstructions 3) No groundwater encountered 4) No visual or olfactory evidence of contamination 5) No install, backfilled with arisings.

APPENDIX C - GEOENVIRONMENTAL SOIL LABORATORY RESULTS

Element Materials Technology
Unit 3 Deeside Point
Zone 3
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Tier Environmental
Suite 414, Chadwick House
Warrington Rd
Birchwood
Warrington
United Kingdom
WA3 6AE

Attention :	Stefani Ellis
Date :	11th December, 2024
Your reference :	TE1880
Our reference :	Test Report 24/19867 Batch 1
Location :	Hopwood Hall, Rochdale
Date samples received :	22nd November, 2024
Status :	Final report
Issue :	202412111630

Nineteen samples were received for analysis on 22nd November, 2024 of which seventeen were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 69.214 kg of CO2

Scope 1&2&3 emissions - 163.572 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-43	LOD/LOR	Units	Method No.
Sample ID	WS103A	WS105	WS105	WS107	WS107	WS110	WS112	WS112	WS113B	WS115			
Depth	0.40	0.60	0.75	0.40	0.65	0.61	1.20	3.35	0.35	0.10			
COC No / misc													
Containers	V J T	V J T B	V J T B	V J T	V J T	V J T	V J T	V J T	V J T B	V J B			
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024			
Arsenic #	46.7	23.2	100.9	25.5	-	-	95.0	5.5	8.7	10.6	<0.5	mg/kg	TM30/PM15
Cadmium #	0.1	0.2	<0.1	<0.1	-	-	<0.1	<0.1	0.4	0.3	<0.1	mg/kg	TM30/PM15
Chromium #	28.0	66.2	46.0	43.6	-	-	49.2	17.3	56.1	50.5	<0.5	mg/kg	TM30/PM15
Copper #	107	75	65	28	-	-	107	25	46	50	<1	mg/kg	TM30/PM15
Lead #	203	454	117	106	-	-	165	46	106	155	<5	mg/kg	TM30/PM15
Mercury #	0.2	0.1	0.1	<0.1	-	-	0.1	0.3	<0.1	0.1	<0.1	mg/kg	TM30/PM15
Nickel #	27.4	22.4	39.5	13.4	-	-	45.3	23.2	20.4	18.6	<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	2	<1	-	-	2	<1	<1	<1	<1	mg/kg	TM30/PM15
Sulphur as S	-	-	0.04	-	-	-	-	0.03	-	-	<0.01	%	TM30/PM15
Total Sulphate as SO4 #	652	1772	630	588	-	-	641	234	326	404	<50	mg/kg	TM50/PM29
Total Sulphate as SO4 BRE	-	-	0.06	-	-	-	-	0.02	-	-	<0.01	%	TM50/PM29
Zinc #	122	103	53	36	-	-	87	50	105	146	<5	mg/kg	TM30/PM15
Magnesium	-	-	0.0019	-	-	-	-	0.0007	-	-	<0.0001	g/l	TM30/PM20
PAH MS													
Naphthalene #	0.10	0.16	<0.04	<0.04	-	-	<0.04	<0.04	3.72	1.71	<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.05	<0.03	<0.03	<0.03	-	-	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.34	<0.05	<0.05	<0.05	-	-	<0.05	<0.05	3.63	2.28	<0.05	mg/kg	TM4/PM8
Fluorene #	0.23	<0.04	<0.04	<0.04	-	-	<0.04	<0.04	2.22	1.54	<0.04	mg/kg	TM4/PM8
Phenanthrene #	3.27	0.48	<0.03	0.10	-	-	0.25	0.07	16.44	9.56	<0.03	mg/kg	TM4/PM8
Anthracene #	0.73	0.07	<0.04	<0.04	-	-	<0.04	<0.04	3.37	1.81	<0.04	mg/kg	TM4/PM8
Fluoranthene #	5.51	0.43	<0.03	0.22	-	-	0.49	<0.03	25.99	13.19	<0.03	mg/kg	TM4/PM8
Pyrene #	4.41	0.50	<0.03	0.19	-	-	0.43	<0.03	22.73	10.82	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	2.31	0.40	<0.06	0.15	-	-	0.29	<0.06	11.89	5.88	<0.06	mg/kg	TM4/PM8
Chrysene #	2.21	0.45	<0.02	0.13	-	-	0.33	0.05	11.41	5.92	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	3.13	0.53	<0.07	0.17	-	-	0.37	<0.07	19.47	8.82	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	1.88	0.34	<0.04	0.07	-	-	0.14	<0.04	13.24	5.84	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	1.04	0.20	<0.04	0.07	-	-	0.12	<0.04	7.36	3.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.22	0.07	<0.04	<0.04	-	-	<0.04	<0.04	1.23	0.55	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	1.04	0.23	<0.04	0.08	-	-	0.13	<0.04	7.06	2.81	<0.04	mg/kg	TM4/PM8
Coronene	-	0.05	<0.04	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM8
PAH 16 Total	26.5	3.9	<0.6	1.2	-	-	2.6	<0.6	149.8	73.8	<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	3.91	<0.64	-	-	-	-	-	-	-	<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	2.25	0.38	<0.05	0.12	-	-	0.27	<0.05	14.02	6.35	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.88	0.15	<0.02	0.05	-	-	0.10	<0.02	5.45	2.47	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91	94	95	101	-	-	95	96	90	94	<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	<2	<2	-	-	<2 SV	-	<2 SV	-	<2	-	<2	ug/kg	TM15/PM10
Benzene #	<3	<3	-	-	<3 SV	-	5 SV	-	<3	-	<3	ug/kg	TM15/PM10
Toluene #	<3	27	-	-	<3 SV	-	<3 SV	-	<3	-	<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	-	-	<3 SV	-	<3 SV	-	<3	-	<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	7	-	-	<5 SV	-	<5 SV	-	<5	-	<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	-	-	<3 SV	-	<3 SV	-	<3	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	52	64	-	-	52 SV	-	47 SV	-	68	-	<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-43	LOD/LOR	Units	Method No.
Sample ID	WS103A	WS105	WS105	WS107	WS107	WS110	WS112	WS112	WS113B	WS115			
Depth	0.40	0.60	0.75	0.40	0.65	0.61	1.20	3.35	0.35	0.10			
COC No / misc													
Containers	V J T	V J T B	V J T B	V J T	V J T	V J T	V J T	V J T	V J T B	V J B			
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024			
Surrogate Recovery 4-Bromofluorobenzene	52	73	-	-	43 SV	-	43 SV	-	78	-	<0	%	TM15/PM10
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	247	<30	-	-	-	-	-	-	-	<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	<0.2	-	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	-	<4	-	<4	-	13	-	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	34	<7	-	<7	-	<7	-	25	-	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	180	<7	-	<7	-	<7	-	100	-	<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	33	<7	-	<7	-	<7	-	9	-	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	247	<26	-	<26	-	<26	-	147	-	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1 SV	-	<0.1 SV	-	<0.1 SV	-	<0.1	-	<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	-	<0.2	-	<0.2	-	2.6	-	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	20	<4	-	<4	-	<4	-	25	-	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	16	221	<7	-	<7	-	<7	-	158	-	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	12	977	<7	-	<7	-	<7	-	456	-	<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	127	<7	-	<7	-	<7	-	36	-	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	28	1345	<26	-	<26	-	<26	-	678	-	<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<52	1592	<52	-	<52	-	<52	-	825	-	<52	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Benzene #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Toluene #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	<5 SV	-	-	-	-	-	-	-	<5	ug/kg	TM36/PM12
PCB 28 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 52 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 101 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 118 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 138 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 153 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
PCB 180 #	-	<5	<5	-	-	-	-	-	-	-	<5	ug/kg	TM17/PM8
Total 7 PCBs #	-	<35	<35	-	-	-	-	-	-	-	<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	-	-	<0.15	<0.15	<0.15	<0.15	<0.15	mg/kg	TM26/PM21B

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	5-8	9-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-43	LOD/LOR	Units	Method No.
Sample ID	WS103A	WS105	WS105	WS107	WS107	WS110	WS112	WS112	WS113B	WS115			
Depth	0.40	0.60	0.75	0.40	0.65	0.61	1.20	3.35	0.35	0.10			
COC No / misc													
Containers	V J T	V J T B	V J T B	V J T	V J T	V J T	V J T	V J T	V J T B	V J B			
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Batch Number	1	1	1	1	1	1	1	1	1	1			
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024			
Monoethylene glycol	-	-	<50	-	-	<50	-	-	-	-	<50	ug/kg	TM179/PM8
Propylene glycol	-	-	<50	-	-	<50	-	-	-	-	<50	ug/kg	TM179/PM8
Diethylene glycol	-	-	<50	-	-	<50	-	-	-	-	<50	ug/kg	TM179/PM8
Triethylene glycol	-	-	<50	-	-	<50	-	-	-	-	<50	ug/kg	TM179/PM8
Thiodiglycol	-	-	<50	-	-	<50	-	-	-	-	<50	ug/kg	TM179/PM8
Natural Moisture Content	22.9	16.3	40.1	21.4	39.6	16.0	31.5	22.2	18.5	40.0	<0.1	%	PM4/PM0
Ammoniacal Nitrogen as NH4	-	-	<0.6	-	-	-	-	6.6	-	-	<0.6	mg/kg	TM38/PM20
Chloride (2:1 Ext BRE) #	-	-	0.026	-	-	-	-	0.015	-	-	<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	mg/kg	TM38/PM20
Nitrate as NO3 (2:1 Ext BRE)	-	-	<0.0025	-	-	-	-	<0.0025	-	-	<0.0025	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0204	0.0382	0.0473	0.0426	-	-	0.0852	0.0193	0.0219	0.0132	<0.0015	g/l	TM38/PM20
Free Cyanide	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Total Cyanide #	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	1.0	<0.5	<0.5	<0.5	<0.5	<0.5	-	<0.5	<0.5	<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	3.07	3.44	3.04	0.87	-	-	4.84	3.29	3.10	3.44	<0.02	%	TM21/PM24
ANC at pH4	-	1.41	0.73	-	-	-	-	-	-	-	<0.03	mol/kg	TM77/PM0
ANC at pH7	-	0.14	0.07	-	-	-	-	-	-	-	<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	5.3	5.0	-	-	-	-	-	-	-	<1.0	%	TM22/PM0
pH #	8.21	10.93	9.88	9.37	-	-	8.60	7.10	8.09	7.85	<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	44-47	48-51	52-55	56-59	60-63	64-67					LOD/LOR	Units	Method No.
Sample ID	WS115B	WS117	WS117	WS117	WS117	WS118							
Depth	0.90	1.10	0.40	2.40	2.20	0.20							
COC No / misc													
Containers	V J B	V J T B	V J T B	V J T B	V J T B	V J T B							
Sample Date	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024							
Arsenic #	9.7	-	6.0	29.0	9.8	16.2					<0.5	mg/kg	TM30/PM15
Cadmium #	0.7	-	0.4	1.8	0.3	0.8					<0.1	mg/kg	TM30/PM15
Chromium #	48.2	-	23.9	201.0	58.8	47.9					<0.5	mg/kg	TM30/PM15
Copper #	38	-	36	238$_{AA}$	97	61					<1	mg/kg	TM30/PM15
Lead #	110	-	88	397	155	173					<5	mg/kg	TM30/PM15
Mercury #	0.1	-	<0.1	0.4	<0.1	0.4					<0.1	mg/kg	TM30/PM15
Nickel #	16.2	-	12.2	48.5	20.4	17.5					<0.7	mg/kg	TM30/PM15
Selenium #	<1	-	<1	1	<1	<1					<1	mg/kg	TM30/PM15
Sulphur as S	-	-	-	-	-	-					<0.01	%	TM30/PM15
Total Sulphate as SO4 #	528	-	1602	1069	550	373					<50	mg/kg	TM50/PM29
Total Sulphate as SO4 BRE	-	-	-	-	-	-					<0.01	%	TM50/PM29
Zinc #	294	-	89	589	149	194					<5	mg/kg	TM30/PM15
Magnesium	-	-	-	-	-	-					<0.0001	g/l	TM30/PM20
PAH MS													
Naphthalene #	0.08	-	0.34	0.28	0.14	0.10					<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	-	0.14	0.11	<0.03	0.19					<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.10	-	0.95	0.09	0.08	0.11					<0.05	mg/kg	TM4/PM8
Fluorene #	0.07	-	0.72	0.08	0.06	0.12					<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.78	-	5.97	0.97	0.61	1.54					<0.03	mg/kg	TM4/PM8
Anthracene #	0.18	-	1.63	0.25	0.10	0.39					<0.04	mg/kg	TM4/PM8
Fluoranthene #	1.53	-	9.19	1.86	0.90	3.56					<0.03	mg/kg	TM4/PM8
Pyrene #	1.30	-	8.14	1.62	0.80	3.32					<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.81	-	4.38	1.04	0.50	2.01					<0.06	mg/kg	TM4/PM8
Chrysene #	0.82	-	4.01	1.04	0.52	1.88					<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	1.32	-	7.03	1.89	0.85	3.29					<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.80	-	5.02	1.20	0.49	2.28					<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.50	-	2.78	0.83	0.35	1.24					<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.08	-	0.49	0.16	0.08	0.23					<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.45	-	2.52	0.77	0.35	1.22					<0.04	mg/kg	TM4/PM8
Coronene	0.08	-	-	-	-	-					<0.04	mg/kg	TM4/PM8
PAH 16 Total	8.8	-	53.3	12.2	5.8	21.5					<0.6	mg/kg	TM4/PM8
PAH 17 Total	8.90	-	-	-	-	-					<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.95	-	5.06	1.36	0.61	2.37					<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.37	-	1.97	0.53	0.24	0.92					<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	95	-	95	92	97	96					<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	<2	-	-	-					<2	ug/kg	TM15/PM10
Benzene #	-	-	<3	-	-	-					<3	ug/kg	TM15/PM10
Toluene #	-	-	<3	-	-	-					<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	<3	-	-	-					<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	<5	-	-	-					<5	ug/kg	TM15/PM10
o-Xylene #	-	-	<3	-	-	-					<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	57	-	-	-					<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	44-47	48-51	52-55	56-59	60-63	64-67					LOD/LOR	Units	Method No.
Sample ID	WS115B	WS117	WS117	WS117	WS117	WS118							
Depth	0.90	1.10	0.40	2.40	2.20	0.20							
COC No / misc													
Containers	V J B	V J T B	V J T B	V J T B	V J T B	V J T B							
Sample Date	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024							
Surrogate Recovery 4-Bromofluorobenzene	-	-	71	-	-	-					<0	%	TM15/PM10
Mineral Oil (C10-C40) (EH_CU_1D_AL)	165	-	-	-	-	-					<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	<0.2	-	-	-					<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	<4	-	-	-					<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	14	-	-	-					<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	408	-	-	-					<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	-	-	50	-	-	-					<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	-	-	472	-	-	-					<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	<0.1	-	-	-					<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	<0.2	-	-	-					<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	19	-	-	-					<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	149	-	-	-					<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	985	-	-	-					<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	-	-	144	-	-	-					<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	-	-	1297	-	-	-					<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	-	-	1769	-	-	-					<52	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
Benzene #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
Toluene #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
o-Xylene #	<5	-	-	-	-	-					<5	ug/kg	TM36/PM12
PCB 28 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 52 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 101 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 118 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 138 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 153 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
PCB 180 #	<5	<50 AB	-	-	-	-					<5	ug/kg	TM17/PM8
Total 7 PCBs #	<35	<350 AB	-	-	-	-					<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	-	<0.15	<0.15	<0.15	<0.15					<0.15	mg/kg	TM26/PM21B

Please see attached notes for all abbreviations and acronyms

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All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	44-47	48-51	52-55	56-59	60-63	64-67					LOD/LOR	Units	Method No.
Sample ID	WS115B	WS117	WS117	WS117	WS117	WS118							
Depth	0.90	1.10	0.40	2.40	2.20	0.20							
COC No / misc													
Containers	V J B	V J T B	V J T B	V J T B	V J T B	V J T B							
Sample Date	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024	20/11/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1	1							
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024							
Monoethylene glycol	-	-	-	-	-	-					<50	ug/kg	TM179/PM8
Propylene glycol	-	-	-	-	-	-					<50	ug/kg	TM179/PM8
Diethylene glycol	-	-	-	-	-	-					<50	ug/kg	TM179/PM8
Triethylene glycol	-	-	-	-	-	-					<50	ug/kg	TM179/PM8
Thiodiglycol	-	-	-	-	-	-					<50	ug/kg	TM179/PM8
Natural Moisture Content	19.3	19.0	10.6	26.3	16.6	19.6					<0.1	%	PM4/PM0
Ammoniacal Nitrogen as NH4	-	-	-	-	-	-					<0.6	mg/kg	TM38/PM20
Chloride (2:1 Ext BRE) #	-	-	-	-	-	-					<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	-	<0.3	<0.3	<0.3	<0.3					<0.3	mg/kg	TM38/PM20
Nitrate as NO3 (2:1 Ext BRE)	-	-	-	-	-	-					<0.0025	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0168	-	0.2146	0.0533	0.0277	0.0130					<0.0015	g/l	TM38/PM20
Free Cyanide	<0.5	-	<0.5	<0.5	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Total Cyanide #	<0.5	-	<0.5	1.0	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	-	<0.5	1.0	<0.5	<0.5					<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	3.04	-	6.88	4.81	2.02	3.44					<0.02	%	TM21/PM24
ANC at pH4	0.49	-	-	-	-	-					<0.03	mol/kg	TM77/PM0
ANC at pH7	NDP	-	-	-	-	-					<0.03	mol/kg	TM77/PM0
Loss on Ignition #	6.2	-	-	-	-	-					<1.0	%	TM22/PM0
pH #	8.18	-	10.24	8.39	8.52	8.30					<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	9-12	13-16	21-24	25-28	37-40	44-47	68-71				LOD/LOR	Units	Method No.
Sample ID	WS105	WS105	WS107	WS110	WS113B	WS115B	WS118						
Depth	0.60	0.75	0.65	0.61	0.35	0.90	0.30						
COC No / misc													
Containers	V J T B	V J T B	V J T	V J T	V J T B	V J B	V J T B						
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024	20/11/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024						
Dissolved Arsenic #	4.5	-	166.8	25.3	2.7	-	3.7				<2.5	ug/l	TM30/PM14
Dissolved Boron #	<12	-	31	71	<12	-	<12				<12	ug/l	TM30/PM14
Dissolved Cadmium #	<0.5	-	<0.5	<0.5	<0.5	-	<0.5				<0.5	ug/l	TM30/PM14
Dissolved Chromium #	10.5	-	<1.5	5.9	<1.5	-	2.1				<1.5	ug/l	TM30/PM14
Dissolved Copper #	11	-	<7	<7	<7	-	<7				<7	ug/l	TM30/PM14
Dissolved Lead #	10	-	<5	<5	<5	-	<5				<5	ug/l	TM30/PM14
Dissolved Mercury #	<1	-	<1	<1	<1	-	<1				<1	ug/l	TM30/PM14
Dissolved Nickel #	<2	-	<2	<2	<2	-	<2				<2	ug/l	TM30/PM14
Dissolved Selenium #	<3	-	<3	<3	<3	-	<3				<3	ug/l	TM30/PM14
Dissolved Zinc #	<3	-	<3	<3	<3	-	<3				<3	ug/l	TM30/PM14
PAH MS													
Naphthalene	<2.0 AC	-	<0.1	<0.1	0.3	-	<0.1				<0.1	ug/l	TM4/PM30
Acenaphthylene	<0.100 AC	-	<0.005	0.009	0.022	-	0.013				<0.005	ug/l	TM4/PM30
Acenaphthene	<0.100 AC	-	<0.005	0.007	0.124	-	0.027				<0.005	ug/l	TM4/PM30
Fluorene	<0.100 AC	-	0.006	<0.005	0.059	-	0.019				<0.005	ug/l	TM4/PM30
Phenanthrene	0.346 AC	-	0.012	0.033	0.269	-	0.130				<0.005	ug/l	TM4/PM30
Anthracene	0.102 AC	-	<0.005	0.016	0.088	-	0.039				<0.005	ug/l	TM4/PM30
Fluoranthene	0.826 AC	-	<0.005	0.130	0.551	-	0.231				<0.005	ug/l	TM4/PM30
Pyrene	0.966 AC	-	0.005	0.133	0.566	-	0.199				<0.005	ug/l	TM4/PM30
Benzo(a)anthracene	0.715 AC	-	<0.005	0.100	0.365	-	0.131				<0.005	ug/l	TM4/PM30
Chrysene	0.759 AC	-	<0.005	0.106	0.498	-	0.147				<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene	1.085 AC	-	<0.008	0.210	1.227	-	0.229				<0.008	ug/l	TM4/PM30
Benzo(a)pyrene	0.606 AC	-	<0.005	0.115	0.650	-	0.107				<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene	0.456 AC	-	<0.005	0.098	0.720	-	0.086				<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene	0.164 AC	-	<0.005	0.025	0.158	-	0.019				<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene	0.452 AC	-	<0.005	0.090	0.746	-	0.089				<0.005	ug/l	TM4/PM30
PAH 16 Total	6.477 AC	-	<0.173	1.072	6.343	-	1.466				<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	0.781 AC	-	<0.008	0.151	0.883	-	0.165				<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	0.304 AC	-	<0.008	0.059	0.344	-	0.064				<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	107 AC	-	70	68 SV	106	-	73				<0	%	TM4/PM30
Total Phenols HPLC	<0.05	-	<0.05	<0.05	<0.05	-	<0.05				<0.05	mg/l	TM26/PM0
Mass of raw test portion	0.1033	0.11	0.113	0.1063	0.1066	0.1037	0.1043					kg	NONE/PM17
Mass of dried test portion	0.09	0.09	0.09	0.09	0.09	0.09	0.09					kg	NONE/PM17
pH	11.47	-	7.59	9.53	8.33	-	7.67				<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

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Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

SVOC Report : **Solid**

EMT Sample No.	5-8	9-12	21-24	25-28	29-32	37-40	52-55				LOD/LOR	Units	Method No.
Sample ID	WS103A	WS105	WS107	WS110	WS112	WS113B	WS117						
Depth	0.40	0.60	0.65	0.61	1.20	0.35	0.40						
COC No / misc													
Containers	V J T	V J T B	V J T	V J T	V J T	V J T B	V J T B						
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024						
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	81	<10				<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	88	<10				<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<10	<10	<10	<10	166	<10				<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	97	174	<10	27	<10	525	105				<10	ug/kg	TM16/PM8
Naphthalene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Acenaphthylene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Acenaphthene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Fluorene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Phenanthrene #	-	-	<10	82	-	-	-				<10	ug/kg	TM16/PM8
Anthracene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Fluoranthene #	-	-	<10	104	-	-	-				<10	ug/kg	TM16/PM8
Pyrene #	-	-	<10	115	-	-	-				<10	ug/kg	TM16/PM8
Benzo(a)anthracene	-	-	<10	99	-	-	-				<10	ug/kg	TM16/PM8
Chrysene	-	-	<10	81	-	-	-				<10	ug/kg	TM16/PM8
Benzo(bk)fluoranthene	-	-	<10	137	-	-	-				<10	ug/kg	TM16/PM8
Benzo(a)pyrene	-	-	<10	70	-	-	-				<10	ug/kg	TM16/PM8
Indeno(123cd)pyrene	-	-	<10	52	-	-	-				<10	ug/kg	TM16/PM8
Dibenzo(ah)anthracene	-	-	<10	<10	-	-	-				<10	ug/kg	TM16/PM8
Benzo(ghi)perylene	-	-	<10	53	-	-	-				<10	ug/kg	TM16/PM8
Benzo(b)fluoranthene	-	-	<10	99	-	-	-				<10	ug/kg	TM16/PM8
Benzo(k)fluoranthene	-	-	<10	38	-	-	-				<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100	<100	<100	<100	<100	<100	300				<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100	<100	<100				<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100	<100	<100	<100	<100				<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100	<100	<100				<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100	<100	<100				<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100	<100	<100	<100	<100				<100	ug/kg	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

SVOC Report : **Solid**

EMT Sample No.	5-8	9-12	21-24	25-28	29-32	37-40	52-55					
Sample ID	WS103A	WS105	WS107	WS110	WS112	WS113B	WS117					
Depth	0.40	0.60	0.65	0.61	1.20	0.35	0.40					
COC No / misc												
Containers	V J T	V J T B	V J T	V J T	V J T	V J T B	V J T B					
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024					
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil					
Batch Number	1	1	1	1	1	1	1					
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024					
SVOC MS												
Other SVOCs												
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	23	<10	<10	<10				<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Carbazole	22	14	<10	<10	<10	427	155				<10	ug/kg	TM16/PM8
Dibenzofuran #	59	44	<10	12	<10	431	206				<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10	<10	<10	<10	<10				<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10	28	<10	<10	<10				<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	111	116	109	114	111	113	116				<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	108	113	109	111	110	118	121				<0	%	TM16/PM8

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/19867

VOC Report : **Solid**

EMT Sample No.	5-8	9-12	21-24	25-28	29-32	37-40	52-55				LOD/LOR	Units	Method No.
Sample ID	WS103A	WS105	WS107	WS110	WS112	WS113B	WS117						
Depth	0.40	0.60	0.65	0.61	1.20	0.35	0.40						
COC No / misc													
Containers	V J T	V J T B	V J T	V J T	V J T	V J T B	V J T B						
Sample Date	19/11/2024	19/11/2024	19/11/2024	19/11/2024	19/11/2024	20/11/2024	20/11/2024						
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024	22/11/2024						
VOC MS													
Dichlorodifluoromethane	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15/PM10
Chloromethane #	60	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1 SV	<1	<1 SV	<1	<1				<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6 SV	<6	<6 SV	<6	<6				<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	87	<7 SV	<7	13 SV	51	19				<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3 SV	<3	5 SV	<3	<3				<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6 SV	<6	<6 SV	<6	<6				<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
Toluene #	<3	27	<3 SV	6	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	5	<3 SV	3	5 SV	<3	<3				<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3 +	<3 +	<3 +	<3 +	<3 +				<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	5	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	7	<5 SV	<5	<5 SV	<5	<5				<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2 SV	<2	<2 SV	<2	<2				<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3 SV	<3	<3 SV	<3	<3				<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5 SV	<5	<5 SV	<5	<5				<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6 SV	<6	<6 SV	<6	<6				<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7 SV	<7	<7 SV	<7	<7				<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4 SV	<4	<4 SV	<4	<4				<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27 SV	<27	<27 SV	<27	<27				<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7 SV	<7	<7 SV	<7	<7				<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	52	64	52 SV	68	47 SV	68	57				<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	52	73	43 SV	69	43 SV	78	71				<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1033	Moisture Content Ratio (%) =	14.8
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	87.1
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**24/19867**			
Sample No	**11**			
Client Sample No	**WS105**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**0.60**			
Sample Date	**19/11/2024**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	3.44	3	5	6
Loss on Ignition (%)	5.3	-	-	10
Sum of BTEX (mg/kg)	0.034	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	247	500	-	-
PAH Sum of 17(mg/kg)	3.91	100	-	-
pH (pH Units)	10.93	-	>6	-
ANC to pH 7 (mol/kg)	0.14	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	1.41	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	0.0073	0.073	0.5	2	25
Barium	0.103	1.03	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	0.0111	0.111	0.5	10	70
Copper	0.011	0.11	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.003	0.03	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	0.008	0.08	0.5	10	50
Antimony	0.003	0.03	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	0.8	8	800	15000	25000
Fluoride	<0.3	<3	10	150	500
Sulphate as SO4	8.2	82	1000	20000	50000
Total Dissolved Solids	228	2281	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	2	20	500	800	1000

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.11	Moisture Content Ratio (%) =	22.2
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	81.9
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**24/19867**			
Sample No	**15**			
Client Sample No	**WS105**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**0.75**			
Sample Date	**19/11/2024**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	3.04	3	5	6
Loss on Ignition (%)	5.0	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	<0.64	100	-	-
pH (pH Units)	9.88	-	>6	-
ANC to pH 7 (mol/kg)	0.07	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.73	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	0.1987	1.987	0.5	2	25
Barium	0.015	0.15	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	0.0043	0.043	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.002	<0.02	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	0.005	0.05	0.06	0.7	5
Selenium	0.006	0.06	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	3.5	35	800	15000	25000
Fluoride	0.6	6	10	150	500
Sulphate as SO4	5.5	55	1000	20000	50000
Total Dissolved Solids	70	700	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	<2	<20	500	800	1000

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All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1037	Moisture Content Ratio (%) =	15.4
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	86.7
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**24/19867**			
Sample No	**46**			
Client Sample No	**WS115B**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**0.90**			
Sample Date	**20/11/2024**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	3.04	3	5	6
Loss on Ignition (%)	6.2	-	-	10
Sum of BTEX (mg/kg)	<0.025	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	165	500	-	-
PAH Sum of 17(mg/kg)	8.90	100	-	-
pH (pH Units)	8.18	-	>6	-
ANC to pH 7 (mol/kg)	NDP	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.49	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	<0.0025	<0.025	0.5	2	25
Barium	0.017	0.17	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	<0.0015	<0.015	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.004	0.04	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	0.002	<0.02	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	0.4	4	800	15000	25000
Fluoride	1.0	10	10	150	500
Sulphate as SO4	2.7	27	1000	20000	50000
Total Dissolved Solids	89	890	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	3	30	500	800	1000

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/19867	1	WS103A	0.40	8	Charlotte Taylor	04/12/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos Type**	Chrysotile
					Charlotte Taylor	04/12/2024	**Asbestos Type (2)**	Amosite
					Simon Postlewhite	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
24/19867	1	WS105	0.60	12	Simon Postlewhite	05/12/2024	**General Description (Bulk Analysis)**	Brown soil/stones
					Simon Postlewhite	05/12/2024	**Asbestos Fibres**	Fibre Bundles
					Simon Postlewhite	05/12/2024	**Asbestos ACM**	Bitumen Products
					Simon Postlewhite	05/12/2024	**Asbestos Type**	Chrysotile
					Simon Postlewhite	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Simon Postlewhite	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	0.019 (mass %)
					Simon Postlewhite	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.019 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	0.019 (mass %)
24/19867	1	WS105	0.75	16	Emily Smith	03/12/2024	**General Description (Bulk Analysis)**	Brown soil
					Emily Smith	03/12/2024	**Asbestos Fibres**	NAD
					Emily Smith	03/12/2024	**Asbestos ACM**	NAD
					Emily Smith	03/12/2024	**Asbestos Type**	NAD
24/19867	1	WS107	0.40	20	Charlotte Taylor	04/12/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	04/12/2024	**Asbestos Fibres**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos Type**	NAD
24/19867	1	WS112	1.20	31	Anthony Carman	04/12/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	04/12/2024	**Asbestos Fibres**	NAD
					Anthony Carman	04/12/2024	**Asbestos ACM**	NAD
					Anthony Carman	04/12/2024	**Asbestos Type**	NAD

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/19867	1	WS113B	0.35	40	Catherine Coles	04/12/2024	**General Description (Bulk Analysis)**	brown soil,stone, debris
					Catherine Coles	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Catherine Coles	04/12/2024	**Asbestos Fibres (2)**	Free Fibres
					Catherine Coles	04/12/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/12/2024	**Asbestos ACM (2)**	NAD
					Catherine Coles	04/12/2024	**Asbestos Type**	Chrysotile
					Catherine Coles	04/12/2024	**Asbestos Type (2)**	Amosite
					Catherine Coles	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Catherine Coles	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Catherine Coles	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
24/19867	1	WS115	0.10	43	Anthony Carman	04/12/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	04/12/2024	**Asbestos Fibres**	NAD
					Anthony Carman	04/12/2024	**Asbestos ACM**	NAD
					Anthony Carman	04/12/2024	**Asbestos Type**	NAD
24/19867	1	WS115B	0.90	47	Charlotte Taylor	04/12/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos Type**	Chrysotile
					Charlotte Taylor	04/12/2024	**Asbestos Type (2)**	Amosite
					Charlotte Taylor	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	0.002 (mass %)
					Charlotte Taylor	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.002 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	0.002 (mass %)
24/19867	1	WS117	0.40	55	Catherine Coles	04/12/2024	**General Description (Bulk Analysis)**	brown soil,stone
					Catherine Coles	04/12/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/12/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/12/2024	**Asbestos Type**	NAD
24/19867	1	WS117	2.40	58	Charlotte Taylor	04/12/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Charlotte Taylor	04/12/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos ACM (2)**	NAD
					Charlotte Taylor	04/12/2024	**Asbestos Type**	Chrysotile
					Charlotte Taylor	04/12/2024	**Asbestos Type (2)**	Amosite
					Charlotte Taylor	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	11/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	11/12/2024	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
24/19867	1	WS117	2.20	62	Charlotte Taylor	03/12/2024	**General Description (Bulk Analysis)**	brown soil/stones
					Charlotte Taylor	03/12/2024	**Asbestos Fibres**	Fibre Bundles
					Charlotte Taylor	03/12/2024	**Asbestos ACM**	NAD
					Charlotte Taylor	03/12/2024	**Asbestos Type**	Amosite

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/19867	1	WS117	2.20	62	Charlotte Taylor	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Charlotte Taylor	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	11/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	11/12/2024	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)
24/19867	1	WS118	0.20	66	Catherine Coles	04/12/2024	**General Description (Bulk Analysis)**	brown soil,stone
					Catherine Coles	04/12/2024	**Asbestos Fibres**	NAD
					Catherine Coles	04/12/2024	**Asbestos ACM**	NAD
					Catherine Coles	04/12/2024	**Asbestos Type**	NAD

Client Name: Tier Environmental

Reference: TE1880

Location: Hopwood Hall, Rochdale

Contact: Stefani Ellis

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Method No.	NDP Reason
24/19867	1	WS115B	0.90	44-47	TM77/PM0	Sample received is below pH7

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/19867						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

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NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/19867

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution
AB	x10 Dilution
AC	x20 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/19867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes

EMT Job No: 24/19867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes

EMT Job No: 24/19867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013l	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.			AD	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes

EMT Job No: 24/19867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	Yes
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes

EMT Job No: 24/19867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM179	Determination of Glycols using LCMS	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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Birchwood
Warrington
United Kingdom
WA3 6AE

Attention :	Sean Lee
Date :	12th December, 2024
Your reference :	TE1880
Our reference :	Test Report 24/20208 Batch 1
Location :	Hopwood Hall, Rochdale
Date samples received :	28th November, 2024
Status :	Final Report
Issue :	202412121531

Ten samples were received for analysis on 28th November, 2024 of which six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 24.326 kg of CO2

Scope 1&2&3 emissions - 57.49 kg of CO2

Authorised By:



Sean Anglish
Project Coordinator

Please include all sections of this report if it is reproduced

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
EMT Job No: 24/20208

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4	5-8	12-14	23-26	33-35						LOD/LOR	Units	Method No.
Sample ID	WS108	WS109	WS111	WS116	WS116								
Depth	0.70	0.40-0.60	0.80	1.90	3.40								
COC No / misc													
Containers	V J T B	V J T B	V J B	V J B	V J B								
Sample Date	21/11/2024	21/11/2024	21/11/2024	21/11/2024	21/11/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024								
Arsenic #	34.7	-	76.9	13.3	3.1						<0.5	mg/kg	TM30/PM15
Cadmium #	<0.1	-	<0.1	0.4	0.2						<0.1	mg/kg	TM30/PM15
Chromium #	55.2	-	47.2	46.1	47.4						<0.5	mg/kg	TM30/PM15
Copper #	55	-	57	73	19						<1	mg/kg	TM30/PM15
Lead #	213	-	157	312	16						<5	mg/kg	TM30/PM15
Mercury #	<0.1	-	<0.1	0.2	<0.1						<0.1	mg/kg	TM30/PM15
Nickel #	18.2	-	30.7	22.7	21.4						<0.7	mg/kg	TM30/PM15
Selenium #	<1	-	1	<1	<1						<1	mg/kg	TM30/PM15
Sulphur as S	-	-	0.06	0.08	0.04						<0.01	%	TM30/PM15
Total Sulphate as SO4 #	1204	-	1254	1544	239						<50	mg/kg	TM50/PM29
Total Sulphate as SO4 BRE	-	-	0.13	0.15	0.02						<0.01	%	TM50/PM29
Zinc #	60	-	67	164	52						<5	mg/kg	TM30/PM15
Magnesium	-	-	0.0051	0.0048	0.0030						<0.0001	g/l	TM30/PM20
PAH MS													
Naphthalene #	<0.04	-	<0.04	0.63	<0.04						<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	-	<0.03	0.32	<0.03						<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	-	<0.05	1.23	<0.05						<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	-	<0.04	0.83	<0.04						<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.28	-	0.06	8.29	<0.03						<0.03	mg/kg	TM4/PM8
Anthracene #	0.05	-	<0.04	1.89	<0.04						<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.39	-	0.11	12.25	<0.03						<0.03	mg/kg	TM4/PM8
Pyrene #	0.38	-	0.11	10.16	<0.03						<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.31	-	0.09	4.76	<0.06						<0.06	mg/kg	TM4/PM8
Chrysene #	0.30	-	0.09	5.02	<0.02						<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	0.49	-	0.11	8.00	<0.07						<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.33	-	0.06	4.72	<0.04						<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.25	-	0.05	3.06	<0.04						<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.06	-	<0.04	0.60	<0.04						<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.26	-	0.05	3.12	<0.04						<0.04	mg/kg	TM4/PM8
Coronene	-	-	<0.04	0.44	-						<0.04	mg/kg	TM4/PM8
PAH 16 Total	3.1	-	0.7	64.9	<0.6						<0.6	mg/kg	TM4/PM8
PAH 17 Total	-	-	0.73	65.32	-						<0.64	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.35	-	0.08	5.76	<0.05						<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.14	-	0.03	2.24	<0.02						<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	91	-	96	87	96						<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	<2	<2	-						<2	ug/kg	TM15/PM10
Benzene #	-	-	<3	<3	-						<3	ug/kg	TM15/PM10
Toluene #	-	-	6	8	-						<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	<3	<3	-						<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	<5	7	-						<5	ug/kg	TM15/PM10
o-Xylene #	-	-	<3	<3	-						<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	79	68	-						<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
EMT Job No: 24/20208

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4	5-8	12-14	23-26	33-35						LOD/LOR	Units	Method No.
Sample ID	WS108	WS109	WS111	WS116	WS116								
Depth	0.70	0.40-0.60	0.80	1.90	3.40								
COC No / misc													
Containers	V J T B	V J T B	V J B	V J B	V J B								
Sample Date	21/11/2024	21/11/2024	21/11/2024	21/11/2024	21/11/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024								
Surrogate Recovery 4-Bromofluorobenzene	-	-	70	71	-						<0	%	TM15/PM10
Mineral Oil (C10-C40) (EH_CU_1D_AL)	-	-	<30	165	-						<30	mg/kg	TM5/PM8/PM16
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	<0.2	<0.2	-						<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	<4	<4	-						<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	<7	22	-						<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	<7	131	-						<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	-	-	<7	12	-						<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	-	-	<26	165	-						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	<0.1 SV	<0.1 SV	-						<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	-	-	<0.2	1.3	-						<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	<4	20	-						<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	<7	116	-						<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	<7	413	-						<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	-	-	<7	40	-						<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	-	-	<26	590	-						<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	-	-	<52	755	-						<52	mg/kg	TM5/TM36/PM8/PM12/PM16
PCB 28 #	-	-	<5	<5	-						<5	ug/kg	TM17/PM8
PCB 52 #	-	-	<5	<5	-						<5	ug/kg	TM17/PM8
PCB 101 #	-	-	<5	7	-						<5	ug/kg	TM17/PM8
PCB 118 #	-	-	<5	<5	-						<5	ug/kg	TM17/PM8
PCB 138 #	-	-	<5	8	-						<5	ug/kg	TM17/PM8
PCB 153 #	-	-	<5	<5	-						<5	ug/kg	TM17/PM8
PCB 180 #	-	-	<5	<5	-						<5	ug/kg	TM17/PM8
Total 7 PCBs #	-	-	<35	<35	-						<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15	-	<0.15	<0.15	<0.15						<0.15	mg/kg	TM26/PM21B
Monoethylene glycol	-	<50	-	-	-						<50	ug/kg	TM179/PM8
Propylene glycol	-	<50	-	-	-						<50	ug/kg	TM179/PM8
Diethylene glycol	-	<50	-	-	-						<50	ug/kg	TM179/PM8
Triethylene glycol	-	<50	-	-	-						<50	ug/kg	TM179/PM8
Thiodiglycol	-	<50	-	-	-						<50	ug/kg	TM179/PM8

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
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Report : Solid

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COC No / misc													
Containers	V J T B	V J T B	V J B	V J B	V J B								
Sample Date	21/11/2024	21/11/2024	21/11/2024	21/11/2024	21/11/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024								
Natural Moisture Content	18.7	21.4	24.2	16.9	29.7						<0.1	%	PM4/PM0
Ammoniacal Nitrogen as NH4	-	-	<0.6	<0.6	<0.6						<0.6	mg/kg	TM38/PM20
Chloride (2:1 Ext BRE) #	-	-	0.017	0.042	0.046						<0.002	g/l	TM38/PM20
Hexavalent Chromium #	<0.3	-	<0.3	<0.3	<0.3						<0.3	mg/kg	TM38/PM20
Nitrate as NO3 (2:1 Ext BRE)	-	-	0.0118	0.0206	0.0937						<0.0025	g/l	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.1085	-	0.1401	0.3916	0.0994						<0.0015	g/l	TM38/PM20
Free Cyanide	<0.5	-	<0.5	<0.5	-						<0.5	mg/kg	TM89/PM45
Total Cyanide #	<0.5	-	<0.5	<0.5	-						<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5	-	<0.5	<0.5	-						<0.5	mg/kg	TM89/PM45
Total Organic Carbon #	5.61	-	0.39	4.84	1.16						<0.02	%	TM21/PM24
ANC at pH4	-	-	0.77	0.68	-						<0.03	mol/kg	TM77/PM0
ANC at pH7	-	-	0.06	0.05	-						<0.03	mol/kg	TM77/PM0
Loss on Ignition #	-	-	4.5	6.1	-						<1.0	%	TM22/PM0
pH #	10.40	-	8.97	8.42	7.71						<0.01	pH units	TM73/PM11

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
EMT Job No: 24/20208

Report : CEN 10:1 1 Batch

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	12-14	23-26											
Sample ID	WS111	WS116											
Depth	0.80	1.90											
COC No / misc													
Containers	V J B	V J B											
Sample Date	21/11/2024	21/11/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/11/2024	28/11/2024											
Mass of raw test portion	0.1179	0.1096										kg	NONE/PM17
Mass of dried test portion	0.09	0.09										kg	NONE/PM17

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
EMT Job No: 24/20208

SVOC Report : **Solid**

EMT Sample No.	12-14	23-26											
Sample ID	WS111	WS116											
Depth	0.80	1.90									Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J B	V J B											
Sample Date	21/11/2024	21/11/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/11/2024	28/11/2024									LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<100 AA									<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<100 AA									<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<100 AA									<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<100 AA									<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<100 AA									<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<100 AA									<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Methylphenol	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<100 AA									<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<100 AA									<10	ug/kg	TM16/PM8
Phenol #	<10	<100 AA									<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<100 AA									<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	<10	182 AA									<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	1274	1201 AA									<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<1000 AA									<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<1000 AA									<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<1000 AA									<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<1000 AA									<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<1000 AA									<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<100 AA									<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<100 AA									<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<100 AA									<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<100 AA									<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<100 AA									<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<100 AA									<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<100 AA									<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<100 AA									<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<100 AA									<10	ug/kg	TM16/PM8
Azobenzene	<10	<100 AA									<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<100 AA									<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<100 AA									<10	ug/kg	TM16/PM8
Carbazole	<10	299 AA									<10	ug/kg	TM16/PM8
Dibenzofuran #	<10	516 AA									<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<100 AA									<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<100 AA									<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<100 AA									<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<100 AA									<10	ug/kg	TM16/PM8
Isophorone #	<10	<100 AA									<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<100 AA									<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<100 AA									<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	115	114 AA									<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	120	119 AA									<0	%	TM16/PM8

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee
EMT Job No: 24/20208

VOC Report : **Solid**

EMT Sample No.	12-14	23-26									LOD/LOR	Units	Method No.
Sample ID	WS111	WS116											
Depth	0.80	1.90											
COC No / misc													
Containers	V J B	V J B											
Sample Date	21/11/2024	21/11/2024											
Sample Type	Soil	Soil											
Batch Number	1	1											
Date of Receipt	28/11/2024	28/11/2024											
VOC MS													
Dichlorodifluoromethane	<2	<2									<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2									<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2									<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1									<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2									<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2									<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6									<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7									<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3									<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4									<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
Chloroform #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3									<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4									<4	ug/kg	TM15/PM10
Benzene #	<3	<3									<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6									<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3									<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4	<4									<4	ug/kg	TM15/PM10
Toluene #	6	8									<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3	<3									<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3									<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3									<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3									<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3									<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	7									<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3									<3	ug/kg	TM15/PM10
Styrene	<3	<3									<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3									<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3									<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2									<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4									<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4									<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3									<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3									<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5									<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6									<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4									<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4									<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4									<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4									<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4									<4	ug/kg	TM15/PM10
Naphthalene	<27	<27									<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7									<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	79	68									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	70	71									<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

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All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1179	Moisture Content Ratio (%) =	31.7
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	76.0
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**24/20208**			
Sample No	**14**			
Client Sample No	**WS111**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**0.80**			
Sample Date	**21/11/2024**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	0.39	3	5	6
Loss on Ignition (%)	4.5	-	-	10
Sum of BTEX (mg/kg)	<0.017	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	<30	500	-	-
PAH Sum of 17(mg/kg)	0.73	100	-	-
pH (pH Units)	8.97	-	>6	-
ANC to pH 7 (mol/kg)	0.06	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.77	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	0.1228	1.227	0.5	2	25
Barium	0.029	0.29	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	0.0045	0.045	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.008	0.08	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	0.003	0.03	0.06	0.7	5
Selenium	0.011	0.11	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	2.8	28	800	15000	25000
Fluoride	0.6	6	10	150	500
Sulphate as SO4	17.5	175	1000	20000	50000
Total Dissolved Solids	83	830	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	<2	<20	500	800	1000

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

CEN 10:1 LEACHATE RESULTS BS EN 12547-2

Mass of sample taken (kg)	0.1096	Moisture Content Ratio (%) =	22.1
Mass of dry sample (kg) =	0.09	Dry Matter Content Ratio (%) =	81.9
Particle Size <4mm =	>95%		

		Landfill Waste Acceptance Criteria Limits		
EMT Job No	**24/20208**			
Sample No	**25**			
Client Sample No	**WS116**	**Inert Waste Landfill**	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Depth/Other	**1.90**			
Sample Date	**21/11/2024**			
Batch No	**1**			
Solid Waste Analysis				
Total Organic Carbon (%)	4.84	3	5	6
Loss on Ignition (%)	6.1	-	-	10
Sum of BTEX (mg/kg)	<0.017	6	-	-
Sum of 7 PCBs (mg/kg)	<0.035	1	-	-
Mineral Oil (mg/kg) (EH_CU_1D_AL)	165	500	-	-
PAH Sum of 17(mg/kg)	65.32	100	-	-
pH (pH Units)	8.42	-	>6	-
ANC to pH 7 (mol/kg)	0.05	-	to be evaluated	to be evaluated
ANC to pH 4 (mol/kg)	0.68	-	to be evaluated	to be evaluated

Eluate Analysis	**10:1 conc^{n} leached**		**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
	C_{10}	**A_{10}**			
	mg/l	**mg/kg**	**mg/kg**		
Arsenic	0.0044	0.044	0.5	2	25
Barium	0.032	0.32	20	100	300
Cadmium	<0.0005	<0.005	0.04	1	5
Chromium	0.0023	0.023	0.5	10	70
Copper	<0.007	<0.07	2	50	100
Mercury	<0.001	<0.01	0.01	0.2	2
Molybdenum	0.015	0.15	0.5	10	30
Nickel	<0.002	<0.02	0.4	10	40
Lead	<0.005	<0.05	0.5	10	50
Antimony	0.004	0.04	0.06	0.7	5
Selenium	<0.003	<0.03	0.1	0.5	7
Zinc	<0.003	<0.03	4	50	200
Chloride	7.6	76	800	15000	25000
Fluoride	0.4	4	10	150	500
Sulphate as SO4	116.2	1162	1000	20000	50000
Total Dissolved Solids	259	2590	4000	60000	100000
Phenol	<0.01	<0.1	1	-	-
Dissolved Organic Carbon	2	<20	500	800	1000

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/20208	1	WS108	0.70	4	Catherine Coles	04/12/2024	**General Description (Bulk Analysis)**	brown soil,stone, building debris
					Catherine Coles	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Catherine Coles	04/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Catherine Coles	04/12/2024	**Asbestos ACM**	ACM Debris
					Catherine Coles	04/12/2024	**Asbestos ACM (2)**	ACM Debris
					Catherine Coles	04/12/2024	**Asbestos Type**	Chrysotile
					Catherine Coles	04/12/2024	**Asbestos Type (2)**	Amosite
					Catherine Coles	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Catherine Coles	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	0.017 (mass %)
					Catherine Coles	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	0.017 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	0.017 (mass %)
24/20208	1	WS111	0.80	14	Remigiusz Blichowski	04/12/2024	**General Description (Bulk Analysis)**	Brown powedey soil with rock
					Remigiusz Blichowski	04/12/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	04/12/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	04/12/2024	**Asbestos Type**	NAD
24/20208	1	WS116	1.20	21	Remigiusz Blichowski	04/12/2024	**General Description (Bulk Analysis)**	Brown powdery soil with rocks
					Remigiusz Blichowski	04/12/2024	**Asbestos Fibres**	NAD
					Remigiusz Blichowski	04/12/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	04/12/2024	**Asbestos Type**	NAD
24/20208	1	WS116	1.90	26	Remigiusz Blichowski	04/12/2024	**General Description (Bulk Analysis)**	Brown powdery sand
					Remigiusz Blichowski	04/12/2024	**Asbestos Fibres**	Fibre Bundles
					Remigiusz Blichowski	04/12/2024	**Asbestos ACM**	NAD
					Remigiusz Blichowski	04/12/2024	**Asbestos Type**	Chrysotile
					Remigiusz Blichowski	10/12/2024	**Total ACM Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Total Detailed Gravimetric Quantification (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Total Gravimetric Quantification (ACM + Detailed) (% Asb)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos PCOM Quantification (Fibres)**	<0.001 (mass %)
					Remigiusz Blichowski	10/12/2024	**Asbestos Gravimetric & PCOM Total**	<0.001 (mass %)

Element Materials Technology

Notification of Deviating Samples

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Sean Lee

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/20208						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x10 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/20208

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes

EMT Job No: 24/20208

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM20	Modified BS 1377-3:1990/USEPA 160.1/3 (TDS/TS: 1971) Gravimetric determination of Total Dissolved Solids/Total Solids	PM0	No preparation is required.			AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM22	Modified BS1377-3:1990 Gravimetric determination of Loss on Ignition by temperature controlled Muffle Furnace (35C-440C). On request modified ASTM D2974-00 LOI (105C-440C)	PM0	No preparation is required.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.			AR	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.			AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 24/20208

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.			AD	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.			AR	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	

EMT Job No: 24/20208

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM77	Modified DDCEN/TS method 15364:2006. Determination of Acid Neutralization Capacity by Metrohm automated probe analyser.	PM0	No preparation is required.			AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM131	Quantification of Asbestos Fibres and ACM based on HSG 248 Second edition:2021, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	Yes
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes		AR	Yes
TM173	Analysis of fluoride by ISE (Ion Selective Electrode) using modified ISE method 9214 - 340.2 (EPA 1998)	PM0	No preparation is required.			AR	Yes
TM179	Determination of Glycols using LCMS	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
NONE	No Method Code	PM17	Modified method BS EN12457-2:2002 As received solid samples are leached with water in a 10:1 water to soil ratio for 24 hours, the moisture content of the sample is included in the ratio.				
NONE	No Method Code	PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.			AR	

EMT Job No: 24/20208

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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Attention :	Adrian Read
Date :	19th December, 2024
Your reference :	TEI880
Our reference :	Test Report 24/20419 Batch 1
Location :	Hopewood Hall, Rochdale
Date samples received :	30th November, 2024
Status :	Final Report
Issue :	202412191616

Thirteen samples were received for analysis on 30th November, 2024 of which five were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 3.982 kg of CO2

Scope 1&2&3 emissions - 9.411 kg of CO2

Authorised By:



Sean Anglish
Project Coordinator

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Client Name: Tier Environmental
Reference: TEI880
Location: Hopewood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20419

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1	8	12	13	18-19						LOD/LOR	Units	Method No.
Sample ID	RH101	WS105	WS112	WS116	RH103								
Depth	0.05	0.05	0.05	0.05	0.05								
COC No / misc													
Containers	J	J	J	J	V								
Sample Date	27/11/2024	27/11/2024	27/11/2024	27/11/2024	27/11/2024								
Sample Type	Soil	Soil	Soil	Soil	Soil								
Batch Number	1	1	1	1	1								
Date of Receipt	30/11/2024	30/11/2024	30/11/2024	30/11/2024	30/11/2024								
SEM #	48310	63816	65914	50475	27497						<110	mg/kg	TM7/PM6
Saturates (Aliphatics)	11.24	9.48	11.26	10.40	8.38						<0.01	%	TM13/PM6
Aromatics	23.02	18.95	16.67	35.38	26.28						<0.01	%	TM13/PM6
Resins (Heterocyclics)	51.92	55.78	58.45	43.55	58.02						<0.01	%	TM13/PM6
Asphaltenes	13.82	15.79	13.61	10.67	7.32						<0.01	%	TM13/PM6
Natural Moisture Content	0.9	1.9	2.5	1.4	4.7						<0.1	%	PM4/PM0
Triterpanes 191m/z	Present	Present	Present	Present	Present							None	TM16/PM6
Triaromatic Steranes 231m/z	Present	Present	Present	Present	Present							None	TM16/PM6
Coal Tar	0.3	0.2	0.3	0.3	0.2						<0.1	%	TM16/PM6

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TEI880
Location: Hopewood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20419

SVOC Report : **Solid**

EMT Sample No.	1	8	12	13	18-19							
Sample ID	RH101	WS105	WS112	WS116	RH103							
Depth	0.05	0.05	0.05	0.05	0.05							
COC No / misc												
Containers	J	J	J	J	V							
Sample Date	27/11/2024	27/11/2024	27/11/2024	27/11/2024	27/11/2024							
Sample Type	Soil	Soil	Soil	Soil	Soil							
Batch Number	1	1	1	1	1							
Date of Receipt	30/11/2024	30/11/2024	30/11/2024	30/11/2024	30/11/2024							
SVOC MS												
PAHs												
Naphthalene	37	245	32	87	<10						<10	ug/kg	TM16/PM6
Acenaphthylene	365	208	203	129	89						<10	ug/kg	TM16/PM6
Acenaphthene	66	320	<10	78	<10						<10	ug/kg	TM16/PM6
Fluorene	<10	228	<10	90	24						<10	ug/kg	TM16/PM6
Phenanthrene	98	1048	792	387	63						<10	ug/kg	TM16/PM6
Anthracene	67	226	99	115	19						<10	ug/kg	TM16/PM6
Fluoranthene	159	839	742	539	59						<10	ug/kg	TM16/PM6
Pyrene	334	995	874	502	86						<10	ug/kg	TM16/PM6
Benzo(a)anthracene	<10	485	555	330	<10						<10	ug/kg	TM16/PM6
Chrysene	<10	466	587	244	<10						<10	ug/kg	TM16/PM6
Benzo(bk)fluoranthene	<10	835	912	570	<10						<10	ug/kg	TM16/PM6
Benzo(a)pyrene	<10	497	533	309	48						<10	ug/kg	TM16/PM6
Indeno(123cd)pyrene	<10	360	312	245	<10						<10	ug/kg	TM16/PM6
Dibenzo(ah)anthracene	<10	127	134	68	<10						<10	ug/kg	TM16/PM6
Benzo(ghi)perylene	<10	466	525	285	63						<10	ug/kg	TM16/PM6

Please see attached notes for all abbreviations and acronyms

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All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: Tier Environmental
Reference: TEI880
Location: Hopewood Hall, Rochdale
Contact: Adrian Read

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/20419						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

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NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/20419

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/20419

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM7	Modified USEPA 3540C:1996 and 9071B:1998 for oily wastes. In house method for the gravimetric determination of a sample following solvent extraction.	PM6	Samples are extracted using Soxtec apparatus and solvent.	Yes		AR	Yes
TM13	Determination of Saturates, Aromatics, Resins and Asphaltenes by Thin Layer Chromatography with Flame Ionisation Detection.	PM6	Samples are extracted using Soxtec apparatus and solvent.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM6	Samples are extracted using Soxtec apparatus and solvent.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM6	Samples are extracted using Soxtec apparatus and solvent.			AR	

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Tier Environmental
Suite 414, Chadwick House
Warrington Rd
Birchwood
Warrington
United Kingdom
WA3 6AE

Attention :	Adrian Read
Date :	11th December, 2024
Your reference :	TE1880
Our reference :	Test Report 24/20727 Batch 1
Location :	Hopwood Hall, Rochdale
Date samples received :	5th December, 2024
Status :	Final Report
Issue :	202412110927

Two samples were received for analysis on 5th December, 2024 of which two were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 4.996 kg of CO2

Scope 1&2&3 emissions - 11.806 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20727

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4										LOD/LOR	Units	Method No.
Sample ID	WS114												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	29/11/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	05/12/2024												
Arsenic #	7.1										<0.5	mg/kg	TM30/PM15
Cadmium #	0.3										<0.1	mg/kg	TM30/PM15
Chromium #	38.6										<0.5	mg/kg	TM30/PM15
Copper #	46										<1	mg/kg	TM30/PM15
Lead #	168										<5	mg/kg	TM30/PM15
Mercury #	0.2										<0.1	mg/kg	TM30/PM15
Nickel #	14.4										<0.7	mg/kg	TM30/PM15
Selenium #	<1										<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	600										<50	mg/kg	TM50/PM29
Zinc #	97										<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	1.23										<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.14										<0.03	mg/kg	TM4/PM8
Acenaphthene #	0.77										<0.05	mg/kg	TM4/PM8
Fluorene #	0.47										<0.04	mg/kg	TM4/PM8
Phenanthrene #	4.99										<0.03	mg/kg	TM4/PM8
Anthracene #	1.47										<0.04	mg/kg	TM4/PM8
Fluoranthene #	11.44										<0.03	mg/kg	TM4/PM8
Pyrene #	10.28										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	4.69										<0.06	mg/kg	TM4/PM8
Chrysene #	4.93										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	7.40										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	4.54										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	2.67										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	0.67										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	2.73										<0.04	mg/kg	TM4/PM8
PAH 16 Total	58.4										<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	5.33										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	2.07										<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	93										<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	<2										<2	ug/kg	TM15/PM10
Benzene #	<3										<3	ug/kg	TM15/PM10
Toluene #	14										<3	ug/kg	TM15/PM10
Ethylbenzene #	6										<3	ug/kg	TM15/PM10
m/p-Xylene #	10										<5	ug/kg	TM15/PM10
o-Xylene #	6										<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	75										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	90										<0	%	TM15/PM10

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20727

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4												
Sample ID	WS114												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	29/11/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	05/12/2024												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL)#	<0.1										<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<0.2										<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL)#	<4										<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL)#	<7										<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL)#	24										<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7										<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Aromatics													
>C5-EC7 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	3.3										<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR)#	17										<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR)#	62										<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR)#	237										<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	31										<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	350										<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	350										<52	mg/kg	TM5/TM36/PM8/PM12/PM16
PCB 28#	<5										<5	ug/kg	TM17/PM8
PCB 52#	<5										<5	ug/kg	TM17/PM8
PCB 101#	<5										<5	ug/kg	TM17/PM8
PCB 118#	<5										<5	ug/kg	TM17/PM8
PCB 138#	<5										<5	ug/kg	TM17/PM8
PCB 153#	<5										<5	ug/kg	TM17/PM8
PCB 180#	<5										<5	ug/kg	TM17/PM8
Total 7 PCBs#	<35										<35	ug/kg	TM17/PM8
Total Phenols HPLC	<0.15										<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	14.9										<0.1	%	PM4/PM0
Hexavalent Chromium#	<0.3										<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext)#	0.0869										<0.0015	g/l	TM38/PM20
Free Cyanide	<0.5										<0.5	mg/kg	TM89/PM45
Total Cyanide#	<0.5										<0.5	mg/kg	TM89/PM45
Complex Cyanide	<0.5										<0.5	mg/kg	TM89/PM45
Total Organic Carbon#	2.27										<0.02	%	TM21/PM24

Element Materials Technology

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20727

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-4												
Sample ID	WS114												
Depth	0.50										Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V J T												
Sample Date	29/11/2024												
Sample Type	Soil												
Batch Number	1										LOD/LOR	Units	Method No.
Date of Receipt	05/12/2024												
pH #	9.44										<0.01	pH units	TM73/PM11

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20727

SVOC Report : **Solid**

EMT Sample No.	1-4												
Sample ID	WS114												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	29/11/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	05/12/2024												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<10										<10	ug/kg	TM16/PM8
2-Methylphenol	<10										<10	ug/kg	TM16/PM8
2-Nitrophenol	<10										<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10										<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10										<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10										<10	ug/kg	TM16/PM8
4-Methylphenol	<10										<10	ug/kg	TM16/PM8
4-Nitrophenol	<10										<10	ug/kg	TM16/PM8
Pentachlorophenol	<10										<10	ug/kg	TM16/PM8
Phenol #	<10										<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10										<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	322										<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	245										<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100										<100	ug/kg	TM16/PM8
Diethyl phthalate	<100										<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100										<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10										<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
2-Nitroaniline	<10										<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
3-Nitroaniline	<10										<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10										<10	ug/kg	TM16/PM8
4-Chloroaniline	<10										<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10										<10	ug/kg	TM16/PM8
4-Nitroaniline	<10										<10	ug/kg	TM16/PM8
Azobenzene	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10										<10	ug/kg	TM16/PM8
Carbazole	182										<10	ug/kg	TM16/PM8
Dibenzofuran #	241										<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10										<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10										<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10										<10	ug/kg	TM16/PM8
Hexachloroethane	<10										<10	ug/kg	TM16/PM8
Isophorone #	<10										<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10										<10	ug/kg	TM16/PM8
Nitrobenzene #	<10										<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	108										<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	119										<0	%	TM16/PM8

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20727

VOC Report : **Solid**

EMT Sample No.	1-4												
Sample ID	WS114												
Depth	0.50												
COC No / misc													
Containers	V J T												
Sample Date	29/11/2024												
Sample Type	Soil												
Batch Number	1												
Date of Receipt	05/12/2024												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2										<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2										<2	ug/kg	TM15/PM10
Chloromethane #	<3										<3	ug/kg	TM15/PM10
Vinyl Chloride	<2										<2	ug/kg	TM15_A/PM10
Bromomethane	<1										<1	ug/kg	TM15/PM10
Chloroethane #	<2										<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2										<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6										<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	10										<7	ug/kg	TM15/PM10
trans-1-2-Dichloroethene #	<3										<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3										<3	ug/kg	TM15/PM10
cis-1-2-Dichloroethene #	<3										<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4										<4	ug/kg	TM15/PM10
Bromochloromethane #	<3										<3	ug/kg	TM15/PM10
Chloroform #	<3										<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3										<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3										<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4										<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4										<4	ug/kg	TM15/PM10
Benzene #	<3										<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3										<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6										<6	ug/kg	TM15/PM10
Dibromomethane #	<3										<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3										<3	ug/kg	TM15/PM10
cis-1-3-Dichloropropene	<4										<4	ug/kg	TM15/PM10
Toluene #	14										<3	ug/kg	TM15/PM10
trans-1-3-Dichloropropene	<3										<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3										<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3										<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3										<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3										<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3										<3	ug/kg	TM15/PM10
Chlorobenzene #	<3										<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3										<3	ug/kg	TM15/PM10
Ethylbenzene #	6										<3	ug/kg	TM15/PM10
m/p-Xylene #	10										<5	ug/kg	TM15/PM10
o-Xylene #	6										<3	ug/kg	TM15/PM10
Styrene	<3										<3	ug/kg	TM15_A/PM10
Bromoform	<3										<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3										<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3										<3	ug/kg	TM15/PM10
Bromobenzene	<2										<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4										<4	ug/kg	TM15/PM10
Propylbenzene #	<4										<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3										<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3										<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3										<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5										<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6										<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4										<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4										<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4										<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4										<4	ug/kg	TM15/PM10
n-Butylbenzene	<4										<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4										<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4										<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7										<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4										<4	ug/kg	TM15/PM10
Naphthalene	240										<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7										<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	75										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	90										<0	%	TM15/PM10

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

Where trace asbestos is reported the amount of asbestos will be <0.1%.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
24/20727	1	WS114	0.50	3	Anthony Carman	10/12/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	10/12/2024	**Asbestos Fibres**	Fibre Bundles
					Anthony Carman	10/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Anthony Carman	10/12/2024	**Asbestos ACM**	NAD
					Anthony Carman	10/12/2024	**Asbestos ACM (2)**	ACM Debris
					Anthony Carman	10/12/2024	**Asbestos Type**	Chrysotile
					Anthony Carman	10/12/2024	**Asbestos Type (2)**	Amosite
24/20727	1	WS106	1.00	7	Anthony Carman	10/12/2024	**General Description (Bulk Analysis)**	Brown Soil/Stones
					Anthony Carman	10/12/2024	**Asbestos Fibres**	Fibre Bundles
					Anthony Carman	10/12/2024	**Asbestos Fibres (2)**	Fibre Bundles
					Anthony Carman	10/12/2024	**Asbestos ACM**	NAD
					Anthony Carman	10/12/2024	**Asbestos ACM (2)**	NAD
					Anthony Carman	10/12/2024	**Asbestos Type**	Chrysotile
					Anthony Carman	10/12/2024	**Asbestos Type (2)**	Amosite

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/20727						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/20727

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/20727

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes

EMT Job No: 24/20727

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM17	Modified US EPA method 8270D v5:2014. Determination of specific Polychlorinated Biphenyl congeners by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil.	PM24	Preparation of Soil and Marine Sediment Samples for Total Organic Carbon.	Yes		AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 degrees Celsius. Samples containing asbestos are not dried and ground.	Yes		AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	

EMT Job No: 24/20727

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes		AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.			AR	Yes
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes		AR	Yes
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

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)

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

YFRBY-FAGNY-ABTYQ

Report is invalid if pages are removed.

Job name

EMT-24-19867-Batch-1-202412111631

Description/Comments

Project

TE1880

Site

Hopwood Hall College, Rochdale

Classified by

Name:
Adrian Read
Date:
04 Feb 2025 17:55 GMT
Telephone:
01925 818388

Company:
Tier Environmental
Suite 414
Chadwick House
Warrington
WA3 6AE

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: **CERTIFIED**

Course	Date
Hazardous Waste Classification	03 Dec 2020
Most recent 3 year Refresher	05 Dec 2023

Next 3 year Refresher due by Dec 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Hopwood Hall College **Post Code** OL12 6RY

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Proposed redevelopment of land

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

Waste created during excavation of soils during development

Description of the waste

Made ground and/or natural soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS103A-19/11/2024-0.40m		Potentially Hazardous	HP 3(iv)	3
2	WS105-19/11/2024-0.60m		Hazardous	HP 3(i), HP 7, HP 11	9
3	WS105-19/11/2024-0.75m		Non Hazardous		15
4	WS107-19/11/2024-0.40m		Non Hazardous		18
5	WS107-19/11/2024-0.65m		Non Hazardous		20
6	WS110-19/11/2024-0.61m		Potentially Hazardous	HP 3(i)	25
7	WS112-19/11/2024-1.20m		Potentially Hazardous	HP 3(i)	30
8	WS112-19/11/2024-3.35m		Non Hazardous		36
9	WS113B-20/11/2024-0.35m		Potentially Hazardous	HP 3(i)	38
10	WS115-20/11/2024-0.10m		Non Hazardous		44
11	WS115B-20/11/2024-0.90m		Non Hazardous		46
12	WS117-20/11/2024-1.10m		Non Hazardous		48
13	WS117-20/11/2024-0.40m		Hazardous	HP 3(i), HP 7, HP 11	49
14	WS117-20/11/2024-2.40m		Non Hazardous		55
15	WS117-20/11/2024-2.20m		Non Hazardous		57
16	WS118-20/11/2024-0.20m		Non Hazardous		59

Related documents

#	Name	Description
1	EMT-24-19867-Batch-1-202412111631.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Adrian Read

Created date: 04 Feb 2025 17:55 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	61
Appendix B: Rationale for selection of metal species	65
Appendix C: Version	65

Classification of sample: WS103A-19/11/2024-0.40m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS103A-19/11/2024-0.40m
Moisture content:
22.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(iv): Flammable "flammable gaseous waste: gaseous waste which is flammable in air at 20°C and a standard pressure of 101.3 kPa"

Hazard Statements hit:

Flam. Gas 1; H220 "Extremely flammable gas."

Because of determinand:

chloromethane; methyl chloride (conc.: 4.88e-06%)

Determinands

Moisture content: 22.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		46.7 mg/kg	1.32	50.17 mg/kg	0.00502 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.0929 mg/kg	0.00000929 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				28 mg/kg	2.27	51.717 mg/kg	0.00517 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		107 mg/kg	1.126	98.023 mg/kg	0.0098 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	203 mg/kg	1.56	257.642 mg/kg	0.0165 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.22 mg/kg	0.000022 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		27.4 mg/kg	2.976	66.354 mg/kg	0.00664 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		122 mg/kg	4.398	436.572 mg/kg	0.0437 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**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									
13		toluene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
15		xylene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<**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]									
16		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
17		pH				8.21	pH		8.21	pH	8.21 pH		
				PH									
18		naphthalene				0.1	mg/kg		0.0814	mg/kg	0.00000814 %	✓	
		601-052-00-2	202-049-5	91-20-3									
19		acenaphthylene				0.05	mg/kg		0.0407	mg/kg	0.00000407 %	✓	
			205-917-1	208-96-8									
20		acenaphthene				0.34	mg/kg		0.277	mg/kg	0.0000277 %	✓	
			201-469-6	83-32-9									
21		fluorene				0.23	mg/kg		0.187	mg/kg	0.0000187 %	✓	
			201-695-5	86-73-7									
22		phenanthrene				3.27	mg/kg		2.661	mg/kg	0.000266 %	✓	
			201-581-5	85-01-8									
23		anthracene				0.73	mg/kg		0.594	mg/kg	0.0000594 %	✓	
			204-371-1	120-12-7									
24		fluoranthene				5.51	mg/kg		4.483	mg/kg	0.000448 %	✓	
			205-912-4	206-44-0									
25		pyrene				4.41	mg/kg		3.588	mg/kg	0.000359 %	✓	
			204-927-3	129-00-0									
26		benzo[a]anthracene				2.31	mg/kg		1.88	mg/kg	0.000188 %	✓	
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				2.21	mg/kg		1.798	mg/kg	0.00018 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				2.25	mg/kg		1.831	mg/kg	0.000183 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				0.88	mg/kg		0.716	mg/kg	0.0000716 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				1.88	mg/kg		1.53	mg/kg	0.000153 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31		indeno[123-cd]pyrene				1.04	mg/kg		0.846	mg/kg	0.0000846 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.22	mg/kg		0.179	mg/kg	0.0000179 %	✓	
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				1.04	mg/kg		0.846	mg/kg	0.0000846 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									

#		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									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41		dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				0.06	mg/kg		0.0488	mg/kg	0.00000488 %	✓	
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-024-00-X	202-704-5	98-82-8									
66		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
67		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
68		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
69		propylbenzene	601-097-00-8	203-132-9	103-65-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
70		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
71		tert-butylbenzene		202-632-4	98-06-6		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
72		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
73		sec-butylbenzene		205-227-0	135-98-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
74		1-isopropyl-4-methylbenzene; p-cymene	601-094-00-1	202-796-7	99-87-6		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
75		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
76		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
77		n-butylbenzene		203-209-7	104-51-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
78		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
79		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
80		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
81		hexachlorobutadiene		201-765-5	87-68-3		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
82		1,2,3-trichlorobenzene		201-757-1	87-61-6		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
83		styrene	601-026-00-0	202-851-5	100-42-5		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
84		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
85		2-nitrophenol		201-857-5	88-75-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
86		2,4-dichlorophenol	604-011-00-7	204-429-6	120-83-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
87		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]	604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
88		2,4,5-trichlorophenol	604-017-00-X	202-467-8	95-95-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
89		2,4,6-trichlorophenol	604-018-00-5	201-795-9	88-06-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
90		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol	604-014-00-3	200-431-6	59-50-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
91		4-nitrophenol; p-nitrophenol	609-015-00-2	202-811-7	100-02-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**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									
92		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
93		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-079-9	91-58-7									
94		2-methyl naphthalene				0.097	mg/kg		0.0789	mg/kg	0.00000789 %	✓	
			202-078-3	91-57-6									
95		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
96		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
97		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
98		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-214-7	117-84-0									
99		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
100		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-011-6	131-11-3									
101		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
102		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
103		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
104		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
105		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
106		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
107		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
108		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
109		carbazole				0.022	mg/kg		0.0179	mg/kg	0.00000179 %	✓	
			201-696-0	86-74-8									
110		dibenzofuran				0.059	mg/kg		0.048	mg/kg	0.0000048 %	✓	
			205-071-3	132-64-9									
111		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
112		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
113		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
114		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
115		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
116		asbestos				<0.001	%		<0.001	%	<0.001 %		<LOD
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									

#		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									
117		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
118		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
119		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
120		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.0957 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS105-19/11/2024-0.60m

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

Sample details

Sample name:
WS105-19/11/2024-0.60m
Moisture content:
16.3%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.137%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.137%)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 2.32e-06%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.137%)
xylene (conc.: 6.02e-07%)
chlorobenzene (conc.: 4.3e-07%)

Determinands

Moisture content: 16.3% Dry Weight 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		arsenic { arsenic trioxide }				23.2 mg/kg	1.32	26.338 mg/kg	0.00263 %	✓	
		033-003-00-0	215-481-4	1327-53-3							

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.196	mg/kg	0.0000196 %	✓	
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				66.2	mg/kg	2.27	129.212	mg/kg	0.0129 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		75	mg/kg	1.126	72.607	mg/kg	0.00726 %	✓	
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	454	mg/kg	1.56	608.905	mg/kg	0.039 %	✓	
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1	mg/kg	1.353	0.116	mg/kg	0.0000116 %	✓	
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		22.4	mg/kg	2.976	57.324	mg/kg	0.00573 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		103	mg/kg	4.398	389.498	mg/kg	0.0389 %	✓	
10		TPH (C6 to C40) petroleum group			TPH		1592	mg/kg		1368.874	mg/kg	0.137 %	✓	
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
12		benzene	601-020-00-8	200-753-7	71-43-2		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
13		toluene	601-021-00-3	203-625-9	108-88-3		0.027	mg/kg		0.0232	mg/kg	0.00000232 %	✓	
14		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
15		xylene	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]		0.007	mg/kg		0.006	mg/kg	0.000000602 %	✓	
16		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 }	006-007-00-5				1	mg/kg	1.884	1.62	mg/kg	0.000162 %	✓	
17		pH			PH		10.93	pH		10.93	pH	10.93 pH		
18		naphthalene	601-052-00-2	202-049-5	91-20-3		0.16	mg/kg		0.138	mg/kg	0.0000138 %	✓	
19		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
20		acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
21		fluorene		201-695-5	86-73-7		<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
22		phenanthrene		201-581-5	85-01-8		0.48	mg/kg		0.413	mg/kg	0.0000413 %	✓	
23		anthracene		204-371-1	120-12-7		0.07	mg/kg		0.0602	mg/kg	0.00000602 %	✓	
24		fluoranthene		205-912-4	206-44-0		0.43	mg/kg		0.37	mg/kg	0.000037 %	✓	
25		pyrene		204-927-3	129-00-0		0.5	mg/kg		0.43	mg/kg	0.000043 %	✓	
26		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.4	mg/kg		0.344	mg/kg	0.0000344 %	✓	

#		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									
27		chrysene				0.45	mg/kg		0.387	mg/kg	0.0000387 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				0.38	mg/kg		0.327	mg/kg	0.0000327 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				0.15	mg/kg		0.129	mg/kg	0.0000129 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				0.34	mg/kg		0.292	mg/kg	0.0000292 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31	●	indeno[123-cd]pyrene				0.2	mg/kg		0.172	mg/kg	0.0000172 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.07	mg/kg		0.0602	mg/kg	0.00000602 %	✓	
		601-041-00-2	200-181-8	53-70-3									
33	●	benzo[ghi]perylene				0.23	mg/kg		0.198	mg/kg	0.0000198 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35	●	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				0.005	mg/kg		0.0043	mg/kg	0.00000043 %	✓	
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
41	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
42	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
43		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
44		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
45		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
46	●	trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
47		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
48		dichloromethane; methylene chloride				0.087	mg/kg		0.0748	mg/kg	0.00000748 %	✓	
		602-004-00-3	200-838-9	75-09-2									
49	●	2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
50	●	bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
51		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
52		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
53		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
54		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
55		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
56	●	bromodichloromethane		200-856-7	75-27-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
57		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
58	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
59		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
60	●	1,3-dichloropropane		205-531-3	142-28-9		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
61	●	dibromochloromethane		204-704-0	124-48-1		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
62		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
63		chlorobenzene	602-033-00-1	203-628-5	108-90-7		0.005	mg/kg		0.0043	mg/kg	0.00000043 %	✓	
64	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
65		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
66		cumene	601-024-00-X	202-704-5	98-82-8		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
67		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
68		bromobenzene	602-060-00-9	203-623-8	108-86-1		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
69		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
70		propylbenzene	601-097-00-8	203-132-9	103-65-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
71		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
72	●	tert-butylbenzene		202-632-4	98-06-6		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
73		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
74	●	sec-butylbenzene		205-227-0	135-98-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
75		1-isopropyl-4-methylbenzene; p-cymene	601-094-00-1	202-796-7	99-87-6		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
76		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
77		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
78	●	n-butylbenzene		203-209-7	104-51-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
79		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
80		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
81		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
82	●	hexachlorobutadiene		201-765-5	87-68-3		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
83	●	1,2,3-trichlorobenzene		201-757-1	87-61-6		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
84		styrene	601-026-00-0	202-851-5	100-42-5		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<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									
85		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
86		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
87		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
88		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
89		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
90		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
91		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
92		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
93		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
94		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
95		2-methyl naphthalene				0.174	mg/kg		0.15	mg/kg	0.000015 %	✓	
			202-078-3	91-57-6									
96		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
97		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
98		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
99		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
100		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
101		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
102		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
103		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
104		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-952-4	101-55-3									
105		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
106		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			230-281-7	7005-72-3									
107		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
108		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			203-920-2	111-91-1									

#		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									
109		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		603-029-00-2	203-870-1	111-44-4									
110	●	carbazole				0.014	mg/kg		0.012	mg/kg	0.0000012 %	✓	
			201-696-0	86-74-8									
111	●	dibenzofuran				0.044	mg/kg		0.0378	mg/kg	0.00000378 %	✓	
			205-071-3	132-64-9									
112		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									
113	●	hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			200-666-4	67-72-1									
114		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
115		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-098-00-8	210-698-0	621-64-7									
116		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
117		asbestos				0.019	%		0.0163	%	0.0163 %	✓	
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
118	●	coronene				0.05	mg/kg		0.043	mg/kg	0.0000043 %	✓	
			205-881-7	191-07-1									
119		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
120		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
121		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
122		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.261 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Potentially Hazardous result
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS105-19/11/2024-0.75m

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

Sample details

Sample name:
WS105-19/11/2024-0.75m
Moisture content:
40.1%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 40.1% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		100.9 mg/kg	1.32	95.09 mg/kg	0.00951 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				46 mg/kg	2.27	74.532 mg/kg	0.00745 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		65 mg/kg	1.126	52.236 mg/kg	0.00522 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	117 mg/kg	1.56	130.263 mg/kg	0.00835 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.0966 mg/kg	0.00000966 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		39.5 mg/kg	2.976	83.913 mg/kg	0.00839 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2 mg/kg	2.554	3.646 mg/kg	0.000365 %	✓	
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		53 mg/kg	4.398	166.374 mg/kg	0.0166 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
13	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<**LOD**
15	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2]	95-47-6 [1] 106-42-3 [2]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**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							
			203-576-3 [3] 215-535-7 [4]	108-38-3 [3] 1330-20-7 [4]							
16		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 } 006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
17		pH		PH		9.88 pH		9.88 pH	9.88 pH		
18		naphthalene 601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
19		acenaphthylene	205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
20		acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
21		fluorene	201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
22		phenanthrene	201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
23		anthracene	204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
24		fluoranthene	205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
25		pyrene	204-927-3	129-00-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
26		benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.06 mg/kg		<0.06 mg/kg	<0.000006 %		<**LOD**
27		chrysene 601-048-00-0	205-923-4	218-01-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<**LOD**
28		benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
29		benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<**LOD**
30		benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
31		indeno[123-cd]pyrene	205-893-2	193-39-5		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
32		dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
33		benzo[ghi]perylene	205-883-8	191-24-2		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
34		polychlorobiphenyls; PCB 602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<**LOD**
35		coronene	205-881-7	191-07-1		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
36		ethanediol; ethylene glycol 603-027-00-1	203-473-3	107-21-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
37		2,2' -oxybisethanol; diethylene glycol 603-140-00-6	203-872-2	111-46-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
38		2,2'-thiodiethanol; thiodiglycol 603-081-00-6	203-874-3	111-48-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
39		sulfur { sulfur } 016-094-00-1	231-722-6	7704-34-9		0.04 %		0.0286 %	0.0286 %	✓	
								Total:	0.0899 %		

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 Deteminand - 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: WS107-19/11/2024-0.40m

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

Sample details

Sample name:
WS107-19/11/2024-0.40m
Moisture content:
21.4%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		25.5 mg/kg	1.32	27.733 mg/kg	0.00277 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				43.6 mg/kg	2.27	81.526 mg/kg	0.00815 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28 mg/kg	1.126	25.968 mg/kg	0.0026 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	106 mg/kg	1.56	136.195 mg/kg	0.00873 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		13.4 mg/kg	2.976	32.852 mg/kg	0.00329 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		36 mg/kg	4.398	130.416 mg/kg	0.013 %	✓	
10	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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
11	pH			PH		9.37 pH		9.37 pH	9.37 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<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									
16		phenanthrene				0.1	mg/kg		0.0824	mg/kg	0.00000824 %	✓	
			201-581-5	85-01-8									
17		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		**<LOD**
			204-371-1	120-12-7									
18		fluoranthene				0.22	mg/kg		0.181	mg/kg	0.0000181 %	✓	
			205-912-4	206-44-0									
19		pyrene				0.19	mg/kg		0.157	mg/kg	0.0000157 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.15	mg/kg		0.124	mg/kg	0.0000124 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.13	mg/kg		0.107	mg/kg	0.0000107 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.12	mg/kg		0.0988	mg/kg	0.00000988 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.05	mg/kg		0.0412	mg/kg	0.00000412 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.0577	mg/kg	0.00000577 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.07	mg/kg		0.0577	mg/kg	0.00000577 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.08	mg/kg		0.0659	mg/kg	0.00000659 %	✓	
			205-883-8	191-24-2									
										Total:	0.0391 %		

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 Deteminand - 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: WS107-19/11/2024-0.65m

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

Sample details

Sample name:
WS107-19/11/2024-0.65m
Moisture content:
39.6%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 39.6% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<**LOD**
2		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
3		benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
4		toluene	601-021-00-3	203-625-9	108-88-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
5		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
6		xylene	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]		<0.011 mg/kg		<0.011 mg/kg	<0.0000011 %		<**LOD**
7		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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
8		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
9		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
10		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
11		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
12		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
13		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
14		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
15		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**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									
16		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
18		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
21		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
23		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
24		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
25		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
26		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
27		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
28		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
29		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
30		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
31		dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8									
32		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
33		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
34		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
35		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4									
36		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
37		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2									
38		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7									
39		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5									
40		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
41		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
42		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
43		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
44		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
45	●	bromodichloromethane		200-856-7	75-27-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
46		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
47	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
48		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
49	●	1,3-dichloropropane		205-531-3	142-28-9		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
50	●	dibromochloromethane		204-704-0	124-48-1		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
51		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
52		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
53	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
54		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
55		cumene	601-024-00-X	202-704-5	98-82-8		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
56		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
57		bromobenzene	602-060-00-9	203-623-8	108-86-1		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
58		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
59		propylbenzene	601-097-00-8	203-132-9	103-65-1		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
60		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
61	●	tert-butylbenzene		202-632-4	98-06-6		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
62		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
63	●	sec-butylbenzene		205-227-0	135-98-8		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
64		1-isopropyl-4-methylbenzene; p-cymene	601-094-00-1	202-796-7	99-87-6		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
65		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
66		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
67	●	n-butylbenzene		203-209-7	104-51-8		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
68		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
69		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
70		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
71	●	hexachlorobutadiene		201-765-5	87-68-3		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
72	●	1,2,3-trichlorobenzene		201-757-1	87-61-6		<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
73		styrene	601-026-00-0	202-851-5	100-42-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<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									
74		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
75		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
76		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
77		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
78		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
79		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
80		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
81		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
82		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
83		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
84		2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-078-3	91-57-6									
85		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
86		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
87		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
88		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
89		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
90		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
91		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
92		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
93		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-952-4	101-55-3									
94		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
95		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			230-281-7	7005-72-3									
96		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
97		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			203-920-2	111-91-1									

#		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									
98		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		603-029-00-2	203-870-1	111-44-4									
99	●	carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-696-0	86-74-8									
100	●	dibenzofuran				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			205-071-3	132-64-9									
101		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									
102	●	hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			200-666-4	67-72-1									
103		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
104		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-098-00-8	210-698-0	621-64-7									
105		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
106		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
107		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
108		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
109		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.00542 %		

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 Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection

Classification of sample: WS110-19/11/2024-0.61m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS110-19/11/2024-0.61m
Moisture content:
16%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 5.17e-07%)

Determinands

Moisture content: 16% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
2		benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
3		toluene	601-021-00-3	203-625-9	108-88-3		0.006 mg/kg		0.0051 mg/kg	0.000000517 %	✓	
4		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
5		xylene	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]		<0.008 mg/kg		<0.008 mg/kg	<0.0000008 %		<**LOD**
6		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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
7		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
8		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
9		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
10		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
11		phenanthrene		201-581-5	85-01-8		0.082 mg/kg		0.0707 mg/kg	0.00000707 %	✓	

#		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							
12		anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7							
13		fluoranthene				0.104 mg/kg		0.0897 mg/kg	0.00000897 %	✓	
			205-912-4	206-44-0							
14		pyrene				0.115 mg/kg		0.0991 mg/kg	0.00000991 %	✓	
			204-927-3	129-00-0							
15		benzo[a]anthracene				0.099 mg/kg		0.0853 mg/kg	0.00000853 %	✓	
		601-033-00-9	200-280-6	56-55-3							
16		chrysene				0.081 mg/kg		0.0698 mg/kg	0.00000698 %	✓	
		601-048-00-0	205-923-4	218-01-9							
17		benzo[b]fluoranthene				0.099 mg/kg		0.0853 mg/kg	0.00000853 %	✓	
		601-034-00-4	205-911-9	205-99-2							
18		benzo[k]fluoranthene				0.038 mg/kg		0.0328 mg/kg	0.00000328 %	✓	
		601-036-00-5	205-916-6	207-08-9							
19		benzo[a]pyrene; benzo[def]chrysene				0.07 mg/kg		0.0603 mg/kg	0.00000603 %	✓	
		601-032-00-3	200-028-5	50-32-8							
20		indeno[123-cd]pyrene				0.052 mg/kg		0.0448 mg/kg	0.00000448 %	✓	
			205-893-2	193-39-5							
21		dibenz[a,h]anthracene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3							
22		benzo[ghi]perylene				0.053 mg/kg		0.0457 mg/kg	0.00000457 %	✓	
			205-883-8	191-24-2							
23		phenol				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2							
24		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3							
25		tetrachloroethylene				0.003 mg/kg		0.0025 mg/kg	0.000000259 %	✓	
		602-028-00-4	204-825-9	127-18-4							
26		carbon tetrachloride; tetrachloromethane				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5							
27		trichloroethylene; trichloroethene				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6							
28		vinyl chloride; chloroethylene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4							
29		hexachlorobenzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
		602-065-00-6	204-273-9	118-74-1							
30		dichlorodifluoromethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
			200-893-9	75-71-8							
31		chloromethane; methyl chloride				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
		602-001-00-7	200-817-4	74-87-3							
32		bromomethane; methylbromide				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		602-002-00-2	200-813-2	74-83-9							
33		chloroethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3							
34		trichlorofluoromethane				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
			200-892-3	75-69-4							
35		1,1-dichloroethylene; vinylidene chloride				<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
		602-025-00-8	200-864-0	75-35-4							
36		dichloromethane; methylene chloride				<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
		602-004-00-3	200-838-9	75-09-2							
37		2,2-dichloropropane				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
			209-832-0	594-20-7							
38		bromochloromethane				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
			200-826-3	74-97-5							
39		chloroform; trichloromethane				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
		602-006-00-4	200-663-8	67-66-3							
40		1,1,1-trichloroethane; methyl chloroform				<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
		602-013-00-2	200-756-3	71-55-6							

#		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									
41		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
42		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
43		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
44		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			200-856-7	75-27-4									
45		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
46		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			431-460-4	10061-02-6									
47		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-014-00-8	201-166-9	79-00-5									
48		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			205-531-3	142-28-9									
49		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
50		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
51		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
52		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
53		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
54		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-024-00-X	202-704-5	98-82-8									
55		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
56		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
57		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
58		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
59		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
60		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
61		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
62		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
63		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
64		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
65		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
66		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
67		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
68		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
69		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									

#		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									
70		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
71		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
72		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
73		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
74		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
75		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
76		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
77		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
78		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
79		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
80		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
81		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
82		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-079-9	91-58-7									
83		2-methyl naphthalene				0.027	mg/kg		0.0233	mg/kg	0.00000233 %	✓	
			202-078-3	91-57-6									
84		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
85		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
86		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
87		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-214-7	117-84-0									
88		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
89		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-011-6	131-11-3									
90		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
91		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
92		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
93		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									

#		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									
94		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
95		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
96		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
97		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
98		carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
99		dibenzofuran				0.012	mg/kg		0.0103	mg/kg	0.00000103 %	✓	
			205-071-3	132-64-9									
100		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
101		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
102		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
103		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
104		nitrobenzene				0.028	mg/kg		0.0241	mg/kg	0.00000241 %	✓	
		609-003-00-7	202-716-0	98-95-3									
105		ethanediol; ethylene glycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-027-00-1	203-473-3	107-21-1									
106		2,2' -oxybisethanol; diethylene glycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-140-00-6	203-872-2	111-46-6									
107		2,2'-thiodiethanol; thiodiglycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-081-00-6	203-874-3	111-48-8									
108		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
109		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
110		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
111		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				0.023	mg/kg		0.0198	mg/kg	0.00000198 %	✓	
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.00029 %		

Key

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

Classification of sample: WS112-19/11/2024-1.20m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS112-19/11/2024-1.20m
Moisture content:
31.5%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

benzene (conc.: 3.8e-07%)

Determinands

Moisture content: 31.5% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		95	mg/kg	1.32	95.385	mg/kg	0.00954 %	✓	
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1	mg/kg	1.142	<0.114	mg/kg	<0.0000114 %		<LOD
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				49.2	mg/kg	2.27	84.931	mg/kg	0.00849 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		107	mg/kg	1.126	91.612	mg/kg	0.00916 %	✓	
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	165	mg/kg	1.56	195.718	mg/kg	0.0125 %	✓	
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1	mg/kg	1.353	0.103	mg/kg	0.0000103 %	✓	
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		45.3	mg/kg	2.976	102.528	mg/kg	0.0103 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		2	mg/kg	2.554	3.884	mg/kg	0.000388 %	✓	
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		87	mg/kg	4.398	290.965	mg/kg	0.0291 %	✓	
10		TPH (C6 to C40) petroleum group			TPH		<52	mg/kg		<52	mg/kg	<0.0052 %		<LOD
11		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
12		benzene	601-020-00-8	200-753-7	71-43-2		0.005	mg/kg		0.0038	mg/kg	0.00000038 %	✓	

#		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									
13		toluene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
15		xylene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<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]									
16		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
17		pH				8.6	pH		8.6	pH	8.6 pH		
				PH									
18		naphthalene				<0.027	mg/kg		<0.027	mg/kg	<0.0000027 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
21		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
22		phenanthrene				0.25	mg/kg		0.19	mg/kg	0.000019 %	✓	
			201-581-5	85-01-8									
23		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
24		fluoranthene				0.49	mg/kg		0.373	mg/kg	0.0000373 %	✓	
			205-912-4	206-44-0									
25		pyrene				0.43	mg/kg		0.327	mg/kg	0.0000327 %	✓	
			204-927-3	129-00-0									
26		benzo[a]anthracene				0.29	mg/kg		0.221	mg/kg	0.0000221 %	✓	
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				0.33	mg/kg		0.251	mg/kg	0.0000251 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				0.27	mg/kg		0.205	mg/kg	0.0000205 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				0.1	mg/kg		0.076	mg/kg	0.0000076 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				0.14	mg/kg		0.106	mg/kg	0.0000106 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31		indeno[123-cd]pyrene				0.12	mg/kg		0.0913	mg/kg	0.00000913 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				0.13	mg/kg		0.0989	mg/kg	0.00000989 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				0.005	mg/kg		0.0038	mg/kg	0.00000038 %	✓	
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									

#		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									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-065-00-6	204-273-9	118-74-1									
41		dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				0.013	mg/kg		0.0098	mg/kg	0.000000989 %	✓	
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			205-531-3	142-28-9									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-007-00-X	200-854-6	75-25-2									
65		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5	98-82-8									
66		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-015-00-3	201-197-8	79-34-5									
67		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-060-00-9	203-623-8	108-86-1									

#		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									
68		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
69		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
70		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
71		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
72		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
73		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
74		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
75		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
76		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
77		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
78		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
79		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
80		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
81		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
82		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
83		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
84		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
85		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
86		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
87		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
88		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
89		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
90		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
91		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
92		pentachlorophenol	604-002-00-8	201-778-6	87-86-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
93	●	2-chloronaphthalene		202-079-9	91-58-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
94	●	2-methyl naphthalene		202-078-3	91-57-6		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
95		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP	607-317-00-9	204-211-0	117-81-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
96		BBP; benzyl butyl phthalate	607-430-00-3	201-622-7	85-68-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
97		dibutyl phthalate; DBP	607-318-00-4	201-557-4	84-74-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
98	●	di-n-octyl phthalate		204-214-7	117-84-0		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
99	●	diethyl phthalate		201-550-6	84-66-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
100	●	dimethyl phthalate		205-011-6	131-11-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
101		2,4-dinitrotoluene; [1] dinitrotoluene [2]	609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
102		2,6-dinitrotoluene	609-049-00-8	210-106-0	606-20-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
103	●	4-bromophenylphenylether		202-952-4	101-55-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
104		4-chloroaniline	612-137-00-9	203-401-0	106-47-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
105	●	4-chlorophenylphenylether		230-281-7	7005-72-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
106		azobenzene	611-001-00-6	203-102-5	103-33-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
107	●	bis(2-chloroethoxy)methane		203-920-2	111-91-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
108		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
109	●	carbazole		201-696-0	86-74-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
110	●	dibenzofuran		205-071-3	132-64-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
111		hexachlorocyclopentadiene	602-078-00-7	201-029-3	77-47-4		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
112	●	hexachloroethane		200-666-4	67-72-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
113		3,5,5-trimethylcyclohex-2-enone; isophorone	606-012-00-8	201-126-0	78-59-1		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
114		nitrosodipropylamine	612-098-00-8	210-698-0	621-64-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
115		nitrobenzene	609-003-00-7	202-716-0	98-95-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
116		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
117		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]		<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**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							
118		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]							
119		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0851 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS112-19/11/2024-3.35m

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

Sample details

Sample name:
WS112-19/11/2024-3.35m
Moisture content:
22.2%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 22.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.5 mg/kg	1.32	5.943 mg/kg	0.000594 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				17.3 mg/kg	2.27	32.137 mg/kg	0.00321 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	23.034 mg/kg	0.0023 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	46 mg/kg	1.56	58.716 mg/kg	0.00376 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.3 mg/kg	1.353	0.332 mg/kg	0.0000332 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23.2 mg/kg	2.976	56.505 mg/kg	0.00565 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		50 mg/kg	4.398	179.948 mg/kg	0.018 %	✓	
10	pH			PH		7.1 pH		7.1 pH	7.1 pH		
11	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
12	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
13	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
14	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
15	phenanthrene		201-581-5	85-01-8		0.07 mg/kg		0.0573 mg/kg	0.00000573 %	✓	
16	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<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									
17		fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-912-4	206-44-0									
18		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
19		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				0.05	mg/kg		0.0409	mg/kg	0.00000409 %	✓	
		601-048-00-0	205-923-4	218-01-9									
21		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
22		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
23		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
24		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
25		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
26		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
27		sulfur { sulfur }				0.03	%		0.0245	%	0.0245 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
										Total:	0.0584 %		

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 Deteminand - 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: WS113B-20/11/2024-0.35m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS113B-20/11/2024-0.35m
Moisture content:
18.5%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0696%)

Determinands

Moisture content: 18.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.7 mg/kg	1.32	9.694 mg/kg	0.000969 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.386 mg/kg	0.0000386 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				56.1 mg/kg	2.27	107.466 mg/kg	0.0107 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		46 mg/kg	1.126	43.705 mg/kg	0.00437 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	106 mg/kg	1.56	139.528 mg/kg	0.00895 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		20.4 mg/kg	2.976	51.237 mg/kg	0.00512 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		105 mg/kg	4.398	389.69 mg/kg	0.039 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		825 mg/kg		696.203 mg/kg	0.0696 %	✓	
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
13		toluene	601-021-00-3	203-625-9	108-88-3		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
14		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
15		xylene	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]		<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<**LOD**
16		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 }	006-007-00-5				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
17		pH			PH		8.09	pH		8.09	pH	8.09 pH		
18		naphthalene	601-052-00-2	202-049-5	91-20-3		3.72	mg/kg		3.139	mg/kg	0.000314 %	✓	
19		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
20		acenaphthene		201-469-6	83-32-9		3.63	mg/kg		3.063	mg/kg	0.000306 %	✓	
21		fluorene		201-695-5	86-73-7		2.22	mg/kg		1.873	mg/kg	0.000187 %	✓	
22		phenanthrene		201-581-5	85-01-8		16.44	mg/kg		13.873	mg/kg	0.00139 %	✓	
23		anthracene		204-371-1	120-12-7		3.37	mg/kg		2.844	mg/kg	0.000284 %	✓	
24		fluoranthene		205-912-4	206-44-0		25.99	mg/kg		21.932	mg/kg	0.00219 %	✓	
25		pyrene		204-927-3	129-00-0		22.73	mg/kg		19.181	mg/kg	0.00192 %	✓	
26		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		11.89	mg/kg		10.034	mg/kg	0.001 %	✓	
27		chrysene	601-048-00-0	205-923-4	218-01-9		11.41	mg/kg		9.629	mg/kg	0.000963 %	✓	
28		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		14.02	mg/kg		11.831	mg/kg	0.00118 %	✓	
29		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		5.45	mg/kg		4.599	mg/kg	0.00046 %	✓	
30		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		13.24	mg/kg		11.173	mg/kg	0.00112 %	✓	
31		indeno[123-cd]pyrene		205-893-2	193-39-5		7.36	mg/kg		6.211	mg/kg	0.000621 %	✓	
32		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		1.23	mg/kg		1.038	mg/kg	0.000104 %	✓	
33		benzo[ghi]perylene		205-883-8	191-24-2		7.06	mg/kg		5.958	mg/kg	0.000596 %	✓	
34		phenol	604-001-00-2	203-632-7	108-95-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
35		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
36		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
37		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
38		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
39		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
40		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
41	●	dichlorodifluoromethane		200-893-9	75-71-8		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
42		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
43		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
44		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
45	●	trichlorofluoromethane		200-892-3	75-69-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
46		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
47		dichloromethane; methylene chloride	602-004-00-3	200-838-9	75-09-2		0.051 mg/kg		0.043 mg/kg	0.0000043 %	✓	
48	●	2,2-dichloropropane		209-832-0	594-20-7		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
49	●	bromochloromethane		200-826-3	74-97-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
50		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
51		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
52		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
53		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
54		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
55	●	bromodichloromethane		200-856-7	75-27-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
57	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
58		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
59	●	1,3-dichloropropane		205-531-3	142-28-9		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
60	●	dibromochloromethane		204-704-0	124-48-1		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
61		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
62		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
63	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
64		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
65		cumene	601-024-00-X	202-704-5	98-82-8		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
66		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
67		bromobenzene	602-060-00-9	203-623-8	108-86-1		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<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									
68		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
69		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
70		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
71		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
72		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
73		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
74		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
75		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
76		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
77		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
78		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
79		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
80		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
81		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
82		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
83		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
84		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
85		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
86		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
87		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				0.088	mg/kg		0.0743	mg/kg	0.00000743 %	✓	
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
88		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
89		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
90		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
91		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									

#		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									
92		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
93		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
94		2-methyl naphthalene				0.525	mg/kg		0.443	mg/kg	0.0000443 %	✓	
			202-078-3	91-57-6									
95		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
96		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
97		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
98		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
99		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
100		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
101		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
102		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
103		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-952-4	101-55-3									
104		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
105		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			230-281-7	7005-72-3									
106		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
107		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			203-920-2	111-91-1									
108		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		603-029-00-2	203-870-1	111-44-4									
109		carbazole				0.427	mg/kg		0.36	mg/kg	0.000036 %	✓	
			201-696-0	86-74-8									
110		dibenzofuran				0.431	mg/kg		0.364	mg/kg	0.0000364 %	✓	
			205-071-3	132-64-9									
111		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									
112		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			200-666-4	67-72-1									
113		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
114		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-098-00-8	210-698-0	621-64-7									
115		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
116		asbestos				<0.001	%		<0.001	%	<0.001 %		<**LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									

#		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									
117		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
118		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
119		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				0.247	mg/kg		0.208	mg/kg	0.0000208 %	✓	
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
120		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.153 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS115-20/11/2024-0.10m

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

Sample details

Sample name:
WS115-20/11/2024-0.10m
Moisture content:
40%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 40% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10.6 mg/kg	1.32	9.997 mg/kg	0.001 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.245 mg/kg	0.0000245 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				50.5 mg/kg	2.27	81.882 mg/kg	0.00819 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		50 mg/kg	1.126	40.21 mg/kg	0.00402 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	155 mg/kg	1.56	172.694 mg/kg	0.0111 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.0967 mg/kg	0.00000967 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.6 mg/kg	2.976	39.542 mg/kg	0.00395 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		146 mg/kg	4.398	458.641 mg/kg	0.0459 %	✓	
10	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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
11	pH			PH		7.85 pH		7.85 pH	7.85 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		1.71 mg/kg		1.221 mg/kg	0.000122 %	✓	
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		2.28 mg/kg		1.629 mg/kg	0.000163 %	✓	
15	fluorene		201-695-5	86-73-7		1.54 mg/kg		1.1 mg/kg	0.00011 %	✓	

#		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									
16		phenanthrene				9.56	mg/kg		6.829	mg/kg	0.000683 %	✓	
			201-581-5	85-01-8									
17		anthracene				1.81	mg/kg		1.293	mg/kg	0.000129 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				13.19	mg/kg		9.421	mg/kg	0.000942 %	✓	
			205-912-4	206-44-0									
19		pyrene				10.82	mg/kg		7.729	mg/kg	0.000773 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				5.88	mg/kg		4.2	mg/kg	0.00042 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				5.92	mg/kg		4.229	mg/kg	0.000423 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				6.35	mg/kg		4.536	mg/kg	0.000454 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				2.47	mg/kg		1.764	mg/kg	0.000176 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				5.84	mg/kg		4.171	mg/kg	0.000417 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				3.04	mg/kg		2.171	mg/kg	0.000217 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.55	mg/kg		0.393	mg/kg	0.0000393 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				2.81	mg/kg		2.007	mg/kg	0.000201 %	✓	
			205-883-8	191-24-2									
										Total:	0.0798 %		

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 Deteminand - 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: WS115B-20/11/2024-0.90m

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

Sample details

Sample name:
WS115B-20/11/2024-0.90m
Moisture content:
19.3%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.7 mg/kg	1.32	10.735 mg/kg	0.00107 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7 mg/kg	1.142	0.67 mg/kg	0.000067 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				48.2 mg/kg	2.27	91.713 mg/kg	0.00917 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38 mg/kg	1.126	35.862 mg/kg	0.00359 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	110 mg/kg	1.56	143.822 mg/kg	0.00922 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.1 mg/kg	1.353	0.113 mg/kg	0.0000113 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16.2 mg/kg	2.976	40.415 mg/kg	0.00404 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		294 mg/kg	4.398	1083.814 mg/kg	0.108 %	✓	
10	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
11	benzene	601-020-00-8	200-753-7	71-43-2		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
12	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
13	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
14	xylene	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]		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<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									
15		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
16		pH				8.18	pH		8.18	pH	8.18 pH		
				PH									
17		naphthalene				0.08	mg/kg		0.0671	mg/kg	0.00000671 %	✓	
		601-052-00-2	202-049-5	91-20-3									
18		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			205-917-1	208-96-8									
19		acenaphthene				0.1	mg/kg		0.0838	mg/kg	0.00000838 %	✓	
			201-469-6	83-32-9									
20		fluorene				0.07	mg/kg		0.0587	mg/kg	0.00000587 %	✓	
			201-695-5	86-73-7									
21		phenanthrene				0.78	mg/kg		0.654	mg/kg	0.0000654 %	✓	
			201-581-5	85-01-8									
22		anthracene				0.18	mg/kg		0.151	mg/kg	0.0000151 %	✓	
			204-371-1	120-12-7									
23		fluoranthene				1.53	mg/kg		1.282	mg/kg	0.000128 %	✓	
			205-912-4	206-44-0									
24		pyrene				1.3	mg/kg		1.09	mg/kg	0.000109 %	✓	
			204-927-3	129-00-0									
25		benzo[a]anthracene				0.81	mg/kg		0.679	mg/kg	0.0000679 %	✓	
		601-033-00-9	200-280-6	56-55-3									
26		chrysene				0.82	mg/kg		0.687	mg/kg	0.0000687 %	✓	
		601-048-00-0	205-923-4	218-01-9									
27		benzo[b]fluoranthene				0.95	mg/kg		0.796	mg/kg	0.0000796 %	✓	
		601-034-00-4	205-911-9	205-99-2									
28		benzo[k]fluoranthene				0.37	mg/kg		0.31	mg/kg	0.000031 %	✓	
		601-036-00-5	205-916-6	207-08-9									
29		benzo[a]pyrene; benzo[def]chrysene				0.8	mg/kg		0.671	mg/kg	0.0000671 %	✓	
		601-032-00-3	200-028-5	50-32-8									
30		indeno[123-cd]pyrene				0.5	mg/kg		0.419	mg/kg	0.0000419 %	✓	
			205-893-2	193-39-5									
31		dibenz[a,h]anthracene				0.08	mg/kg		0.0671	mg/kg	0.00000671 %	✓	
		601-041-00-2	200-181-8	53-70-3									
32		benzo[ghi]perylene				0.45	mg/kg		0.377	mg/kg	0.0000377 %	✓	
			205-883-8	191-24-2									
33		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
34		asbestos				0.002	%		0.0016	%	0.00168 %	✓	
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
35		coronene				0.08	mg/kg		0.0671	mg/kg	0.00000671 %	✓	
			205-881-7	191-07-1									
										Total:	0.138 %		

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 Deteminand - 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: WS117-20/11/2024-1.10m

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

Sample details

Sample name:
WS117-20/11/2024-1.10m
Moisture content:
19%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19% Dry Weight 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		polychlorobiphenyls; PCB				<0.35 mg/kg		<0.35 mg/kg	<0.000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3							
								Total:	0.00003 %		

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)
<LOD	Below limit of detection

Classification of sample: WS117-20/11/2024-0.40m

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

Sample details

Sample name:
WS117-20/11/2024-0.40m
Moisture content:
10.6%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.16%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.16%)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.16%)

Determinands

Moisture content: 10.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	7.163 mg/kg	0.000716 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.413 mg/kg	0.0000413 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				23.9 mg/kg	2.27	49.053 mg/kg	0.00491 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		36 mg/kg	1.126	36.647 mg/kg	0.00366 %	✓	

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	88 mg/kg	1.56	124.108 mg/kg	0.00796 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12.2 mg/kg	2.976	32.83 mg/kg	0.00328 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		89 mg/kg	4.398	353.902 mg/kg	0.0354 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		1769 mg/kg		1599.458 mg/kg	0.16 %	✓	
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<**LOD**
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
13	toluene	601-021-00-3	203-625-9	108-88-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
14	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<**LOD**
15	xylene	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]		<0.011 mg/kg		<0.011 mg/kg	<0.0000011 %		<**LOD**
16	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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
17	pH			PH		10.24 pH		10.24 pH	10.24 pH		
18	naphthalene	601-052-00-2	202-049-5	91-20-3		0.34 mg/kg		0.307 mg/kg	0.0000307 %	✓	
19	acenaphthylene		205-917-1	208-96-8		0.14 mg/kg		0.127 mg/kg	0.0000127 %	✓	
20	acenaphthene		201-469-6	83-32-9		0.95 mg/kg		0.859 mg/kg	0.0000859 %	✓	
21	fluorene		201-695-5	86-73-7		0.72 mg/kg		0.651 mg/kg	0.0000651 %	✓	
22	phenanthrene		201-581-5	85-01-8		5.97 mg/kg		5.398 mg/kg	0.00054 %	✓	
23	anthracene		204-371-1	120-12-7		1.63 mg/kg		1.474 mg/kg	0.000147 %	✓	
24	fluoranthene		205-912-4	206-44-0		9.19 mg/kg		8.309 mg/kg	0.000831 %	✓	
25	pyrene		204-927-3	129-00-0		8.14 mg/kg		7.36 mg/kg	0.000736 %	✓	
26	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		4.38 mg/kg		3.96 mg/kg	0.000396 %	✓	
27	chrysene	601-048-00-0	205-923-4	218-01-9		4.01 mg/kg		3.626 mg/kg	0.000363 %	✓	
28	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		5.06 mg/kg		4.575 mg/kg	0.000458 %	✓	
29	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.97 mg/kg		1.781 mg/kg	0.000178 %	✓	
30	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		5.02 mg/kg		4.539 mg/kg	0.000454 %	✓	

#		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									
31		indeno[123-cd]pyrene				2.78	mg/kg		2.514	mg/kg	0.000251 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.49	mg/kg		0.443	mg/kg	0.0000443 %	✓	
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				2.52	mg/kg		2.278	mg/kg	0.000228 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-065-00-6	204-273-9	118-74-1									
41		dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
42		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-001-00-7	200-817-4	74-87-3									
43		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
44		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
45		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
46		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
47		dichloromethane; methylene chloride				0.019	mg/kg		0.0172	mg/kg	0.00000172 %	✓	
		602-004-00-3	200-838-9	75-09-2									
48		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
49		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
50		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
51		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
52		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
53		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									
54		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3									
55		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-856-7	75-27-4									
56		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
57		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			431-460-4	10061-02-6									
58		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5									
59		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			205-531-3	142-28-9									

#		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									
60		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			204-704-0	124-48-1									
61		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-010-00-6	203-444-5	106-93-4									
62		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
63		1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
64		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
65		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-024-00-X	202-704-5	98-82-8									
66		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
67		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
68		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
69		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
70		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
71		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
72		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
73		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
74		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
75		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
76		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
77		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
78		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
79		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
80		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
81		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
82		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
83		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
84		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
85		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
86		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									

#		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									
87		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
88		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
89		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
90		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
91		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
92		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
93		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-079-9	91-58-7									
94		2-methyl naphthalene				0.105	mg/kg		0.0949	mg/kg	0.00000949 %	✓	
			202-078-3	91-57-6									
95		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				0.3	mg/kg		0.271	mg/kg	0.0000271 %	✓	
		607-317-00-9	204-211-0	117-81-7									
96		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
97		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									
98		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-214-7	117-84-0									
99		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-550-6	84-66-2									
100		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-011-6	131-11-3									
101		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
102		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
103		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			202-952-4	101-55-3									
104		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
105		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			230-281-7	7005-72-3									
106		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
107		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			203-920-2	111-91-1									
108		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		603-029-00-2	203-870-1	111-44-4									
109		carbazole				0.155	mg/kg		0.14	mg/kg	0.000014 %	✓	
			201-696-0	86-74-8									
110		dibenzofuran				0.206	mg/kg		0.186	mg/kg	0.0000186 %	✓	
			205-071-3	132-64-9									
111		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									

#		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									
112		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			200-666-4	67-72-1									
113		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
114		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		612-098-00-8	210-698-0	621-64-7									
115		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
116		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
117		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
118		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
119		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.221 %		

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 Deteminand - 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: WS117-20/11/2024-2.40m

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

Sample details

Sample name:
WS117-20/11/2024-2.40m
Moisture content:
26.3%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 26.3% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		29	mg/kg	1.32	30.316	mg/kg	0.00303 %	✓	
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		1.8	mg/kg	1.142	1.628	mg/kg	0.000163 %	✓	
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				201	mg/kg	2.27	361.259	mg/kg	0.0361 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		238	mg/kg	1.126	212.163	mg/kg	0.0212 %	✓	
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	397	mg/kg	1.56	490.298	mg/kg	0.0314 %	✓	
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4	mg/kg	1.353	0.429	mg/kg	0.0000429 %	✓	
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		48.5	mg/kg	2.976	114.29	mg/kg	0.0114 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1	mg/kg	2.554	2.022	mg/kg	0.000202 %	✓	
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		589	mg/kg	4.398	2050.973	mg/kg	0.205 %	✓	
10		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 }	006-007-00-5				1	mg/kg	1.884	1.492	mg/kg	0.000149 %	✓	
11		pH			PH		8.39	pH		8.39	pH	8.39 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.28	mg/kg		0.222	mg/kg	0.0000222 %	✓	
13		acenaphthylene		205-917-1	208-96-8		0.11	mg/kg		0.0871	mg/kg	0.00000871 %	✓	
14		acenaphthene		201-469-6	83-32-9		0.09	mg/kg		0.0713	mg/kg	0.00000713 %	✓	
15		fluorene		201-695-5	86-73-7		0.08	mg/kg		0.0633	mg/kg	0.00000633 %	✓	

#		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									
16		phenanthrene				0.97	mg/kg		0.768	mg/kg	0.0000768 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.25	mg/kg		0.198	mg/kg	0.0000198 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				1.86	mg/kg		1.473	mg/kg	0.000147 %	✓	
			205-912-4	206-44-0									
19		pyrene				1.62	mg/kg		1.283	mg/kg	0.000128 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.04	mg/kg		0.823	mg/kg	0.0000823 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.04	mg/kg		0.823	mg/kg	0.0000823 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.36	mg/kg		1.077	mg/kg	0.000108 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.53	mg/kg		0.42	mg/kg	0.000042 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.2	mg/kg		0.95	mg/kg	0.000095 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.83	mg/kg		0.657	mg/kg	0.0000657 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.16	mg/kg		0.127	mg/kg	0.0000127 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.77	mg/kg		0.61	mg/kg	0.000061 %	✓	
			205-883-8	191-24-2									
28		asbestos				<0.001	%		<0.001	%	<0.001 %		<**LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.311 %		

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 Deteminand - 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: WS117-20/11/2024-2.20m

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

Sample details

Sample name:
WS117-20/11/2024-2.20m
Moisture content:
16.6%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 16.6% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.8 mg/kg	1.32	11.097 mg/kg	0.00111 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.294 mg/kg	0.0000294 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				58.8 mg/kg	2.27	114.473 mg/kg	0.0114 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		97 mg/kg	1.126	93.663 mg/kg	0.00937 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	155 mg/kg	1.56	207.351 mg/kg	0.0133 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		20.4 mg/kg	2.976	52.072 mg/kg	0.00521 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
9	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		149 mg/kg	4.398	561.999 mg/kg	0.0562 %	✓	
10	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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
11	pH			PH		8.52 pH		8.52 pH	8.52 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.14 mg/kg		0.12 mg/kg	0.000012 %	✓	
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		0.08 mg/kg		0.0686 mg/kg	0.00000686 %	✓	
15	fluorene		201-695-5	86-73-7		0.06 mg/kg		0.0515 mg/kg	0.00000515 %	✓	

#		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									
16		phenanthrene				0.61	mg/kg		0.523	mg/kg	0.0000523 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.1	mg/kg		0.0858	mg/kg	0.00000858 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				0.9	mg/kg		0.772	mg/kg	0.0000772 %	✓	
			205-912-4	206-44-0									
19		pyrene				0.8	mg/kg		0.686	mg/kg	0.0000686 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.5	mg/kg		0.429	mg/kg	0.0000429 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.52	mg/kg		0.446	mg/kg	0.0000446 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.61	mg/kg		0.523	mg/kg	0.0000523 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.24	mg/kg		0.206	mg/kg	0.0000206 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.49	mg/kg		0.42	mg/kg	0.000042 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.35	mg/kg		0.3	mg/kg	0.00003 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.08	mg/kg		0.0686	mg/kg	0.00000686 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.35	mg/kg		0.3	mg/kg	0.00003 %	✓	
			205-883-8	191-24-2									
28		asbestos				<0.001	%		<0.001	%	<0.001 %		<**LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.0985 %		

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 Deteminand - 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: WS118-20/11/2024-0.20m

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

Sample details

Sample name:
WS118-20/11/2024-0.20m
Moisture content:
19.6%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 19.6% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16.2	mg/kg	1.32	17.884	mg/kg	0.00179 %	✓	
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.8	mg/kg	1.142	0.764	mg/kg	0.0000764 %	✓	
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				47.9	mg/kg	2.27	90.914	mg/kg	0.00909 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		61	mg/kg	1.126	57.424	mg/kg	0.00574 %	✓	
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	173	mg/kg	1.56	225.625	mg/kg	0.0145 %	✓	
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.4	mg/kg	1.353	0.453	mg/kg	0.0000453 %	✓	
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		17.5	mg/kg	2.976	43.549	mg/kg	0.00435 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		**<LOD**
9		zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		194	mg/kg	4.398	713.376	mg/kg	0.0713 %	✓	
10		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 }	006-007-00-5				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		**<LOD**
11		pH			PH		8.3	pH		8.3	pH	8.3 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.1	mg/kg		0.0836	mg/kg	0.00000836 %	✓	
13		acenaphthylene		205-917-1	208-96-8		0.19	mg/kg		0.159	mg/kg	0.0000159 %	✓	
14		acenaphthene		201-469-6	83-32-9		0.11	mg/kg		0.092	mg/kg	0.0000092 %	✓	
15		fluorene		201-695-5	86-73-7		0.12	mg/kg		0.1	mg/kg	0.00001 %	✓	

#		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									
16		phenanthrene				1.54	mg/kg		1.288	mg/kg	0.000129 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.39	mg/kg		0.326	mg/kg	0.0000326 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				3.56	mg/kg		2.977	mg/kg	0.000298 %	✓	
			205-912-4	206-44-0									
19		pyrene				3.32	mg/kg		2.776	mg/kg	0.000278 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.01	mg/kg		1.681	mg/kg	0.000168 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.88	mg/kg		1.572	mg/kg	0.000157 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2.37	mg/kg		1.982	mg/kg	0.000198 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.92	mg/kg		0.769	mg/kg	0.0000769 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2.28	mg/kg		1.906	mg/kg	0.000191 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				1.24	mg/kg		1.037	mg/kg	0.000104 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.23	mg/kg		0.192	mg/kg	0.0000192 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				1.22	mg/kg		1.02	mg/kg	0.000102 %	✓	
			205-883-8	191-24-2									
										Total:	0.109 %		

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 Deteminand - 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

Appendix A: Classifier defined and non GB MCL determinands

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

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

pH (CAS Number: PH)

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

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

- **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

- **dichlorodifluoromethane** (EC Number: 200-893-9, CAS Number: 75-71-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3; H412 , Ozone 1; H420 , Press. Gas; H280

- **trichlorofluoromethane** (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

- **2,2-dichloropropane** (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

- **bromochloromethane** (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

- **bromodichloromethane** (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

- **trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

1,3-dichloropropane (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

dibromochloromethane (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

1,1,1,2-tetrachloroethane (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

tert-butylbenzene (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

sec-butylbenzene (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

n-butylbenzene (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

hexachlorobutadiene (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

1,2,3-trichlorobenzene (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

2-nitrophenol (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **2-methyl naphthalene** (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **di-n-octyl phthalate** (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

- **diethyl phthalate** (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

- **dimethyl phthalate** (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

- **4-bromophenylphenylether** (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **4-chlorophenylphenylether** (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **bis(2-chloroethoxy)methane** (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

- **carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

- **dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

- **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

Measured concentrations of hexavalent chromium reported below the limit of detection.

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}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

sulfur {sulfur}

Worse case compound

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 2025)

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
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

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)

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

QNQM7-IM8OC-YY2SG

Report is invalid if pages are removed.

Job name

EMT-24-20208-Batch-1-202412121531

Description/Comments

Project

TE1880

Site

Hopwood Hall College, Rochdale

Classified by

Name:
Adrian Read
Date:
04 Feb 2025 17:57 GMT
Telephone:
01925 818388

Company:
Tier Environmental
Suite 414
Chadwick House
Warrington
WA3 6AE

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: **CERTIFIED**

Course	Date
Hazardous Waste Classification	03 Dec 2020
Most recent 3 year Refresher	05 Dec 2023

Next 3 year Refresher due by Dec 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Hopwood Hall College **Post Code** OL12 6RY

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Proposed redevelopment of land

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

Waste created during excavation of soils during development

Description of the waste

Made ground and/or natural soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS108-21/11/2024-0.70m		Non Hazardous		3
2	WS109-21/11/2024-0.40-0.60m		Non Hazardous		5
3	WS111-21/11/2024-0.80m		Potentially Hazardous	HP 3(i)	6
4	WS116-21/11/2024-1.90m		Potentially Hazardous	HP 3(i)	12
5	WS116-21/11/2024-3.40m		Non Hazardous		18

Related documents

#	Name	Description
1	EMT-24-20208-Batch-1-202412121531.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Adrian Read

Created date: 04 Feb 2025 17:57 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	20
Appendix B: Rationale for selection of metal species	24
Appendix C: Version	24

Classification of sample: WS108-21/11/2024-0.70m

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

Sample details

Sample name:
WS108-21/11/2024-0.70m

Moisture content:
18.7%
(dry weight correction)

LoW Code:

Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		34.7 mg/kg	1.32	38.598 mg/kg	0.00386 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				55.2 mg/kg	2.27	105.564 mg/kg	0.0106 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		55 mg/kg	1.126	52.168 mg/kg	0.00522 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	213 mg/kg	1.56	279.899 mg/kg	0.0179 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<**LOD**
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18.2 mg/kg	2.976	45.634 mg/kg	0.00456 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<**LOD**
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		60 mg/kg	2.774	140.226 mg/kg	0.014 %	✓	
10	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 }	006-007-00-5				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<**LOD**
11	pH			PH		10.4 pH		10.4 pH	10.4 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**LOD**
13	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<**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									
16		phenanthrene				0.28	mg/kg		0.236	mg/kg	0.0000236 %	✓	
			201-581-5	85-01-8									
17		anthracene				0.05	mg/kg		0.0421	mg/kg	0.00000421 %	✓	
			204-371-1	120-12-7									
18		fluoranthene				0.39	mg/kg		0.329	mg/kg	0.0000329 %	✓	
			205-912-4	206-44-0									
19		pyrene				0.38	mg/kg		0.32	mg/kg	0.000032 %	✓	
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.31	mg/kg		0.261	mg/kg	0.0000261 %	✓	
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.3	mg/kg		0.253	mg/kg	0.0000253 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.35	mg/kg		0.295	mg/kg	0.0000295 %	✓	
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.14	mg/kg		0.118	mg/kg	0.0000118 %	✓	
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.33	mg/kg		0.278	mg/kg	0.0000278 %	✓	
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				0.25	mg/kg		0.211	mg/kg	0.0000211 %	✓	
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.06	mg/kg		0.0505	mg/kg	0.00000505 %	✓	
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				0.26	mg/kg		0.219	mg/kg	0.0000219 %	✓	
			205-883-8	191-24-2									
28		asbestos				0.017	%		0.0143	%	0.0143 %	✓	
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.0711 %		

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 Deteminand - 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: WS109-21/11/2024-0.40-0.60m

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

Sample details

Sample name:
WS109-21/11/2024-0.40-0.60m
Moisture content:
21.4%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 21.4% Dry Weight 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		ethanediol; ethylene glycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
		603-027-00-1	203-473-3	107-21-1									
2		2,2' -oxybisethanol; diethylene glycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
		603-140-00-6	203-872-2	111-46-6									
3		2,2'-thiodiethanol; thiodiglycol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
		603-081-00-6	203-874-3	111-48-8									
										Total:	0.00001 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
<LOD	Below limit of detection

Classification of sample: WS111-21/11/2024-0.80m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS111-21/11/2024-0.80m
Moisture content:
24.2%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 4.83e-07%)

Determinands

Moisture content: 24.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		76.9 mg/kg	1.32	81.75 mg/kg	0.00817 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				47.2 mg/kg	2.27	86.267 mg/kg	0.00863 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		57 mg/kg	1.126	51.671 mg/kg	0.00517 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	157 mg/kg	1.56	197.175 mg/kg	0.0126 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		30.7 mg/kg	2.976	73.568 mg/kg	0.00736 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		1 mg/kg	2.554	2.056 mg/kg	0.000206 %	✓	
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		67 mg/kg	2.774	149.652 mg/kg	0.015 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		<52 mg/kg		<52 mg/kg	<0.0052 %		<LOD
11	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
12	benzene	601-020-00-8	200-753-7	71-43-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<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									
13		toluene				0.006	mg/kg		0.0048	mg/kg	0.000000483 %	✓	
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
15		xylene				<0.011	mg/kg		<0.011	mg/kg	<0.0000011 %		<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]									
16		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
17		pH				8.97	pH		8.97	pH	8.97 pH		
				PH									
18		naphthalene				<0.027	mg/kg		<0.027	mg/kg	<0.0000027 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
19		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<LOD
			205-917-1	208-96-8									
20		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
21		fluorene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			201-695-5	86-73-7									
22		phenanthrene				0.06	mg/kg		0.0483	mg/kg	0.00000483 %	✓	
			201-581-5	85-01-8									
23		anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			204-371-1	120-12-7									
24		fluoranthene				0.11	mg/kg		0.0886	mg/kg	0.00000886 %	✓	
			205-912-4	206-44-0									
25		pyrene				0.11	mg/kg		0.0886	mg/kg	0.00000886 %	✓	
			204-927-3	129-00-0									
26		benzo[a]anthracene				0.09	mg/kg		0.0725	mg/kg	0.00000725 %	✓	
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				0.09	mg/kg		0.0725	mg/kg	0.00000725 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				0.08	mg/kg		0.0644	mg/kg	0.00000644 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				0.03	mg/kg		0.0242	mg/kg	0.00000242 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				0.06	mg/kg		0.0483	mg/kg	0.00000483 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31		indeno[123-cd]pyrene				0.05	mg/kg		0.0403	mg/kg	0.00000403 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				0.05	mg/kg		0.0403	mg/kg	0.00000403 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-027-00-9	201-167-4	79-01-6									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
39		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
40		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
41		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.035 mg/kg		<0.035 mg/kg	<0.0000035 %		<LOD
42		dichlorodifluoromethane		200-893-9	75-71-8		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
43		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
44		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
45		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
46		trichlorofluoromethane		200-892-3	75-69-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
47		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
48		dichloromethane; methylene chloride	602-004-00-3	200-838-9	75-09-2		<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
49		2,2-dichloropropane		209-832-0	594-20-7		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
50		bromochloromethane		200-826-3	74-97-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
51		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
52		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
53		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
54		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<LOD
55		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
56		bromodichloromethane		200-856-7	75-27-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
57		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %		<LOD
58		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
59		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
60		1,3-dichloropropane		205-531-3	142-28-9		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
61		dibromochloromethane		204-704-0	124-48-1		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
62		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
63		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
64		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
65		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
66		cumene	601-024-00-X	202-704-5	98-82-8		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<LOD
67		1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8	79-34-5		<0.003 mg/kg		<0.003 mg/kg	<0.0000003 %		<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									
68		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
69		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
70		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
71		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
72		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
73		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
74		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
75		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
76		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
78		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
79		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
80		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
81		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
82		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
83		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
84		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
85		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
86		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-857-5	88-75-5									
87		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
88		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
89		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
90		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
91		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									

#		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									
92		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
93		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
94		2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-079-9	91-58-7									
95		2-methyl naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-078-3	91-57-6									
96		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				1.274	mg/kg		1.026	mg/kg	0.000103 %	✓	
		607-317-00-9	204-211-0	117-81-7									
97		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
98		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
99		di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-214-7	117-84-0									
100		diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
101		dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-011-6	131-11-3									
102		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
103		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
104		4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
105		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
106		4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
107		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
108		bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
109		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
110		carbazole				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-696-0	86-74-8									
111		dibenzofuran				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-071-3	132-64-9									
112		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
113		hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
114		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
115		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
116		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
117		sulfur { sulfur }				0.06	%		0.0483	%	0.0483 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
118		coronene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<LOD
			205-881-7	191-07-1									

#		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									
119		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
120		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
121		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
122		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.111 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS116-21/11/2024-1.90m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS116-21/11/2024-1.90m
Moisture content:
16.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

toluene (conc.: 6.84e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.0646%)
xylene (conc.: 5.99e-07%)

Determinands

Moisture content: 16.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13.3	mg/kg	1.32	15.022	mg/kg	0.0015 %	✓	
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.391	mg/kg	0.0000391 %	✓	
3		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				46.1	mg/kg	2.27	89.518	mg/kg	0.00895 %	✓	
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		73	mg/kg	1.126	70.308	mg/kg	0.00703 %	✓	
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	312	mg/kg	1.56	416.307	mg/kg	0.0267 %	✓	
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2	mg/kg	1.353	0.232	mg/kg	0.0000232 %	✓	
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		22.7	mg/kg	2.976	57.794	mg/kg	0.00578 %	✓	
8		selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
9		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		164	mg/kg	2.774	389.187	mg/kg	0.0389 %	✓	
10		TPH (C6 to C40) petroleum group			TPH		755	mg/kg		645.851	mg/kg	0.0646 %	✓	

#		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		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
13		toluene				0.008	mg/kg		0.0068	mg/kg	0.000000684 %	✓	
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
15		xylene				0.007	mg/kg		0.0059	mg/kg	0.000000599 %	✓	
		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]									
16		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
17		pH				8.42	pH		8.42	pH	8.42 pH		
				PH									
18		naphthalene				0.63	mg/kg		0.539	mg/kg	0.0000539 %	✓	
		601-052-00-2	202-049-5	91-20-3									
19		acenaphthylene				0.32	mg/kg		0.274	mg/kg	0.0000274 %	✓	
			205-917-1	208-96-8									
20		acenaphthene				1.23	mg/kg		1.052	mg/kg	0.000105 %	✓	
			201-469-6	83-32-9									
21		fluorene				0.83	mg/kg		0.71	mg/kg	0.000071 %	✓	
			201-695-5	86-73-7									
22		phenanthrene				8.29	mg/kg		7.092	mg/kg	0.000709 %	✓	
			201-581-5	85-01-8									
23		anthracene				1.89	mg/kg		1.617	mg/kg	0.000162 %	✓	
			204-371-1	120-12-7									
24		fluoranthene				12.25	mg/kg		10.479	mg/kg	0.00105 %	✓	
			205-912-4	206-44-0									
25		pyrene				10.16	mg/kg		8.691	mg/kg	0.000869 %	✓	
			204-927-3	129-00-0									
26		benzo[a]anthracene				4.76	mg/kg		4.072	mg/kg	0.000407 %	✓	
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				5.02	mg/kg		4.294	mg/kg	0.000429 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				5.76	mg/kg		4.927	mg/kg	0.000493 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				2.24	mg/kg		1.916	mg/kg	0.000192 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				4.72	mg/kg		4.038	mg/kg	0.000404 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31		indeno[123-cd]pyrene				3.06	mg/kg		2.618	mg/kg	0.000262 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.6	mg/kg		0.513	mg/kg	0.0000513 %	✓	
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				3.12	mg/kg		2.669	mg/kg	0.000267 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-028-00-4	204-825-9	127-18-4									

#		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									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		602-065-00-6	204-273-9	118-74-1									
41		polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
42		asbestos				<0.001	%		<0.001	%	<0.001 %		<**LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
43		dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
44		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-001-00-7	200-817-4	74-87-3									
45		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
46		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
47		trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
48		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
49		dichloromethane; methylene chloride				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-004-00-3	200-838-9	75-09-2									
50		2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
51		bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
52		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
53		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
54		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
55		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									
56		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3									
57		bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-856-7	75-27-4									
58		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
59		trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			431-460-4	10061-02-6									
60		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5									
61		1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			205-531-3	142-28-9									
62		dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			204-704-0	124-48-1									
63		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-010-00-6	203-444-5	106-93-4									

#		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									
64		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-033-00-1	203-628-5	108-90-7									
65	●	1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
			211-135-1	630-20-6									
66		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-007-00-X	200-854-6	75-25-2									
67		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-024-00-X	202-704-5	98-82-8									
68		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		602-015-00-3	201-197-8	79-34-5									
69		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
70		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
71		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-097-00-8	203-132-9	103-65-1									
72		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73	●	tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75	●	sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			205-227-0	135-98-8									
76		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		601-094-00-1	202-796-7	99-87-6									
77		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79	●	n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83	●	hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<LOD
			201-765-5	87-68-3									
84	●	1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<LOD
			201-757-1	87-61-6									
85		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<LOD
		601-026-00-0	202-851-5	100-42-5									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87	●	2-nitrophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-857-5	88-75-5									
88		2,4-dichlorophenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
89		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4]									

#		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							
			209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
90		2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
91		2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
92		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
93		4-nitrophenol; p-nitrophenol 609-015-00-2	202-811-7	100-02-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
94		pentachlorophenol 604-002-00-8	201-778-6	87-86-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
95	●	2-chloronaphthalene	202-079-9	91-58-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
96	●	2-methyl naphthalene	202-078-3	91-57-6		0.182 mg/kg		0.156 mg/kg	0.0000156 %	✓	
97		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP 607-317-00-9	204-211-0	117-81-7		1.201 mg/kg		1.027 mg/kg	0.000103 %	✓	
98		BBP; benzyl butyl phthalate 607-430-00-3	201-622-7	85-68-7		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
99		dibutyl phthalate; DBP 607-318-00-4	201-557-4	84-74-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
100	●	di-n-octyl phthalate	204-214-7	117-84-0		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
101	●	diethyl phthalate	201-550-6	84-66-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
102	●	dimethyl phthalate	205-011-6	131-11-3		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
103		2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
104		2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
105	●	4-bromophenylphenylether	202-952-4	101-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
106		4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
107	●	4-chlorophenylphenylether	230-281-7	7005-72-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
108		azobenzene 611-001-00-6	203-102-5	103-33-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
109	●	bis(2-chloroethoxy)methane	203-920-2	111-91-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
110		bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
111	●	carbazole	201-696-0	86-74-8		0.299 mg/kg		0.256 mg/kg	0.0000256 %	✓	
112	●	dibenzofuran	205-071-3	132-64-9		0.516 mg/kg		0.441 mg/kg	0.0000441 %	✓	
113		hexachlorocyclopentadiene 602-078-00-7	201-029-3	77-47-4		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
114	●	hexachloroethane	200-666-4	67-72-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
115		3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
116		nitrosodipropylamine 612-098-00-8	210-698-0	621-64-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**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									
117		nitrobenzene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
118		sulfur { sulfur }				0.08	%		0.0684	%	0.0684 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
119		coronene				0.44	mg/kg		0.376	mg/kg	0.0000376 %	✓	
			205-881-7	191-07-1									
120		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
121		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
122		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
123		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.23 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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: WS116-21/11/2024-3.40m

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

Sample details

Sample name:
WS116-21/11/2024-3.40m
Moisture content:
29.7%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 29.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.1 mg/kg	1.32	3.156 mg/kg	0.000316 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2 mg/kg	1.142	0.176 mg/kg	0.0000176 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				47.4 mg/kg	2.27	82.959 mg/kg	0.0083 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19 mg/kg	1.126	16.493 mg/kg	0.00165 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	16 mg/kg	1.56	19.242 mg/kg	0.00123 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.1 mg/kg	1.353	<0.135 mg/kg	<0.0000135 %		<LOD
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21.4 mg/kg	2.976	49.107 mg/kg	0.00491 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		52 mg/kg	2.774	111.223 mg/kg	0.0111 %	✓	
10	pH			PH		7.71 pH		7.71 pH	7.71 pH		
11	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
12	acenaphthylene		205-917-1	208-96-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
13	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
14	fluorene		201-695-5	86-73-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
15	phenanthrene		201-581-5	85-01-8		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
16	anthracene		204-371-1	120-12-7		<0.04 mg/kg		<0.04 mg/kg	<0.000004 %		<LOD
17	fluoranthene		205-912-4	206-44-0		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<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									
18		pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		<**LOD**
			204-927-3	129-00-0									
19		benzo[a]anthracene				<0.06	mg/kg		<0.06	mg/kg	<0.000006 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
21		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
22		benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
23		benzo[a]pyrene; benzo[def]chrysene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
24		indeno[123-cd]pyrene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-893-2	193-39-5									
25		dibenz[a,h]anthracene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
26		benzo[ghi]perylene				<0.04	mg/kg		<0.04	mg/kg	<0.000004 %		<**LOD**
			205-883-8	191-24-2									
27		sulfur { sulfur }				0.04	%		0.0308	%	0.0308 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
										Total:	0.0587 %		

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 Deteminand - 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

Appendix A: Classifier defined and non GB MCL determinands

- **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

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

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

- **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

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

1,1-dichloroethane and 1,2-dichloroethane (combined) (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

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

dichlorodifluoromethane (EC Number: 200-893-9, CAS Number: 75-71-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3; H412 , Ozone 1; H420 , Press. Gas; H280

trichlorofluoromethane (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

2,2-dichloropropane (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

bromochloromethane (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

bromodichloromethane (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

- **trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

- **1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

- **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

- **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

- **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

- **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

- **n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

- **2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

2-methyl naphthalene (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

di-n-octyl phthalate (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

diethyl phthalate (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

dimethyl phthalate (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

4-bromophenylphenylether (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

4-chlorophenylphenylether (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

bis(2-chloroethoxy)methane (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

- **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

- **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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

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}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

sulfur {sulfur}

Worse case compound.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 2025)

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
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

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)

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

J5U7L-R7RT7-LC3OL

Report is invalid if pages are removed.

Job name

EMT-24-20419-Batch-1-202412191616

Description/Comments

Project

TE1880

Site

Hopwood Hall College, Rochdale

Classified by

Name:
Adrian Read
Date:
04 Feb 2025 18:00 GMT
Telephone:
01925 818388

Company:
Tier Environmental
Suite 414
Chadwick House
Warrington
WA3 6AE

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: **CERTIFIED**

Course	Date
Hazardous Waste Classification	03 Dec 2020
Most recent 3 year Refresher	05 Dec 2023

Next 3 year Refresher due by Dec 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Hopwood Hall College **Post Code** OL12 6RY

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Proposed redevelopment of land

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

Waste created during excavation of soils during development

Description of the waste

Made ground and/or natural soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	RH101-27/11/2024-0.05m		Hazardous	HP 7	3
2	WS105-27/11/2024-0.05m		Hazardous	HP 7	5
3	WS112-27/11/2024-0.05m		Hazardous	HP 7	7
4	WS116-27/11/2024-0.05m		Hazardous	HP 7	9
5	RH103-27/11/2024-0.05m		Hazardous	HP 7	11

Related documents

#	Name	Description
1	EMT-24-20419-Batch-1-202412191616.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Adrian Read

Created date: 04 Feb 2025 18:00 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	13
Appendix B: Rationale for selection of metal species	13
Appendix C: Version	13

Classification of sample: RH101-27/11/2024-0.05m

Hazardous Waste
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:
RH101-27/11/2024-0.05m
Moisture content:
0.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 03 01 * (Bituminous mixtures containing coal tar)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.] (conc.: 0.297%)

Determinands

Moisture content: 0.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		0.037 mg/kg		0.0367 mg/kg	0.00000367 %	✓	
2		acenaphthylene		205-917-1	208-96-8		0.365 mg/kg		0.362 mg/kg	0.0000362 %	✓	
3		acenaphthene		201-469-6	83-32-9		0.066 mg/kg		0.0654 mg/kg	0.00000654 %	✓	
4		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
5		phenanthrene		201-581-5	85-01-8		0.098 mg/kg		0.0971 mg/kg	0.00000971 %	✓	
6		anthracene		204-371-1	120-12-7		0.067 mg/kg		0.0664 mg/kg	0.00000664 %	✓	
7		fluoranthene		205-912-4	206-44-0		0.159 mg/kg		0.158 mg/kg	0.0000158 %	✓	
8		pyrene		204-927-3	129-00-0		0.334 mg/kg		0.331 mg/kg	0.0000331 %	✓	
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
10		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
11		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
12		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
13		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**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									
14	●	benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			205-883-8	191-24-2									
15		Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.]			H	0.3	%		0.297	%	0.297 %	✓	
		648-081-00-7	232-361-7	8007-45-2									
										Total:	0.297 %		

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)
<LOD	Below limit of detection
CLP: Note H	Known incomplete entry, should not be used as is

Classification of sample: WS105-27/11/2024-0.05m

Hazardous Waste
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:
WS105-27/11/2024-0.05m
Moisture content:
1.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 03 01 * (Bituminous mixtures containing coal tar)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.] (conc.: 0.196%)

Determinands

Moisture content: 1.9% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		0.245 mg/kg		0.24 mg/kg	0.000024 %	✓	
2		acenaphthylene		205-917-1	208-96-8		0.208 mg/kg		0.204 mg/kg	0.0000204 %	✓	
3		acenaphthene		201-469-6	83-32-9		0.32 mg/kg		0.314 mg/kg	0.0000314 %	✓	
4		fluorene		201-695-5	86-73-7		0.228 mg/kg		0.224 mg/kg	0.0000224 %	✓	
5		phenanthrene		201-581-5	85-01-8		1.048 mg/kg		1.028 mg/kg	0.000103 %	✓	
6		anthracene		204-371-1	120-12-7		0.226 mg/kg		0.222 mg/kg	0.0000222 %	✓	
7		fluoranthene		205-912-4	206-44-0		0.839 mg/kg		0.823 mg/kg	0.0000823 %	✓	
8		pyrene		204-927-3	129-00-0		0.995 mg/kg		0.976 mg/kg	0.0000976 %	✓	
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.485 mg/kg		0.476 mg/kg	0.0000476 %	✓	
10		chrysene	601-048-00-0	205-923-4	218-01-9		0.466 mg/kg		0.457 mg/kg	0.0000457 %	✓	
11		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.497 mg/kg		0.488 mg/kg	0.0000488 %	✓	
12		indeno[123-cd]pyrene		205-893-2	193-39-5		0.36 mg/kg		0.353 mg/kg	0.0000353 %	✓	
13		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.127 mg/kg		0.125 mg/kg	0.0000125 %	✓	

#		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									
14	●	benzo[ghi]perylene				0.466	mg/kg		0.457	mg/kg	0.0000457 %	✓	
			205-883-8	191-24-2									
15		Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.]			H	0.2	%		0.196	%	0.196 %	✓	
		648-081-00-7	232-361-7	8007-45-2									
										Total:	0.197 %		

Key

	User supplied data
	Hazardous result
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
CLP: Note H	Known incomplete entry, should not be used as is

Classification of sample: WS112-27/11/2024-0.05m

Hazardous Waste
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:
WS112-27/11/2024-0.05m
Moisture content:
2.5%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 03 01 * (Bituminous mixtures containing coal tar)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.] (conc.: 0.293%)

Determinands

Moisture content: 2.5% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		0.032 mg/kg		0.0312 mg/kg	0.00000312 %	✓	
2	●	acenaphthylene		205-917-1	208-96-8		0.203 mg/kg		0.198 mg/kg	0.0000198 %	✓	
3	●	acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
4	●	fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
5	●	phenanthrene		201-581-5	85-01-8		0.792 mg/kg		0.773 mg/kg	0.0000773 %	✓	
6	●	anthracene		204-371-1	120-12-7		0.099 mg/kg		0.0966 mg/kg	0.00000966 %	✓	
7	●	fluoranthene		205-912-4	206-44-0		0.742 mg/kg		0.724 mg/kg	0.0000724 %	✓	
8	●	pyrene		204-927-3	129-00-0		0.874 mg/kg		0.853 mg/kg	0.0000853 %	✓	
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.555 mg/kg		0.541 mg/kg	0.0000541 %	✓	
10		chrysene	601-048-00-0	205-923-4	218-01-9		0.587 mg/kg		0.573 mg/kg	0.0000573 %	✓	
11		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.533 mg/kg		0.52 mg/kg	0.000052 %	✓	
12	●	indeno[123-cd]pyrene		205-893-2	193-39-5		0.312 mg/kg		0.304 mg/kg	0.0000304 %	✓	
13		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.134 mg/kg		0.131 mg/kg	0.0000131 %	✓	

#		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									
14	●	benzo[ghi]perylene				0.525	mg/kg		0.512	mg/kg	0.0000512 %	✓	
			205-883-8	191-24-2									
15		Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.]			H	0.3	%		0.293	%	0.293 %	✓	
		648-081-00-7	232-361-7	8007-45-2									
										Total:	0.293 %		

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)
<LOD	Below limit of detection
CLP: Note H	Known incomplete entry, should not be used as is

Classification of sample: WS116-27/11/2024-0.05m

Hazardous Waste
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:
WS116-27/11/2024-0.05m
Moisture content:
1.4%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 03 01 * (Bituminous mixtures containing coal tar)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.] (conc.: 0.296%)

Determinands

Moisture content: 1.4% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		0.087 mg/kg		0.0858 mg/kg	0.00000858 %	✓	
2		acenaphthylene		205-917-1	208-96-8		0.129 mg/kg		0.127 mg/kg	0.0000127 %	✓	
3		acenaphthene		201-469-6	83-32-9		0.078 mg/kg		0.0769 mg/kg	0.00000769 %	✓	
4		fluorene		201-695-5	86-73-7		0.09 mg/kg		0.0888 mg/kg	0.00000888 %	✓	
5		phenanthrene		201-581-5	85-01-8		0.387 mg/kg		0.382 mg/kg	0.0000382 %	✓	
6		anthracene		204-371-1	120-12-7		0.115 mg/kg		0.113 mg/kg	0.0000113 %	✓	
7		fluoranthene		205-912-4	206-44-0		0.539 mg/kg		0.532 mg/kg	0.0000532 %	✓	
8		pyrene		204-927-3	129-00-0		0.502 mg/kg		0.495 mg/kg	0.0000495 %	✓	
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.33 mg/kg		0.325 mg/kg	0.0000325 %	✓	
10		chrysene	601-048-00-0	205-923-4	218-01-9		0.244 mg/kg		0.241 mg/kg	0.0000241 %	✓	
11		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.309 mg/kg		0.305 mg/kg	0.0000305 %	✓	
12		indeno[123-cd]pyrene		205-893-2	193-39-5		0.245 mg/kg		0.242 mg/kg	0.0000242 %	✓	
13		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.068 mg/kg		0.0671 mg/kg	0.00000671 %	✓	

#		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									
14	●	benzo[ghi]perylene				0.285	mg/kg		0.281	mg/kg	0.0000281 %	✓	
			205-883-8	191-24-2									
15		Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.]			H	0.3	%		0.296	%	0.296 %	✓	
		648-081-00-7	232-361-7	8007-45-2									
										Total:	0.296 %		

Key

	User supplied data
	Hazardous result
●	Determinand defined or amended by HazWasteOnline (see Appendix A)
CLP: Note H	Known incomplete entry, should not be used as is

Classification of sample: RH103-27/11/2024-0.05m

Hazardous Waste
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:
RH103-27/11/2024-0.05m
Moisture content:
4.7%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 03 01 * (Bituminous mixtures containing coal tar)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.] (conc.: 0.191%)

Determinands

Moisture content: 4.7% Dry Weight Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
2		acenaphthylene		205-917-1	208-96-8		0.089 mg/kg		0.085 mg/kg	0.0000085 %	✓	
3		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
4		fluorene		201-695-5	86-73-7		0.024 mg/kg		0.0229 mg/kg	0.00000229 %	✓	
5		phenanthrene		201-581-5	85-01-8		0.063 mg/kg		0.0602 mg/kg	0.00000602 %	✓	
6		anthracene		204-371-1	120-12-7		0.019 mg/kg		0.0181 mg/kg	0.00000181 %	✓	
7		fluoranthene		205-912-4	206-44-0		0.059 mg/kg		0.0564 mg/kg	0.00000564 %	✓	
8		pyrene		204-927-3	129-00-0		0.086 mg/kg		0.0821 mg/kg	0.00000821 %	✓	
9		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
10		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
11		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.048 mg/kg		0.0458 mg/kg	0.00000458 %	✓	
12		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**LOD**
13		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<**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									
14	●	benzo[ghi]perylene				0.063	mg/kg		0.0602	mg/kg	0.00000602 %	✓	
			205-883-8	191-24-2									
15		Tar, coal; Coal tar; [The by-product from the destructive distillation of coal. Almost black semisolid. A complex combination of aromatic hydro-carbons, phenolic compounds, nitrogen bases and thiophene.]			H	0.2	%		0.191	%	0.191 %	✓	
		648-081-00-7	232-361-7	8007-45-2									
										Total:	0.191 %		

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)
<LOD	Below limit of detection
CLP: Note H	Known incomplete entry, should not be used as is

Appendix A: Classifier defined and non GB MCL determinands

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

Appendix B: Rationale for selection of metal species

None used in this classification

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 2025)

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
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

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)

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

MCHNF-OYJ4W-XU4UC

Report is invalid if pages are removed.

Job name

EMT-24-20727-Batch-1-202412110927

Description/Comments

Project

TE1880

Site

Hopwood Hall College, Rochdale

Classified by

Name:
Adrian Read
Date:
04 Feb 2025 18:04 GMT
Telephone:
01925 818388

Company:
Tier Environmental
Suite 414
Chadwick House
Warrington
WA3 6AE

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: **CERTIFIED**

Course	Date
Hazardous Waste Classification	03 Dec 2020
Most recent 3 year Refresher	05 Dec 2023

Next 3 year Refresher due by Dec 2026

Purpose of classification

2 - Material Characterisation

Address of the waste

Hopwood Hall College **Post Code** OL12 6RY

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Proposed redevelopment of land

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

Waste created during excavation of soils during development

Description of the waste

Made ground and/or natural soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS114-29/11/2024-0.50m		Potentially Hazardous	HP 3(i)	3

Related documents

#	Name	Description
1	EMT-24-20727-Batch-1-202412110927.HWOL	Element .hwol file used to populate the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Adrian Read

Created date: 04 Feb 2025 18:04 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	9
Appendix B: Rationale for selection of metal species	13
Appendix C: Version	13

Classification of sample: WS114-29/11/2024-0.50m

Potentially Hazardous Waste
Classified as **17 05 04** or **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS114-29/11/2024-0.50m
Moisture content:
14.9%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 or 17 05 03 * (Soil and stones other than those mentioned in 17 05 03 or Soil and stones containing hazardous substances)

Hazard properties (substances considered hazardous until shown otherwise)

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

toluene (conc.: 1.22e-06%)
ethylbenzene (conc.: 5.22e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.0305%)
xylene (conc.: 1.91e-06%)

Determinands

Moisture content: 14.9% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.1 mg/kg	1.32	8.159 mg/kg	0.000816 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.298 mg/kg	0.0000298 %	✓	
3	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				38.6 mg/kg	2.27	76.259 mg/kg	0.00763 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		46 mg/kg	1.126	45.075 mg/kg	0.00451 %	✓	
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	168 mg/kg	1.56	228.067 mg/kg	0.0146 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.2 mg/kg	1.353	0.236 mg/kg	0.0000236 %	✓	
7	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		14.4 mg/kg	2.976	37.3 mg/kg	0.00373 %	✓	
8	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
9	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		97 mg/kg	2.774	234.197 mg/kg	0.0234 %	✓	
10	TPH (C6 to C40) petroleum group			TPH		350 mg/kg		304.613 mg/kg	0.0305 %	✓	

#		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		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
12		benzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
13		toluene				0.014	mg/kg		0.0122	mg/kg	0.00000122 %	✓	
		601-021-00-3	203-625-9	108-88-3									
14		ethylbenzene				0.006	mg/kg		0.0052	mg/kg	0.000000522 %	✓	
		601-023-00-4	202-849-4	100-41-4									
15		xylene				0.022	mg/kg		0.0191	mg/kg	0.00000191 %	✓	
		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]									
16		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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
17		pH				9.44	pH		9.44	pH	9.44 pH		
				PH									
18		naphthalene				1.23	mg/kg		1.07	mg/kg	0.000107 %	✓	
		601-052-00-2	202-049-5	91-20-3									
19		acenaphthylene				0.14	mg/kg		0.122	mg/kg	0.0000122 %	✓	
			205-917-1	208-96-8									
20		acenaphthene				0.77	mg/kg		0.67	mg/kg	0.000067 %	✓	
			201-469-6	83-32-9									
21		fluorene				0.47	mg/kg		0.409	mg/kg	0.0000409 %	✓	
			201-695-5	86-73-7									
22		phenanthrene				4.99	mg/kg		4.343	mg/kg	0.000434 %	✓	
			201-581-5	85-01-8									
23		anthracene				1.47	mg/kg		1.279	mg/kg	0.000128 %	✓	
			204-371-1	120-12-7									
24		fluoranthene				11.44	mg/kg		9.956	mg/kg	0.000996 %	✓	
			205-912-4	206-44-0									
25		pyrene				10.28	mg/kg		8.947	mg/kg	0.000895 %	✓	
			204-927-3	129-00-0									
26		benzo[a]anthracene				4.69	mg/kg		4.082	mg/kg	0.000408 %	✓	
		601-033-00-9	200-280-6	56-55-3									
27		chrysene				4.93	mg/kg		4.291	mg/kg	0.000429 %	✓	
		601-048-00-0	205-923-4	218-01-9									
28		benzo[b]fluoranthene				5.33	mg/kg		4.639	mg/kg	0.000464 %	✓	
		601-034-00-4	205-911-9	205-99-2									
29		benzo[k]fluoranthene				2.07	mg/kg		1.802	mg/kg	0.00018 %	✓	
		601-036-00-5	205-916-6	207-08-9									
30		benzo[a]pyrene; benzo[def]chrysene				4.54	mg/kg		3.951	mg/kg	0.000395 %	✓	
		601-032-00-3	200-028-5	50-32-8									
31		indeno[123-cd]pyrene				2.67	mg/kg		2.324	mg/kg	0.000232 %	✓	
			205-893-2	193-39-5									
32		dibenz[a,h]anthracene				0.67	mg/kg		0.583	mg/kg	0.0000583 %	✓	
		601-041-00-2	200-181-8	53-70-3									
33		benzo[ghi]perylene				2.73	mg/kg		2.376	mg/kg	0.000238 %	✓	
			205-883-8	191-24-2									
34		phenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
35		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
36		tetrachloroethylene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-028-00-4	204-825-9	127-18-4									

#		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									
37		carbon tetrachloride; tetrachloromethane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									
38		trichloroethylene; trichloroethene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-027-00-9	201-167-4	79-01-6									
39		vinyl chloride; chloroethylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-023-00-7	200-831-0	75-01-4									
40		hexachlorobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		602-065-00-6	204-273-9	118-74-1									
41	●	polychlorobiphenyls; PCB				<0.035	mg/kg		<0.035	mg/kg	<0.0000035 %		<**LOD**
		602-039-00-4	215-648-1	1336-36-3									
42	●	dichlorodifluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-893-9	75-71-8									
43		chloromethane; methyl chloride				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-001-00-7	200-817-4	74-87-3									
44		bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<**LOD**
		602-002-00-2	200-813-2	74-83-9									
45		chloroethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-009-00-0	200-830-5	75-00-3									
46	●	trichlorofluoromethane				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
			200-892-3	75-69-4									
47		1,1-dichloroethylene; vinylidene chloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-025-00-8	200-864-0	75-35-4									
48		dichloromethane; methylene chloride				0.01	mg/kg		0.0087	mg/kg	0.00000087 %	✓	
		602-004-00-3	200-838-9	75-09-2									
49	●	2,2-dichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			209-832-0	594-20-7									
50	●	bromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-826-3	74-97-5									
51		chloroform; trichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-006-00-4	200-663-8	67-66-3									
52		1,1,1-trichloroethane; methyl chloroform				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-013-00-2	200-756-3	71-55-6									
53		1,1-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-031-00-0	209-253-3	563-58-6									
54		1,2-dichloropropane; propylene dichloride				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		602-020-00-0	201-152-2	78-87-5									
55		dibromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-003-00-8	200-824-2	74-95-3									
56	●	bromodichloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			200-856-7	75-27-4									
57		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									
58	●	trans-1,3-dichloropropene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			431-460-4	10061-02-6									
59		1,1,2-trichloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-014-00-8	201-166-9	79-00-5									
60	●	1,3-dichloropropane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			205-531-3	142-28-9									
61	●	dibromochloromethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			204-704-0	124-48-1									
62		1,2-dibromoethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-010-00-6	203-444-5	106-93-4									
63		chlorobenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-033-00-1	203-628-5	108-90-7									
64	●	1,1,1,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
			211-135-1	630-20-6									
65		bromoform; tribromomethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-007-00-X	200-854-6	75-25-2									

#		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									
66		cumene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-024-00-X	202-704-5	98-82-8									
67		1,1,2,2-tetrachloroethane				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		602-015-00-3	201-197-8	79-34-5									
68		bromobenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		602-060-00-9	203-623-8	108-86-1									
69		1,2,3-trichloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-062-00-X	202-486-1	96-18-4									
70		propylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		601-097-00-8	203-132-9	103-65-1									
71		mesitylene; 1,3,5-trimethylbenzene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-025-00-5	203-604-4	108-67-8									
72		tert-butylbenzene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
			202-632-4	98-06-6									
73		1,2,4-trimethylbenzene				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<**LOD**
		601-043-00-3	202-436-9	95-63-6									
74		sec-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			205-227-0	135-98-8									
75		1-isopropyl-4-methylbenzene; p-cymene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		601-094-00-1	202-796-7	99-87-6									
76		1,3-dichlorbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-067-00-7	208-792-1	541-73-1									
77		1,4-dichlorobenzene; p-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-035-00-2	203-400-5	106-46-7									
78		n-butylbenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			203-209-7	104-51-8									
79		1,2-dichlorobenzene; o-dichlorobenzene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-034-00-7	202-425-9	95-50-1									
80		1,2-dibromo-3-chloropropane				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
		602-021-00-6	202-479-3	96-12-8									
81		1,2,4-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
		602-087-00-6	204-428-0	120-82-1									
82		hexachlorobutadiene				<0.004	mg/kg		<0.004	mg/kg	<0.0000004 %		<**LOD**
			201-765-5	87-68-3									
83		1,2,3-trichlorobenzene				<0.007	mg/kg		<0.007	mg/kg	<0.0000007 %		<**LOD**
			201-757-1	87-61-6									
84		styrene				<0.003	mg/kg		<0.003	mg/kg	<0.0000003 %		<**LOD**
		601-026-00-0	202-851-5	100-42-5									
85		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
86		2-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
			201-857-5	88-75-5									
87		2,4-dichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
88		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
89		2,4,5-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
90		2,4,6-trichlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									

#		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									
91		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
92		4-nitrophenol; p-nitrophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
93		pentachlorophenol				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
94	●	2-chloronaphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-079-9	91-58-7									
95	●	2-methyl naphthalene				0.322	mg/kg		0.28	mg/kg	0.000028 %	✓	
			202-078-3	91-57-6									
96		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				0.245	mg/kg		0.213	mg/kg	0.0000213 %	✓	
		607-317-00-9	204-211-0	117-81-7									
97		BBP; benzyl butyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
98		dibutyl phthalate; DBP				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
99	●	di-n-octyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-214-7	117-84-0									
100	●	diethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-550-6	84-66-2									
101	●	dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-011-6	131-11-3									
102		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
103		2,6-dinitrotoluene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
104	●	4-bromophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			202-952-4	101-55-3									
105		4-chloroaniline				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
106	●	4-chlorophenylphenylether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			230-281-7	7005-72-3									
107		azobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
108	●	bis(2-chloroethoxy)methane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			203-920-2	111-91-1									
109		bis(2-chloroethyl) ether				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
110	●	carbazole				0.182	mg/kg		0.158	mg/kg	0.0000158 %	✓	
			201-696-0	86-74-8									
111	●	dibenzofuran				0.241	mg/kg		0.21	mg/kg	0.000021 %	✓	
			205-071-3	132-64-9									
112		hexachlorocyclopentadiene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
113	●	hexachloroethane				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			200-666-4	67-72-1									
114		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
115		nitrosodipropylamine				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
116		nitrobenzene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
117		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.006	mg/kg		<0.006	mg/kg	<0.0000006 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [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							
118		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.006 mg/kg		<0.006 mg/kg	<0.0000006 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
119		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]							
120		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0909 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Potentially Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - 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

Appendix A: Classifier defined and non GB MCL determinands

TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

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

pH (CAS Number: PH)

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

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

- **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 1B; H350 , Aquatic Chronic 3; H412

- **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

- **dichlorodifluoromethane** (EC Number: 200-893-9, CAS Number: 75-71-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Aquatic Chronic 3; H412 , Ozone 1; H420 , Press. Gas; H280

- **trichlorofluoromethane** (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Ozone 1; H420

- **2,2-dichloropropane** (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Acute Tox. 4; H302 , Acute Tox. 4; H312 , Eye Irrit. 2; H319

- **bromochloromethane** (EC Number: 200-826-3, CAS Number: 74-97-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H312 , Skin Corr. 1B; H314 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Ozone 1; H420

- **bromodichloromethane** (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 1A; H360

trans-1,3-dichloropropene (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

1,3-dichloropropane (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

dibromochloromethane (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

1,1,1,2-tetrachloroethane (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

tert-butylbenzene (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

sec-butylbenzene (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

n-butylbenzene (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

hexachlorobutadiene (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

1,2,3-trichlorobenzene (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

2-nitrophenol (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **2-chloronaphthalene** (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

- **2-methyl naphthalene** (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **di-n-octyl phthalate** (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

- **diethyl phthalate** (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

- **dimethyl phthalate** (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

- **4-bromophenylphenylether** (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **4-chlorophenylphenylether** (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **bis(2-chloroethoxy)methane** (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

- **carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

- **dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

hexachloroethane (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

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}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.24.6453.11761 (25 Jan 2025)
HazWasteOnline Database: 2025.24.6453.11761 (25 Jan 2025)

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
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024

APPENDIX D - GEOENVIRONMENTAL SURFACE WATER AND GROUNDWATER LABORATORY RESULTS

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

Tier Environmental
Suite 414, Chadwick House
Warrington Rd
Birchwood
Warrington
United Kingdom
WA3 6AE

Attention :	Adrian Read
Date :	10th December, 2024
Your reference :	TE1880
Our reference :	Test Report 24/20428 Batch 1
Location :	Hopwood Hall, Rochdale
Date samples received :	30th November, 2024
Status :	Final Report
Issue :	202412101522

Three samples were received for analysis on 30th November, 2024 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 9.122 kg of CO2

Scope 1&2&3 emissions - 21.559 kg of CO2

Authorised By:

Sean Anglish
Project Coordinator

Please include all sections of this report if it is reproduced

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20428

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-6	7-12	13-18								LOD/LOR	Units	Method No.
Sample ID	WS01DS	WS02UP	WS03MID										
Depth	0.00	0.00	0.00										
COC No / misc													
Containers	V H HN P G	V H HN P G	V H HN P G										
Sample Date	28/11/2024	28/11/2024	28/11/2024										
Sample Type	Liquid	Liquid	Liquid										
Batch Number	1	1	1										
Date of Receipt	30/11/2024	30/11/2024	30/11/2024										
Dissolved Arsenic	<0.9	<0.9	<0.9								<0.9	ug/l	TM170/PM14
Dissolved Cadmium	0.04	0.04	0.04								<0.03	ug/l	TM170/PM14
Total Dissolved Chromium	0.6	0.5	0.5								<0.2	ug/l	TM170/PM14
Dissolved Copper	2	2	3								<1	ug/l	TM170/PM14
Dissolved Lead	<0.4	<0.4	<0.4								<0.4	ug/l	TM170/PM14
Dissolved Mercury	<0.5	<0.5	<0.5								<0.5	ug/l	TM170/PM14
Dissolved Nickel	3.0	3.1	3.2								<0.2	ug/l	TM170/PM14
Dissolved Selenium	<1.2	<1.2	<1.2								<1.2	ug/l	TM170/PM14
Dissolved Zinc	10.3	12.1	12.5								<1.5	ug/l	TM170/PM14
Total Hardness Dissolved (as CaCO3)	89	91	92								<1	mg/l	TM30/PM14
PAH MS													
Naphthalene	0.6	<0.1	1.1								<0.1	ug/l	TM4/PM30
Acenaphthylene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Acenaphthene	<0.005	<0.005	0.017								<0.005	ug/l	TM4/PM30
Fluorene	0.009	<0.005	0.040								<0.005	ug/l	TM4/PM30
Phenanthrene	<0.005	<0.005	0.010								<0.005	ug/l	TM4/PM30
Anthracene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Fluoranthene	<0.005	0.007	<0.005								<0.005	ug/l	TM4/PM30
Pyrene	<0.005	0.007	<0.005								<0.005	ug/l	TM4/PM30
Benzo(a)anthracene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Chrysene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene	<0.008	<0.008	<0.008								<0.008	ug/l	TM4/PM30
Benzo(a)pyrene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene	<0.005	<0.005	<0.005								<0.005	ug/l	TM4/PM30
PAH 16 Total	0.609	<0.173	1.167								<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008	<0.008	<0.008								<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.008	<0.008	<0.008								<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	86	94	98								<0	%	TM4/PM30
Methyl Tertiary Butyl Ether	<0.1	<0.1	<0.1								<0.1	ug/l	TM15/PM10
Benzene	<0.5	<0.5	<0.5								<0.5	ug/l	TM15/PM10
Toluene	<5	<5	<5								<5	ug/l	TM15/PM10
Ethylbenzene	<1	<1	<1								<1	ug/l	TM15/PM10
m/p-Xylene	<2	<2	<2								<2	ug/l	TM15/PM10
o-Xylene	<1	<1	<1								<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	94	96	96								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	102	103	109								<0	%	TM15/PM10

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20428

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-6	7-12	13-18								LOD/LOR	Units	Method No.
Sample ID	WS01DS	WS02UP	WS03MID										
Depth	0.00	0.00	0.00										
COC No / misc													
Containers	V H HN P G	V H HN P G	V H HN P G										
Sample Date	28/11/2024	28/11/2024	28/11/2024										
Sample Type	Liquid	Liquid	Liquid										
Batch Number	1	1	1										
Date of Receipt	30/11/2024	30/11/2024	30/11/2024										
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C35-C40 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<10	<10	<10								<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC35-EC40 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<10	<10	<10								<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	<10	<10	<10								<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total Phenols HPLC	<0.15	<0.15	<0.15								<0.15	mg/l	TM26/PM0
Sulphate as SO4	30.6	31.2	31.2								<0.5	mg/l	TM38/PM0
Monoethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Propylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Diethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Triethylene glycol	<10	<10	<10								<10	ug/l	TM179/PM0
Thiodiglycol	<10	<10	<10								<10	ug/l	TM179/PM0
Free Cyanide	<0.01	<0.01	<0.01								<0.01	mg/l	TM89/PM0
Total Cyanide	<0.01	<0.01	<0.01								<0.01	mg/l	TM89/PM0
Complex Cyanide	<0.01	<0.01	<0.01								<0.01	mg/l	TM89/PM0
Total Ammonia as N	0.09	0.11	0.10								<0.03	mg/l	TM38/PM0
Electrical Conductivity @25C	270	268	267								<2	uS/cm	TM76/PM0
pH	7.48	7.35	6.86								<0.01	pH units	TM73/PM0

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20428

SVOC Report : **Liquid**

EMT Sample No.	1-6	7-12	13-18									
Sample ID	WS01DS	WS02UP	WS03MID									
Depth	0.00	0.00	0.00							Please see attached notes for all abbreviations and acronyms		
COC No / misc												
Containers	V H HN P G	V H HN P G	V H HN P G									
Sample Date	28/11/2024	28/11/2024	28/11/2024									
Sample Type	Liquid	Liquid	Liquid									
Batch Number	1	1	1									
Date of Receipt	30/11/2024	30/11/2024	30/11/2024									
SVOC MS												
Phenols												
2-Chlorophenol	<1	<1	<1							<1	ug/l	TM16/PM30
2-Methylphenol	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1							<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1							<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1							<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10							<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1							<1	ug/l	TM16/PM30
Phenol	<1	<1	<1							<1	ug/l	TM16/PM30
PAHs												
2-Chloronaphthalene	<1	<1	<1							<1	ug/l	TM16/PM30
2-Methylnaphthalene	<1	<1	<1							<1	ug/l	TM16/PM30
Phthalates												
Bis(2-ethylhexyl) phthalate	<5	<5	<5							<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1							<1	ug/l	TM16/PM30
Di-n-butyl phthalate	<1.5	<1.5	<1.5							<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1							<1	ug/l	TM16/PM30
Diethyl phthalate	<1	<1	<1							<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1							<1	ug/l	TM16/PM30
Other SVOCs												
1,2-Dichlorobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
1,3-Dichlorobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
1,4-Dichlorobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1							<1	ug/l	TM16/PM30
2,4-Dinitrotoluene	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1							<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1							<1	ug/l	TM16/PM30
4-Bromophenylphenylether	<1	<1	<1							<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1							<1	ug/l	TM16/PM30
4-Chlorophenylphenylether	<1	<1	<1							<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Azobenzene	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether	<1	<1	<1							<1	ug/l	TM16/PM30
Carbazole	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Dibenzofuran	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Hexachlorobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
Hexachlorobutadiene	<1	<1	<1							<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1							<1	ug/l	TM16/PM30
Hexachloroethane	<1	<1	<1							<1	ug/l	TM16/PM30
Isophorone	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine	<0.5	<0.5	<0.5							<0.5	ug/l	TM16/PM30
Nitrobenzene	<1	<1	<1							<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	111	111	111							<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	116	115	117							<0	%	TM16/PM30

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read
EMT Job No: 24/20428

VOC Report : **Liquid**

EMT Sample No.	1-6	7-12	13-18									
Sample ID	WS01DS	WS02UP	WS03MID									
Depth	0.00	0.00	0.00									
COC No / misc												
Containers	V H HN P G	V H HN P G	V H HN P G									
Sample Date	28/11/2024	28/11/2024	28/11/2024									
Sample Type	Liquid	Liquid	Liquid									
Batch Number	1	1	1									
Date of Receipt	30/11/2024	30/11/2024	30/11/2024									
VOC MS												
Dichlorodifluoromethane	<2	<2	<2								<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether	<0.1	<0.1	<0.1								<0.1	ug/l	TM15/PM10
Chloromethane	<3	<3	<3								<3	ug/l	TM15/PM10
Vinyl Chloride	<0.1	<0.1	<0.1								<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1								<1	ug/l	TM15/PM10
Chloroethane	<3	<3	<3								<3	ug/l	TM15/PM10
Trichlorofluoromethane	<3	<3	<3								<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE)	<3	<3	<3								<3	ug/l	TM15/PM10
Dichloromethane (DCM)	<3	<3	<3								<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene	<3	<3	<3								<3	ug/l	TM15/PM10
1,1-Dichloroethane	<3	<3	<3								<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene	<3	<3	<3								<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1								<1	ug/l	TM15/PM10
Bromochloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
Chloroform	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,1-Trichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
1,1-Dichloropropene	<3	<3	<3								<3	ug/l	TM15/PM10
Carbon tetrachloride	<2	<2	<2								<2	ug/l	TM15/PM10
1,2-Dichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Benzene	<0.5	<0.5	<0.5								<0.5	ug/l	TM15/PM10
Trichloroethene (TCE)	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dichloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
Dibromomethane	<3	<3	<3								<3	ug/l	TM15/PM10
Bromodichloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2								<2	ug/l	TM15/PM10
Toluene	<5	<5	<5								<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,2-Trichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Tetrachloroethene (PCE)	<3	<3	<3								<3	ug/l	TM15/PM10
1,3-Dichloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
Dibromochloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
1,2-Dibromoethane	<2	<2	<2								<2	ug/l	TM15/PM10
Chlorobenzene	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Ethylbenzene	<1	<1	<1								<1	ug/l	TM15/PM10
m/p-Xylene	<2	<2	<2								<2	ug/l	TM15/PM10
o-Xylene	<1	<1	<1								<1	ug/l	TM15/PM10
Styrene	<2	<2	<2								<2	ug/l	TM15/PM10
Bromoform	<2	<2	<2								<2	ug/l	TM15/PM10
Isopropylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4								<4	ug/l	TM15/PM10
Bromobenzene	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,3-Trichloropropane	<3	<3	<3								<3	ug/l	TM15/PM10
Propylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
2-Chlorotoluene	<3	<3	<3								<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
4-Chlorotoluene	<3	<3	<3								<3	ug/l	TM15/PM10
tert-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
sec-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
4-Isopropyltoluene	<3	<3	<3								<3	ug/l	TM15/PM10
1,3-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,4-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
n-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3								<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	94	96	96								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	102	103	109								<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Element Materials Technology

Notification of Deviating Samples

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Adrian Read

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/20428						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/20428

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/20428

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.				
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.				

EMT Job No: 24/20428

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.				
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.				
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM179	Determination of Glycols using LCMS	PM0	No preparation is required.				

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Tier Environmental
Suite 414, Chadwick House
Warrington Rd
Birchwood
Warrington
United Kingdom
WA3 6AE

Attention :	Stefani Ellis
Date :	24th December, 2024
Your reference :	TE1880
Our reference :	Test Report 24/21353 Batch 1
Location :	Hopwood Hall, Rochdale
Date samples received :	13th December, 2024
Status :	Final Report
Issue :	202412241226

Six samples were received for analysis on 13th December, 2024 of which six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 17.81 kg of CO2

Scope 1&2&3 emissions - 42.091 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Please include all sections of this report if it is reproduced

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/21353

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36					LOD/LOR	Units	Method No.
Sample ID	CP01	CP102	CP103	CP4	RH102	WS112							
Depth	3.50	4.50	5.50	4.00	5.00	4.00							
COC No / misc													
Containers	V H HN P G	V H HN P G	V H HN BOD G	V H HN P G	V H HN BOD G	V H HN P G							
Sample Date	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024							
Dissolved Arsenic #	1.0	2.7	<0.9	3.5	2.3	10.2					<0.9	ug/l	TM170/PM14
Dissolved Cadmium #	0.42	0.30	0.17	<0.03	<0.03	<0.03					<0.03	ug/l	TM170/PM14
Total Dissolved Chromium #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2					<0.2	ug/l	TM170/PM14
Dissolved Copper #	3	2	2	<1	<1	1					<1	ug/l	TM170/PM14
Dissolved Lead #	<0.4	<0.4	0.6	0.8	<0.4	<0.4					<0.4	ug/l	TM170/PM14
Dissolved Mercury #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM170/PM14
Dissolved Nickel #	17.7	3.6	2.9	2.0	1.3	3.1					<0.2	ug/l	TM170/PM14
Dissolved Selenium #	<1.2	4.8	<1.2	<1.2	2.8	<1.2					<1.2	ug/l	TM170/PM14
Dissolved Zinc #	3.5	3.1	12.9	2.6	<1.5	3.7					<1.5	ug/l	TM170/PM14
Total Hardness Dissolved (as CaCO3)	282	317	329	409	93	473					<1	mg/l	TM30/PM14
PAH MS													
Naphthalene #	<0.1	<0.1	<0.1	<0.1	0.1	<0.1					<0.1	ug/l	TM4/PM30
Acenaphthylene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	TM4/PM30
Acenaphthene #	<0.005	0.073	0.051	0.117	<0.005	0.011					<0.005	ug/l	TM4/PM30
Fluorene #	<0.005	0.013	0.015	0.020	0.014	0.012					<0.005	ug/l	TM4/PM30
Phenanthrene #	<0.005	0.019	0.038	0.048	0.051	0.067					<0.005	ug/l	TM4/PM30
Anthracene #	<0.005	0.006	0.008	0.020	<0.005	0.018					<0.005	ug/l	TM4/PM30
Fluoranthene #	<0.005	0.022	0.064	0.149	0.007	0.192					<0.005	ug/l	TM4/PM30
Pyrene #	<0.005	0.028	0.074	0.157	0.010	0.181					<0.005	ug/l	TM4/PM30
Benzo(a)anthracene #	<0.005	0.012	0.036	0.084	<0.005	0.111					<0.005	ug/l	TM4/PM30
Chrysene #	<0.005	0.007	0.041	0.134	0.012	0.145					<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene #	<0.008	0.016	0.044	0.107	<0.008	0.196					<0.008	ug/l	TM4/PM30
Benzo(a)pyrene #	<0.005	0.009	0.024	0.051	<0.005	0.104					<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene #	<0.005	0.007	0.015	0.042	<0.005	0.086					<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene #	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005					<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene #	<0.005	0.006	0.014	0.036	<0.005	0.075					<0.005	ug/l	TM4/PM30
PAH 16 Total #	<0.173	0.218	0.424	0.965	0.194	1.198					<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008	0.012	0.032	0.077	<0.008	0.141					<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.008	<0.008	0.012	0.030	<0.008	0.055					<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	78	76	82	76	79	90					<0	%	TM4/PM30
Methyl Tertiary Butyl Ether #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5					<5	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	102	104	101	100	101	101					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	108	105	101	99	99	99					<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/21353

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36					LOD/LOR	Units	Method No.
Sample ID	CP01	CP102	CP103	CP4	RH102	WS112							
Depth	3.50	4.50	5.50	4.00	5.00	4.00							
COC No / misc													
Containers	V H HN P G	V H HN P G	V H HN BOD G	V H HN P G	V H HN BOD G	V H HN P G							
Sample Date	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024							
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL)#	11	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL)#	<5	<5	<5	<5	<5 SV	<5					<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>C35-C40 (EH_CU_1D_AL)	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	11	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR)#	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)#	<5	<5	<5	<5	<5 SV	<5					<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR)#	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
>EC35-EC40 (EH_CU_1D_AR)	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/PM16/PM30
Total aromatics C5-40 (EH_CU+HS_1D_AR)	<10	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	11	<10	<10	<10	<10 SV	<10					<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15					<0.15	mg/l	TM26/PM0
Sulphate as SO4#	81.7	137.7	67.8	57.3	93.9	189.7					<0.5	mg/l	TM38/PM0
Monoethylene glycol	<10	<10	<10	<10	19	<10					<10	ug/l	TM179/PM0
Propylene glycol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM179/PM0
Diethylene glycol	15	<10	<10	<10	60	<10					<10	ug/l	TM179/PM0
Triethylene glycol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM179/PM0
Thiodiglycol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM179/PM0
Free Cyanide#	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					<0.01	mg/l	TM89/PM0
Total Cyanide#	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					<0.01	mg/l	TM89/PM0
Complex Cyanide	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					<0.01	mg/l	TM89/PM0
Total Ammonia as N#	0.11	0.25	0.34	0.38	0.50	0.43					<0.03	mg/l	TM38/PM0
Electrical Conductivity @25C#	674	1065	869	1528	399	1424					<2	uS/cm	TM76/PM0
pH#	7.37	7.50	7.41	7.43	8.06	7.16					<0.01	pH units	TM73/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/21353

SVOC Report : **Liquid**

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36					LOD/LOR	Units	Method No.
Sample ID	CP01	CP102	CP103	CP4	RH102	WS112							
Depth	3.50	4.50	5.50	4.00	5.00	4.00							
COC No / misc													
Containers	V H HN P G	V H HN P G	V H HN BOD G	V H HN P G	V H HN BOD G	V H HN P G							
Sample Date	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024							
SVOC MS													
Phenols													
2-Chlorophenol #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylnaphthalene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5	<5	<5	12	<5	<5					<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Di-n-butyl phthalate #	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5					<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Diethyl phthalate #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,3-Dichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,4-Dichlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2,4-Dinitrotoluene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Bromophenylphenylether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chlorophenylphenylether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Azobenzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Carbazole #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Dibenzofuran #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Hexachlorobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachlorobutadiene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachloroethane #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Isophorone #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Nitrobenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	106	114	116	68 SV	116	116					<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	112	121	121	96	121	122					<0	%	TM16/PM30

Please see attached notes for all abbreviations and acronyms

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis
EMT Job No: 24/21353

VOC Report : **Liquid**

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36						
Sample ID	CP01	CP102	CP103	CP4	RH102	WS112						
Depth	3.50	4.50	5.50	4.00	5.00	4.00						
COC No / misc												
Containers	V H HN P G	V H HN P G	V H HN BOD G	V H HN P G	V H HN BOD G	V H HN P G						
Sample Date	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024	10/12/2024						
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water						
Batch Number	1	1	1	1	1	1						
Date of Receipt	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024						
VOC MS												
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5					<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4					<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	102	104	101	100	101	101					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	108	105	101	99	99	99					<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Element Materials Technology

Notification of Deviating Samples

Client Name: Tier Environmental
Reference: TE1880
Location: Hopwood Hall, Rochdale
Contact: Stefani Ellis

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/21353						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/21353

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 35°C ±5°C.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_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
MS	Mass Spectrometry.

EMT Job No: 24/21353

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.				
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				

EMT Job No: 24/21353

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM76	Modified US EPA method 120.1 (1982). Determination of Specific Conductance by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.				
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.	Yes			
TM170	Determination of Trace Metals by ICP-MS (Inductively Coupled Plasma-Mass Spectrometry): Modified USEPA Method 200.8, Rev. 5.4, 1994; Modified EPA Method 6020A, Rev.1, Feb 2007; Modified BS EN ISO 17294-2:2016	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			
TM179	Determination of Glycols using LCMS	PM0	No preparation is required.				

APPENDIX E - GEOTECHNICAL IN SITU FIELDWORK AND LABORATORY RESULTS

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/12059
Issue Number: 1 **Date:** 16 December, 2024

Client:
Murray Rix (Northern) Ltd
Andrew House
Hadfield Street
Dukinfield
Dukinfield
SK16 4QX

Project Manager: Enquires/Owain Davies
Project Name: TE1880 - Hopwood Hall College
Project Ref: N/A
Order No: 24/410
Date Samples Received: 11/12/24
Date Instructions Received: 11/12/24
Date Analysis Completed: 16/12/24

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Envirolab Job Number: 24/12059

Client Project Name: TE1880 - Hopwood Hall College

Client Project Ref: N/A

Lab Sample ID	24/12059/1	24/12059/2	24/12059/3	24/12059/4	24/12059/5	24/12059/6	24/12059/7	Units	Limit of Detection	Method ref
Client Sample No	608384	608386	608390	608329	608373	608365	608350			
Client Sample ID	RH103C	RH103C	RH101	RH102	CP104	CP103	CP101			
Depth to Top	3.10	15.00	3.50	8.00	5.50	7.20	5.20			
Depth To Bottom		15.11		8.10						
Date Sampled										
Sample Type	SOIL	SOIL - D	SOIL	SOIL	SOLID	SOIL - D	SOLID			
Sample Matrix Code	6	3	6A	3	7	6	7			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH BRE$_D$$^{M\#}$	8.69	8.77	8.12	8.83	8.82^U	8.66	8.68^U	pH	0.01	A-T-031s
Ammonium NH4 BRE (water sol 2:1)$_D$	1.33	2.14	<1.00	2.38	2.31	6.13	8.87	mg/l	1	A-T-033s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$$^{M\#}$	29	<7	23	<7	<7^U	10	<7^U	mg/l	7	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	0.8	<0.4	1.8	<0.4	<0.4	<0.4	<0.4	mg/l	0.4	A-T-026s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	34	24	52	<10	15^U	89	71^U	mg/l	10	A-T-026s
Sulphate BRE (acid sol)$_D$$^{M\#}$	0.04	<0.02	0.04	<0.02	<0.04^U	0.04	0.02^U	% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	0.06	0.06	0.04	<0.01	0.06	0.12	0.10	% w/w	0.01	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	2	3	2	<1	1	4	4	mg/l	1	A-T-SOLMETS

Envirolab Job Number: 24/12059

Client Project Name: TE1880 - Hopwood Hall College

Client Project Ref: N/A

Lab Sample ID	24/12059/8	24/12059/9	24/12059/10	24/12059/11	24/12059/12			Units	Limit of Detection	Method ref
Client Sample No	608392	608391	608389	608388	608395					
Client Sample ID	CP103	CP102	CP101	CP101	RH103C					
Depth to Top	0.40	1.70	2.70	0.70	2.00					
Depth To Bottom	0.70	2.00	3.00	1.20	3.00					
Date Sampled										
Sample Type	SOIL - B	SOIL - B	SOIL - B	SOIL - B	SOIL - B					
Sample Matrix Code	6	6	6A	6	6AB					
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1			% w/w	0.1	A-T-044
pH BRE$_D$$^{M\#}$	9.08	9.63	11.07	9.29	9.26			pH	0.01	A-T-031s
Ammonium NH4 BRE (water sol 2:1)$_D$	<1.00	<1.00	<1.00	<1.00	<1.00			mg/l	1	A-T-033s
Chloride BRE, SO4 equiv. (water sol 2:1)$_D$$^{M\#}$	108	49	36	53	26			mg/l	7	A-T-026s
Nitrate BRE, SO4 equiv. (water sol 2:1)$_D$	<0.4	4.0	30.5	2.3	2.0			mg/l	0.4	A-T-026s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	117	505	132	546	814			mg/l	10	A-T-026s
Sulphate BRE (acid sol)$_D$$^{M\#}$	0.10	0.49	0.18	0.44	0.41			% w/w	0.02	A-T-028s
Sulphur BRE (total)$_D$	0.04	0.18	0.07	0.17	0.14			% w/w	0.01	A-T-024s
Magnesium BRE (water sol 2:1)$_D$	3	4	<1	3	4			mg/l	1	A-T-SOLMETS

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.
Quantification: Generally a 2 stage process including visual identification, hand picking and weighing, and fibre counting. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres). "TRACE" will be reported as a quantification result.
PLEASE INFORM THE LABORATORY IF YOU WOULD LIKE THE STAGE 3 SEDIMENTATION PROCESS CARRIED OUT. Note this will be subcontracted.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Murray Rix (Northern) Ltd, Andrew House , Hadfield Street, Dukinfield , Dukinfield, SK16 4QX

Project: TE1880 - Hopwood Hall College

Clients Project No: N/A

Project No: 24/12059

Date Received: 11/12/2024 (am)

Cool Box Temperatures (°C): 10.7

Lab Sample ID	24/12059/1	24/12059/2	24/12059/3	24/12059/4	24/12059/5	24/12059/6	24/12059/7	24/12059/8	24/12059/9	24/12059/10	24/12059/11	24/12059/12
Client Sample No	608384	608386	608390	608329	608373	608365	608350	608392	608391	608389	608388	608395
Client Sample ID/Depth	RH103C 3.10m	RH103C 15.00-15.11m	RH101 3.50m	RH102 8.00-8.10m	CP104 5.50m	CP103 7.20m	CP101 5.20m	CP103 0.40-0.70m	CP102 1.70-2.00m	CP101 2.70-3.00m	CP101 0.70-1.20m	RH103C 2.00-3.00m
Date Sampled												
Deviation Code												
E (no date)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key
E (no date) *No sampling date provided (all results affected if not provided)*

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/12059/1	24/12059/2	24/12059/3	24/12059/4	24/12059/5	24/12059/6	24/12059/7	24/12059/8	24/12059/9	24/12059/10	24/12059/11	24/12059/12
Client Sample No	608384	608386	608390	608329	608373	608365	608350	608392	608391	608389	608388	608395
Client Sample ID/Depth	RH103C 3.10m	RH103C 15.00-15.11m	RH101 3.50m	RH102 8.00-8.10m	CP104 5.50m	CP103 7.20m	CP101 5.20m	CP103 0.40-0.70m	CP102 1.70-2.00m	CP101 2.70-3.00m	CP101 0.70-1.20m	RH103C 2.00-3.00m
Date Sampled												
A-T-024s	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024
A-T-026s	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024
A-T-028s	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024
A-T-031s	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024
A-T-033s	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024
A-T-044	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024	13/12/2024
A-T-SOLMETS	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024	16/12/2024

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

MURRAY RIX

CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client Tier Environmental Ltd

Address Suite 513
Chadwick House
Warrington Road
Birchwood
WA3 6AE

Contract TE1880 -
Hopwood Hall College

Job Number MRN 25010/1
Date of Issue 03 January 2025
Pages 1 of 15

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation.

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted.

5 The results included within the report are representative of the samples submitted for analysis.

6 This certificate should not be reproduced, except in full, without the express permission of the laboratory.

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

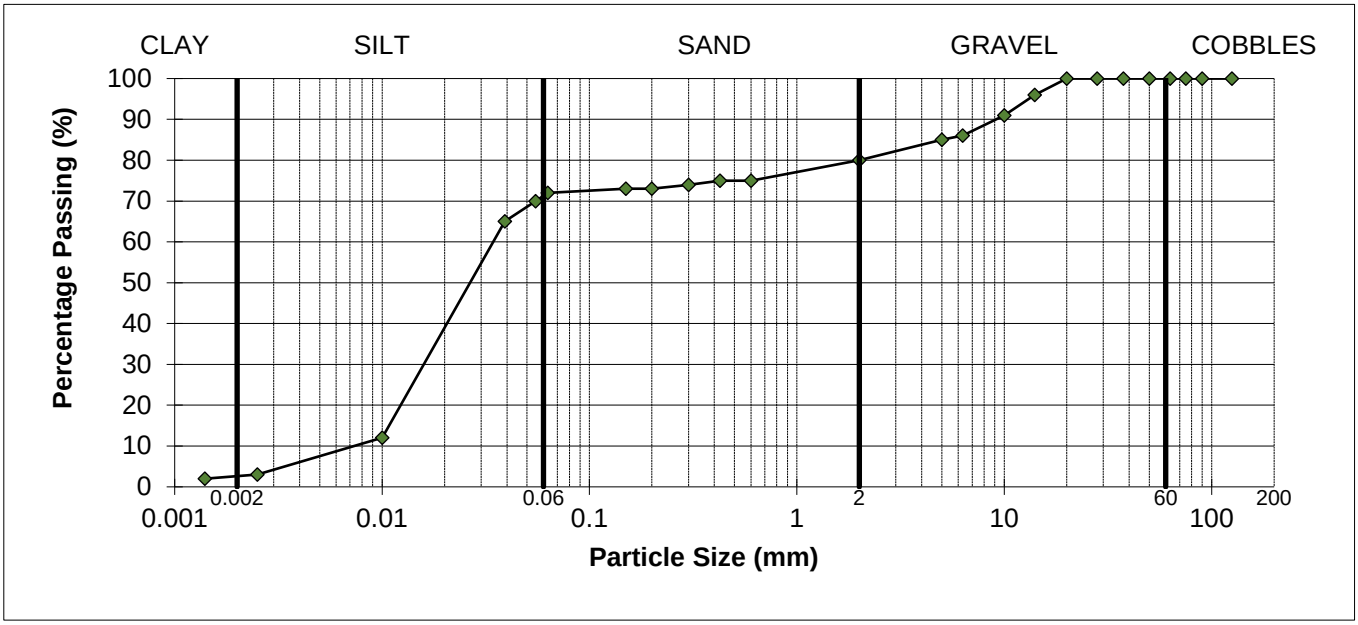
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP102 1.7-2.0 B	DATE SAMPLED	Not advised
LAB SAMPLE No	608391	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey slightly clayey slightly sandy slightly gravelly SILT
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	80	
90	100		0.6	75	
75	100		0.425	75	
63	100		0.3	74	
50	100		0.2	73	
37.5	100		0.15	73	
28	100		0.063	72	
20	100		0.055	70	
14	96		0.039	65	
10	91		0.01	12	
6.3	86		0.0025	3	
5	85		0.0014	2	



REMARKS
As received water content = 36.8%

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 03-Jan-25

M U R R A Y R I X
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 3580

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

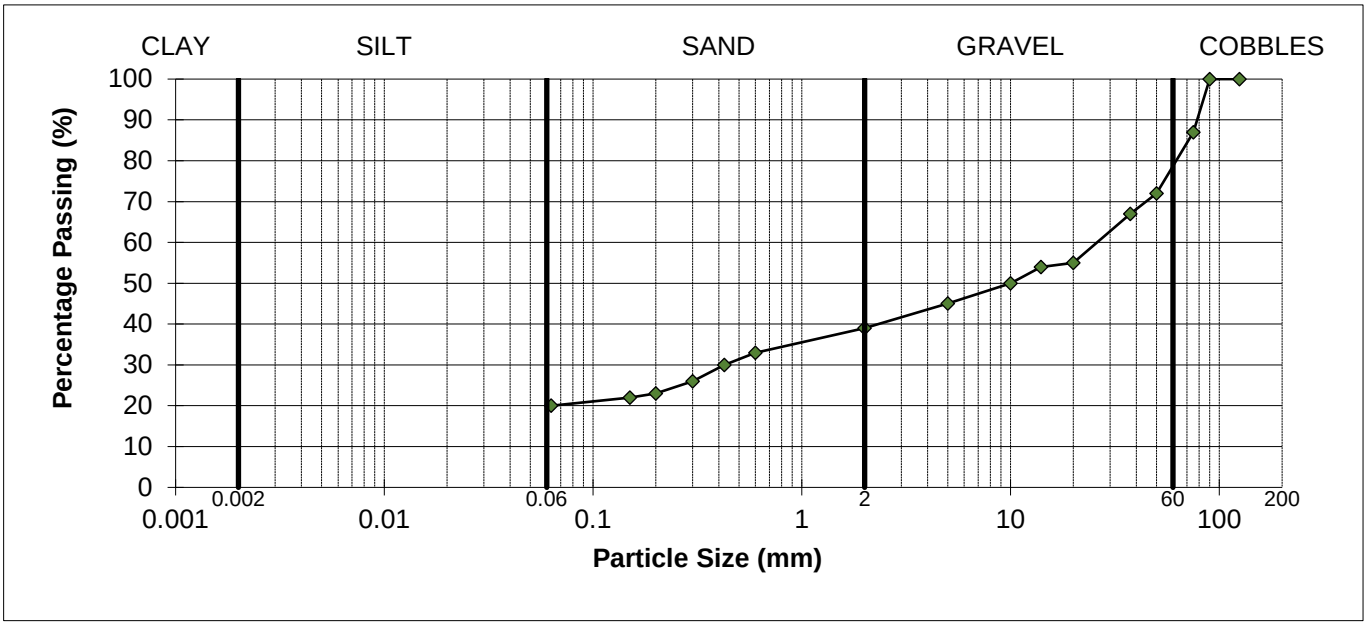
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP101 2.7-3.0 B	DATE SAMPLED	Not advised
LAB SAMPLE No	608389	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Brown silty sandy GRAVEL
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	45	
90	100		2	39	
75	87		0.6	33	
50	72		0.425	30	
37.5	67		0.3	26	
20	55		0.2	23	
14	54		0.15	22	
10	50		0.063	20	



SOIL FRACTIONS			
COBBLES	21%	SAND	19%
GRAVEL	41%	SILT / CLAY	20%

REMARKS
As received water content = 12.6%

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 03-Jan-25

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

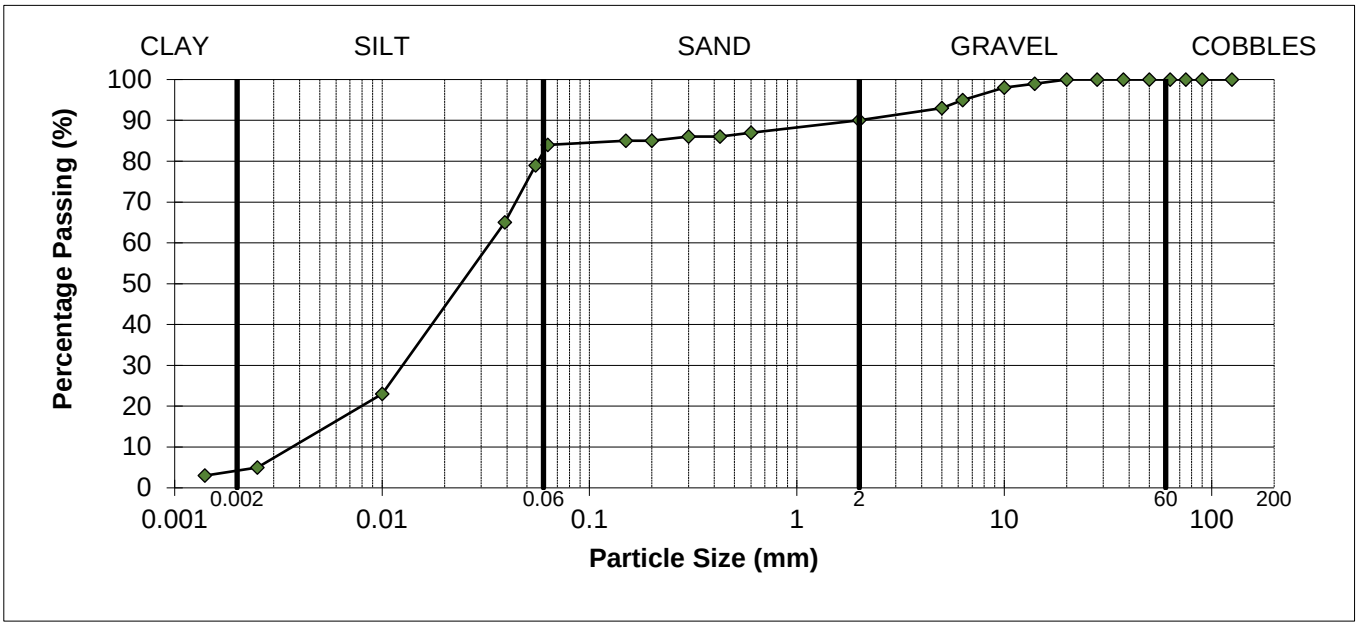
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP101 0.7-1.2 B	DATE SAMPLED	Not advised
LAB SAMPLE No	608388	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey slightly clayey slightly sandy slightly gravelly SILT
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	90	
90	100		0.6	87	
75	100		0.425	86	
63	100		0.3	86	
50	100		0.2	85	
37.5	100		0.15	85	
28	100		0.063	84	
20	100		0.055	79	
14	99		0.039	65	
10	98		0.01	23	
6.3	95		0.0025	5	
5	93		0.0014	3	



REMARKS
As received water content = 37.4%

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 03-Jan-25

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

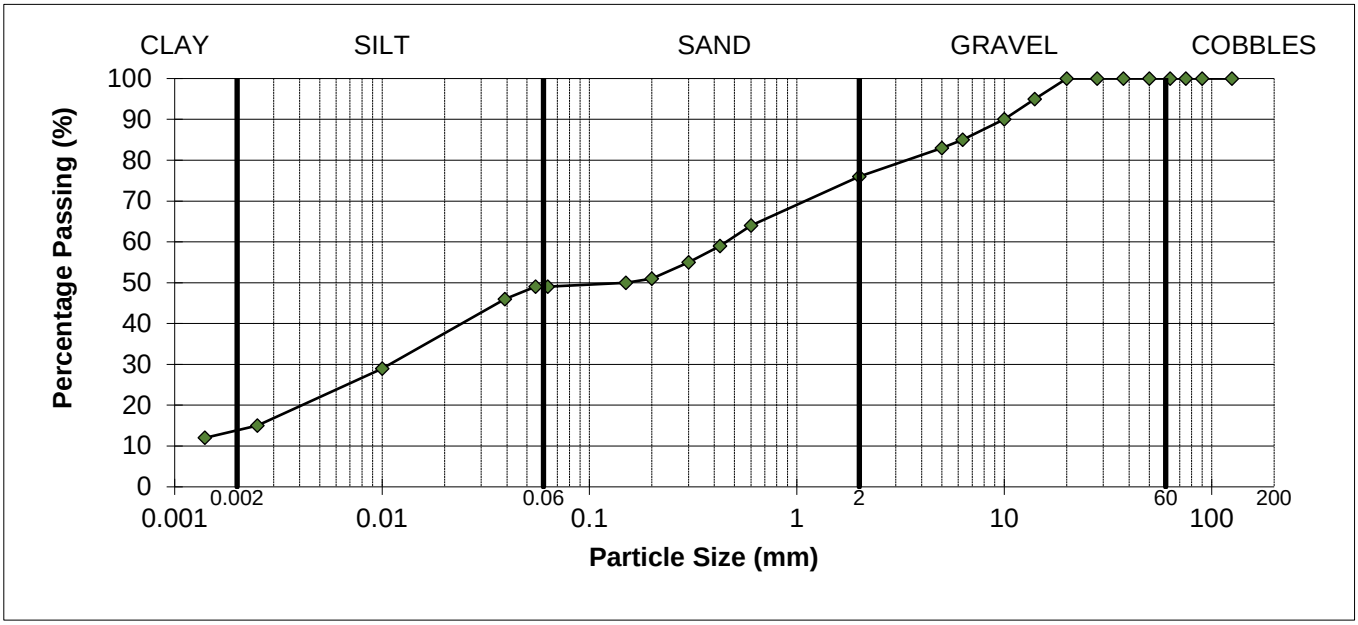
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	RH103C 2.0-3.0 B	DATE SAMPLED	Not advised
LAB SAMPLE No	608395	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey silty sandy gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2	76	
90	100		0.6	64	
75	100		0.425	59	
63	100		0.3	55	
50	100		0.2	51	
37.5	100		0.15	50	
28	100		0.063	49	
20	100		0.055	49	
14	95		0.039	46	
10	90		0.01	29	
6.3	85		0.0025	15	
5	83		0.0014	12	



REMARKS
As received water content = 22.2%

SIGNED

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) DATE 03-Jan-25

M U R R A Y R I X
ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS EN ISO 17892-4:2016

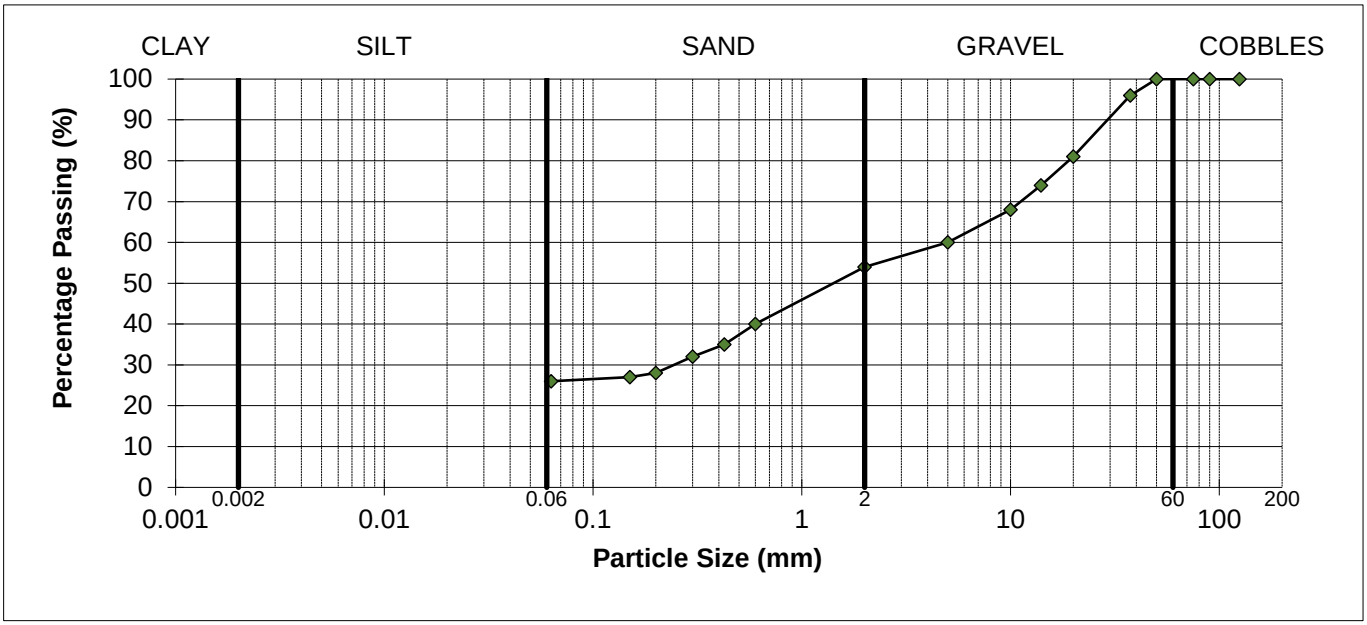
Determination of Water Content in accordance with BS EN ISO 17892-1:2014+A1:2022 (Oven Dry)

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	RH103C 3.5-4.0 B	DATE SAMPLED	Not advised
LAB SAMPLE No	608396	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey brown silty sandy vetry gravelly CLAY
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		5	60	
90	100		2	54	
75	100		0.6	40	
50	100		0.425	35	
37.5	96		0.3	32	
20	81		0.2	28	
14	74		0.15	27	
10	68		0.063	26	



SOIL FRACTIONS			
COBBLES	0%	SAND	28%
GRAVEL	46%	SILT / CLAY	26%

REMARKS
As received water content = 13.7%

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

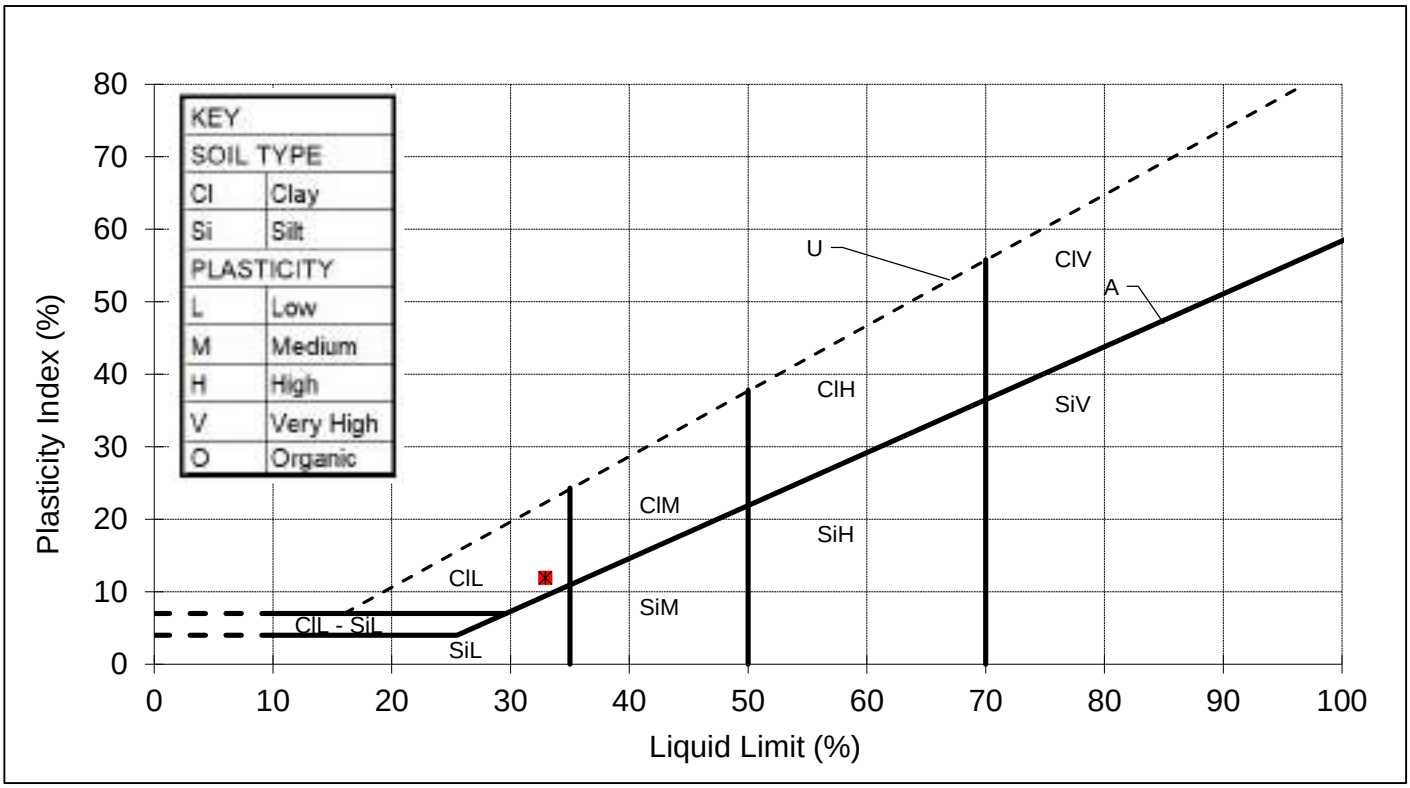
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	RH103C 3.1 D/B	DATE SAMPLED	Not advised
SAMPLE No.	608384	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Brown very silty slightly sandy CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.8	32.8	1.005	
Determination 2 (avg)	19.5	32.7		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
23.7	33	21	12	89



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

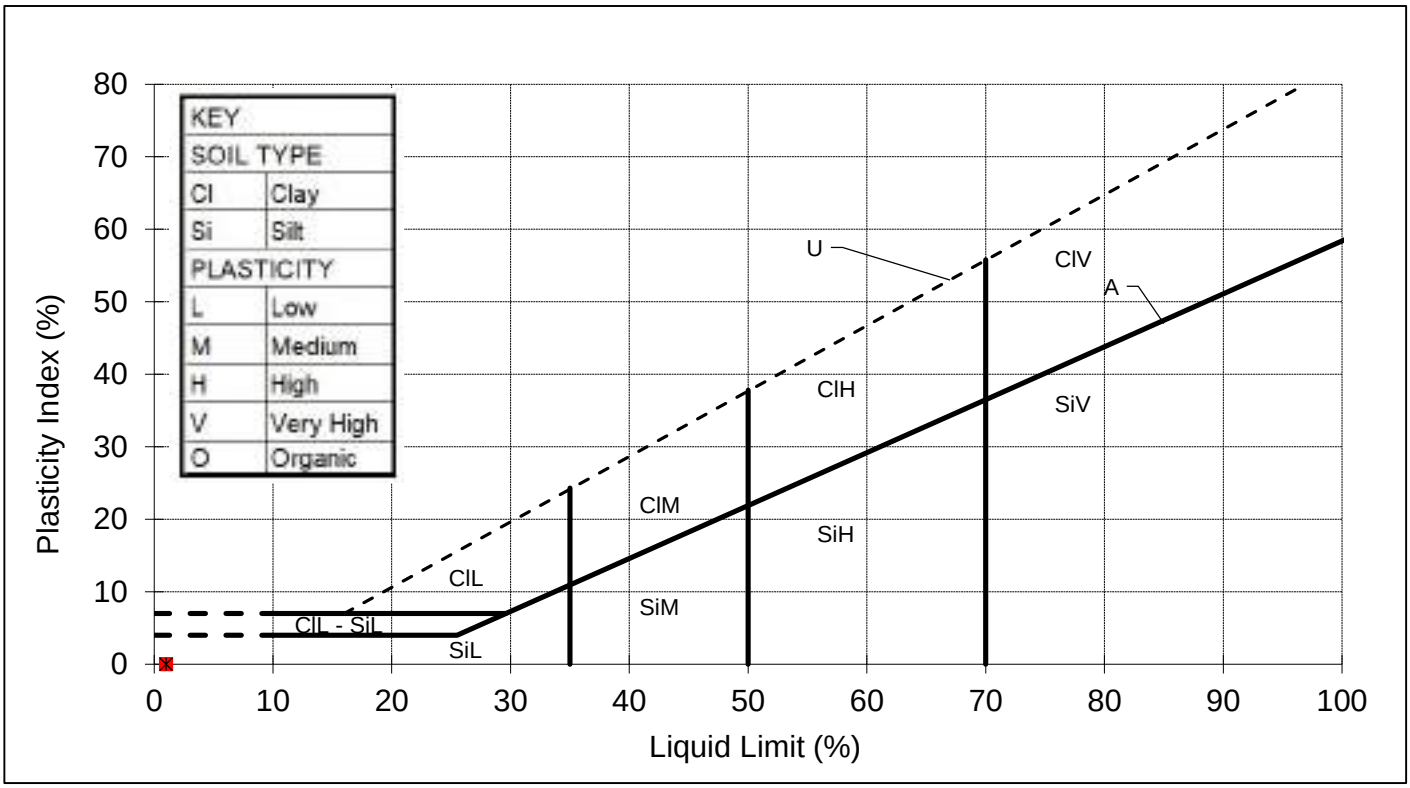
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP104 5.5 D	DATE SAMPLED	Not advised
SAMPLE No.	608373	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey brown silty sandy GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
5.7	N/A	Non Plastic	N/A	19



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

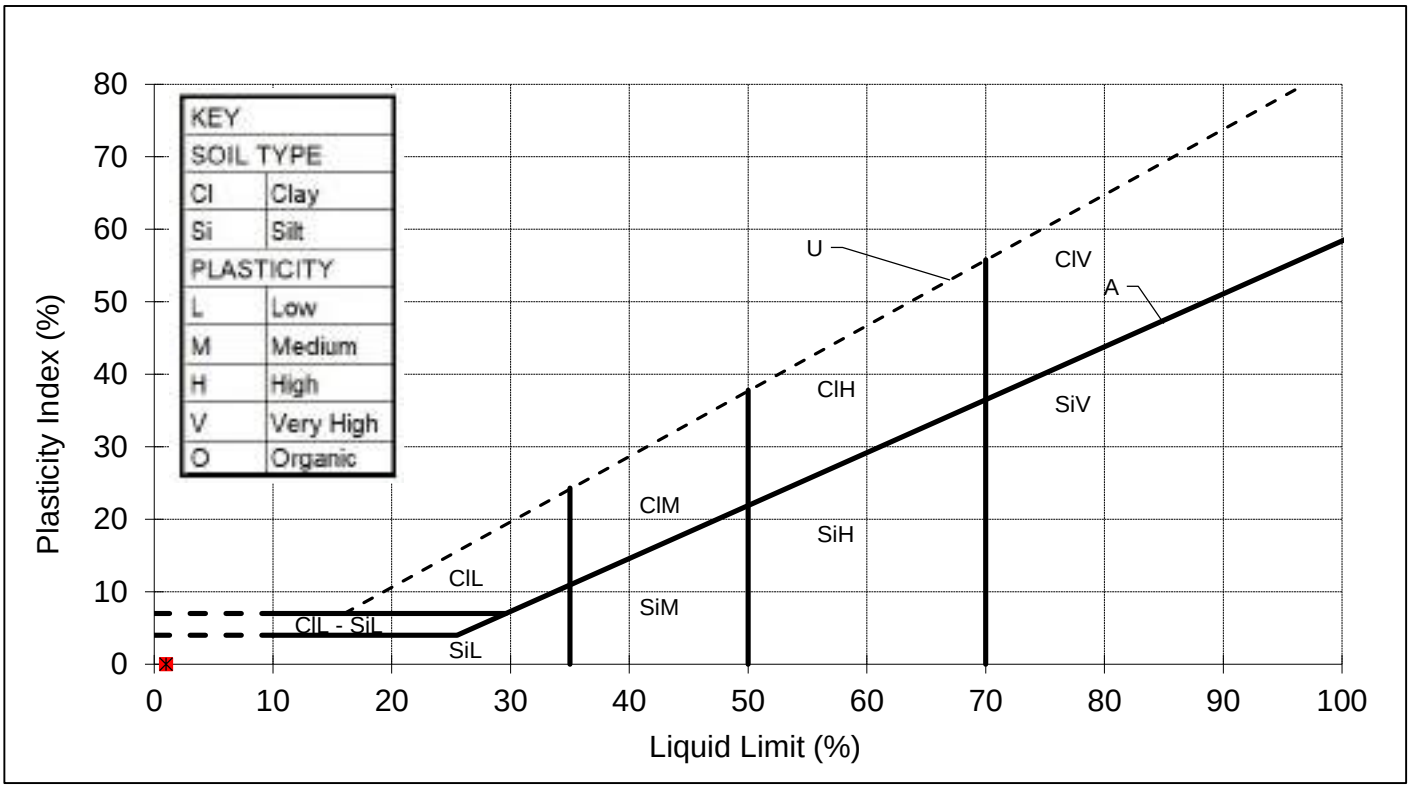
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP101 4.5 D	DATE SAMPLED	Not advised
SAMPLE No.	608349	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey brown silty sandy GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
10.2	N/A	Non Plastic	N/A	23



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

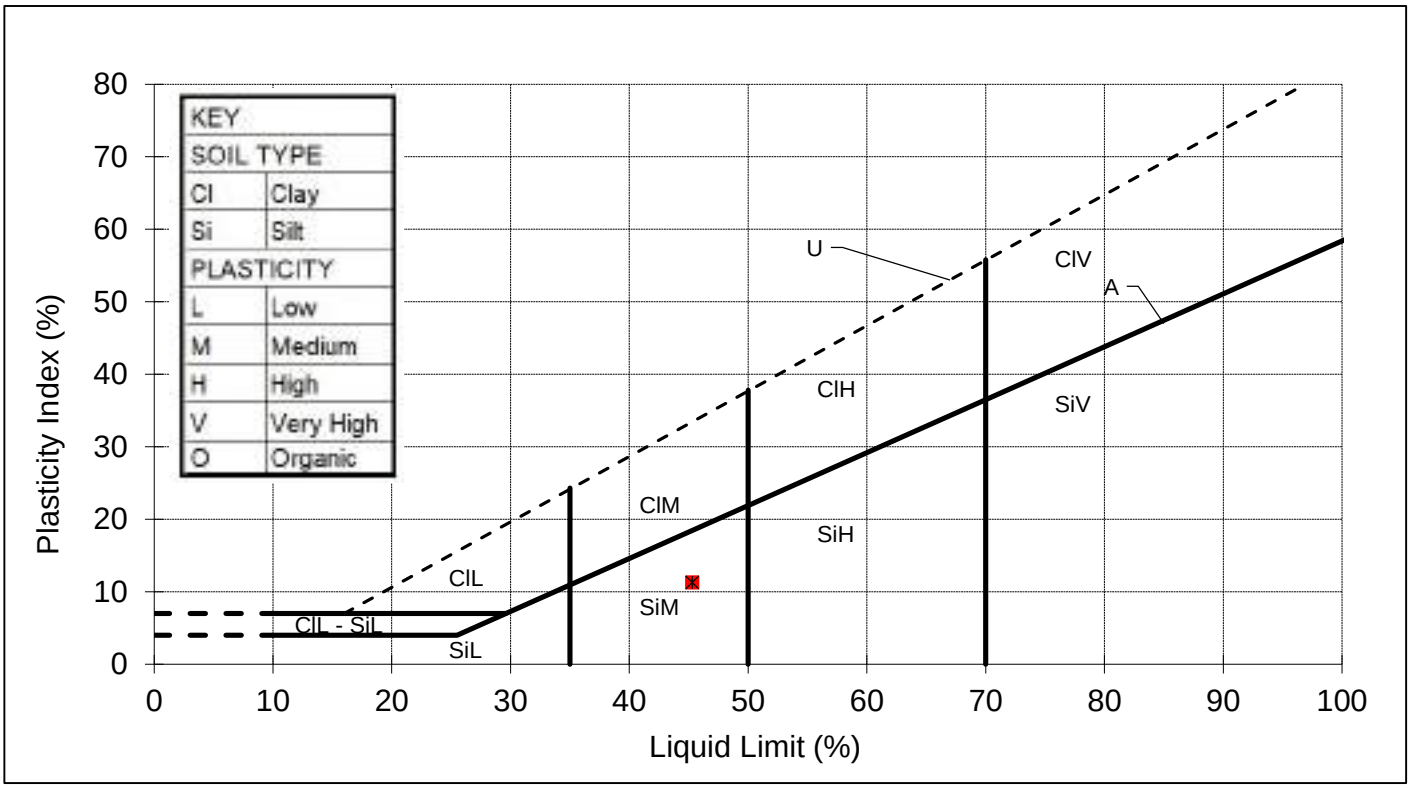
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP103 0.4-0.7	DATE SAMPLED	Not advised
SAMPLE No.	608392	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey slightly clayey very sandy SILT		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	24.5	47.9	0.947	
Determination 2 (avg)	24.3	47.7		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
41.2	45	34	11	100



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Director / Head of Laboratory)

DATE 03-Jan-25

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

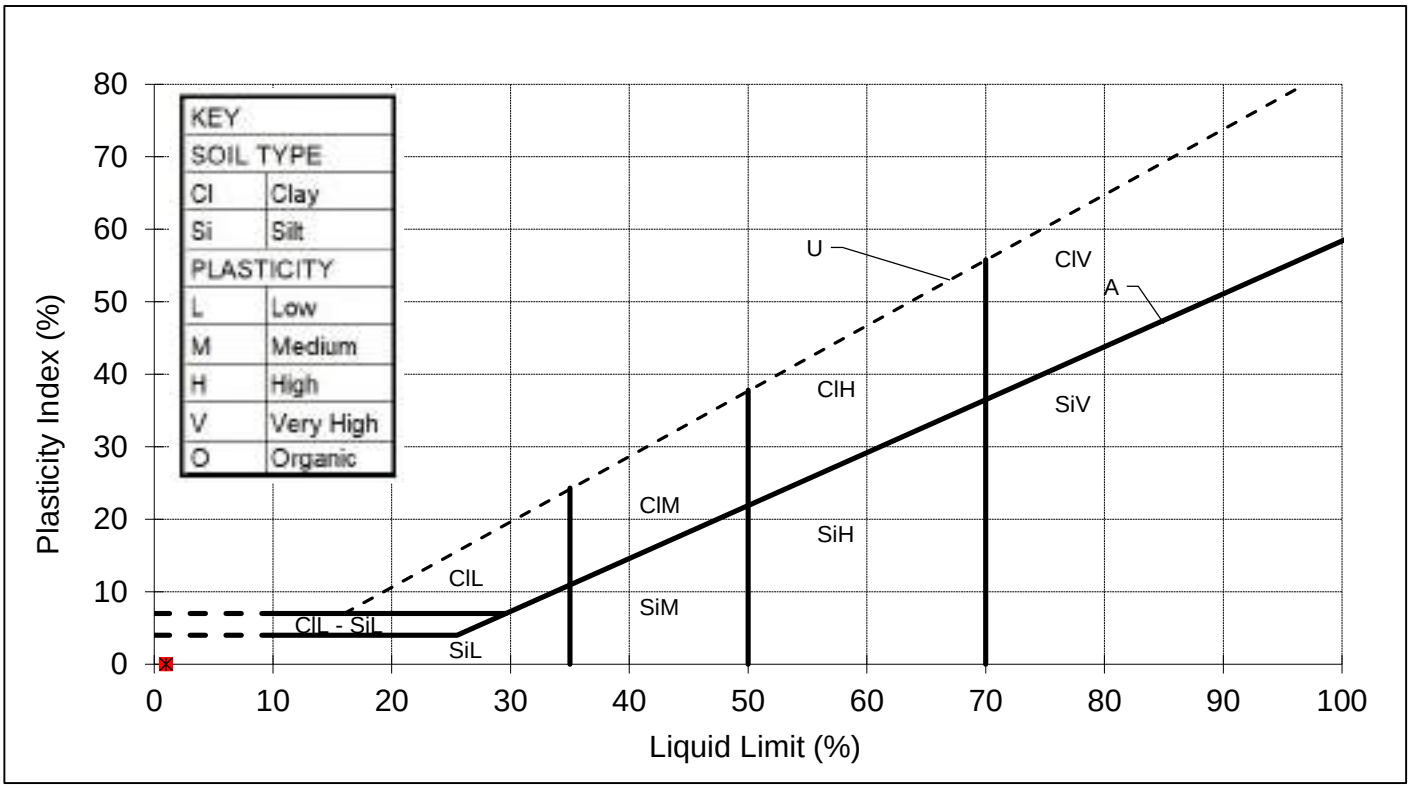
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP102 1.7-2.0 B	DATE SAMPLED	Not advised
SAMPLE No.	608391	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Grey slightly clayey slightly sandy slightly gravelly SILT		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
36.8	N/A	Non Plastic	N/A	75



REMARKS
Sample contained some palstic material but was found to be non plastic.

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

LIQUID LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.3 (30° FALL CONE) 1 POINT METHOD
PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

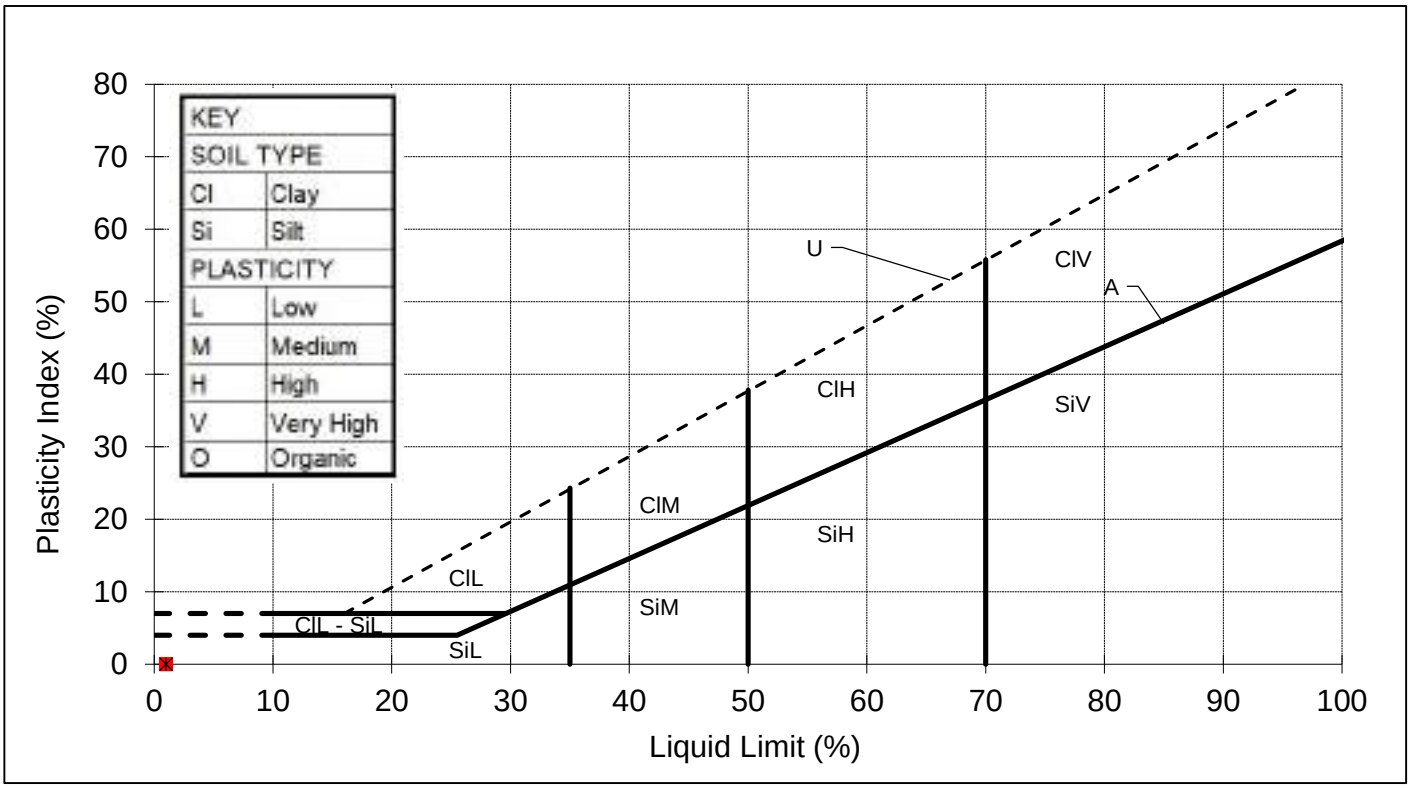
CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

SAMPLE LABEL	CP101 2.7-3.0 B	DATE SAMPLED	Not advised
SAMPLE No.	608389	DATE RECEIVED	03-Dec-24
DATE TESTED	16-Dec-24	SAMPLED BY	Client

MATERIAL	Brown silty sandy GRAVEL		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Water Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	N/A	N/A	N/A	
Determination 2 (avg)	N/A	N/A		

Natural Water Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
12.6	N/A	Non Plastic	N/A	30



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

M U R R A Y R I X

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF POINT LOAD STRENGTH INDEX OF ROCK
METHOD IN ACCORDANCE WITH ASTM STANDARD D 5731

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

DATE RECEIVED	03-Dec-24	DATE SAMPLED	Not advised
DATE TESTED	13-Dec-24	SAMPLED BY	Client

MATERIAL	Rock Core
ADVISED SOURCE	Site Investigation Sample

Sample Number	B/H No.	Depth (m)	Test Type*	D (mm)	W** (mm)	Load (P) (kN)	D_e^2 (mm^2)	D_e (mm)	Is (MPa)	F	$I_{s(50)}$ (MPa)
608330	RH103C	4.21-4.29	A	68.2	89.6	5.6	7780.41	88.21	0.72	1.29	0.93
608331	RH103C	4.95-5.00	A	49.5	89.6	6.3	5647.07	75.15	1.12	1.20	1.34
608394	RH103C	5.75-5.80	A	38.3	89.4	3.9	4359.60	66.03	0.89	1.13	1.01
608332	RH103C	6.14-6.23	D	89.4		1.1	7992.36	89.40	0.14	1.30	0.18
608333	RH103C	7.14-7.48	A	74.3	89.4	10.9	8457.39	91.96	1.29	1.32	1.70
608334	RH103C	7.93-8.00	A	30.7	84.0	3.2	3283.43	57.30	0.97	1.06	1.04
608335	RH103C	8.23-8.30	A	47.8	87.7	2.9	5337.50	73.06	0.54	1.19	0.64
608337	RH103C	10.11-10.19	A	46.2	89.6	11.8	5270.60	72.60	2.24	1.18	2.65
608338	RH103C	11.14-11.21	A	73.4	88.4	2.0	8261.49	90.89	0.24	1.31	0.32
608339	RH103C	12.26-12.32	A	29.3	88.6	0.3	3305.30	57.49	0.09	1.06	0.10
608341	RH103C	13.80-13.88	D	89.4		3.3	7992.36	89.40	0.41	1.30	0.54
608342	RH103C	14.62-14.70	A	46.6	89.5	4.1	5310.30	72.87	0.77	1.18	0.91
608302	RH101	4.77-4.80	A	36.5	88.5	1.8	4112.88	64.13	0.44	1.12	0.49
608303	RH101	6.28-6.35	A	63.3	88.9	3.4	7164.99	84.65	0.47	1.27	0.60
608304	RH101	6.71-6.78	A	79.9	89.5	10.2	9105.00	95.42	1.12	1.34	1.50
608305	RH101	7.71-7.75	A	22.8	90.2	1.7	2618.49	51.17	0.65	1.01	0.66
608306	RH101	9.02-9.15	A	34.1	90.2	8.2	3916.26	62.58	2.09	1.11	2.32
608307	RH101	9.56-9.61	A	27.6	90.1	2.4	3166.24	56.27	0.76	1.05	0.80
608309	RH101	10.77-10.80	A	36.4	90.6	3.1	4198.94	64.80	0.74	1.12	0.83
608397	RH101	11.71-11.74	A	40.9	89.8	1.7	4676.38	68.38	0.36	1.15	0.42
608310	RH101	12.84-12.90	A	39.9	89.0	2.4	4521.40	67.24	0.53	1.14	0.61
608311	RH101	13.42-13.50	A	55.4	89.2	4.8	6291.94	79.32	0.76	1.23	0.94
608312	RH101	14.22-14.26	A	38.1	90.4	2.5	4385.34	66.22	0.57	1.13	0.65
608313	RH101	15.12-15.16	A	51.3	89.7	6.2	5858.95	76.54	1.06	1.21	1.28

Test Type *				**W	Entry required if test type is not Diametral
A	Axial Test	D	Diametral Test		
B	Block Test	I	Irregular Lump Test		

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

M U R R A Y R I X

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF POINT LOAD STRENGTH INDEX OF ROCK
METHOD IN ACCORDANCE WITH ASTM STANDARD D 5731

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

DATE RECEIVED	03-Dec-24	DATE SAMPLED	Not advised
DATE TESTED	13-Dec-24	SAMPLED BY	Client

MATERIAL	Rock Core
ADVISED SOURCE	Site Investigation Sample

Sample Number	B/H No.	Depth (m)	Test Type*	D (mm)	W** (mm)	Load (P) (kN)	D_e^2 (mm^2)	D_e (mm)	Is (MPa)	F	$I_{s(50)}$ (MPa)
608314	RH101	17.30-17.39	A	45.6	89.8	4.8	5213.76	72.21	0.92	1.18	1.09
608315	RH101	18.30-18.42	A	20.3	89.6	1.8	2315.87	48.12	0.78	0.98	0.76
608316	RH101	19.23-19.30	A	83.3	89.8	11.8	9524.26	97.59	1.24	1.35	1.67
608317	RH102	6.70-6.77	A	56.8	89.7	12.8	6487.10	80.54	1.97	1.24	2.45
608318	RH102	7.43-7.50	A	63.2	89.6	4.9	7210.00	84.91	0.68	1.27	0.86
608319	RH102	8.49-8.53	A	40.3	89.8	17.0	4607.78	67.88	3.69	1.15	4.23
608321	RH102	9.55-9.60	A	38.9	89.8	4.1	4447.71	66.69	0.92	1.14	1.05
608323	RH102	10.76-10.80	A	35.1	89.8	11.2	4013.23	63.35	2.79	1.11	3.10
608324	RH102	11.68-11.75	A	38.3	89.7	20.3	4374.23	66.14	4.64	1.13	5.26
608325	RH102	12.94-13.00	A	57.6	89.7	4.9	6578.47	81.11	0.74	1.24	0.93
608326	RH102	14.28-14.32	A	32.0	89.8	5.1	3658.78	60.49	1.39	1.09	1.52
608327	RH102	15.40-15.43	A	31.4	89.9	3.8	3594.18	59.95	1.06	1.09	1.15
608328	RH102	16.20-16.50	A	73.7	89.7	8.3	8417.25	91.75	0.99	1.31	1.30

Test Type *				**W	Entry required if test type is not Diametral
A	Axial Test	D	Diametral Test		
B	Block Test	I	Irregular Lump Test		

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-Jan-25
(Director / Head of Laboratory)

M U R R A Y R I X

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

TEST CERTIFICATE

DETERMINATION OF THE COMPRESSIVE STRENGTH OF INTACT ROCK CORE SPECIMENS
ASTM D7012 - 14 Method C

CLIENT	Tier Environmental Ltd
SITE	TE1880 - Hopwood Hall College
JOB NUMBER	MRN 25010/1

DATE RECEIVED	03-Dec-24	DATE SAMPLED	Not advised
DATE TESTED		SAMPLED BY	Client
MATERIAL TESTED	Rock Core		

Sample Number	B/H No.	Sample Depth	Tested By	Diameter (mm)	Length* (mm)	L/D Ratio	Method of Preparation	Load at Failure (kN)	Compressive Strength (N/mm^2)	Description after Test
608336	RH103C	9.42-9.71	M.R.	90	180	2.00	Saw / Grinding	280.2	**44.0**	Split vertically top to bottom with no visible end defects
608340	RH103C	12.89-13.03	M.R.	90	180	2.00	Saw / Grinding	192.3	**30.2**	Split vertically top to bottom with no visible end defects
608308	RH101	10.15-10.40	M.R.	91	182	2.00	Saw / Grinding	219.2	**33.7**	Split vertically top to bottom with no visible end defects
608320	RH102	8.66-8.90	M.R.	90	180	2.00	Saw / Grinding	240.4	**37.8**	Split vertically top to bottom with no visible end defects
608322	RH102	9.67-9.92	M.R.	90	180	2.00	Saw / Grinding	242.8	**38.2**	Split vertically top to bottom with no visible end defects

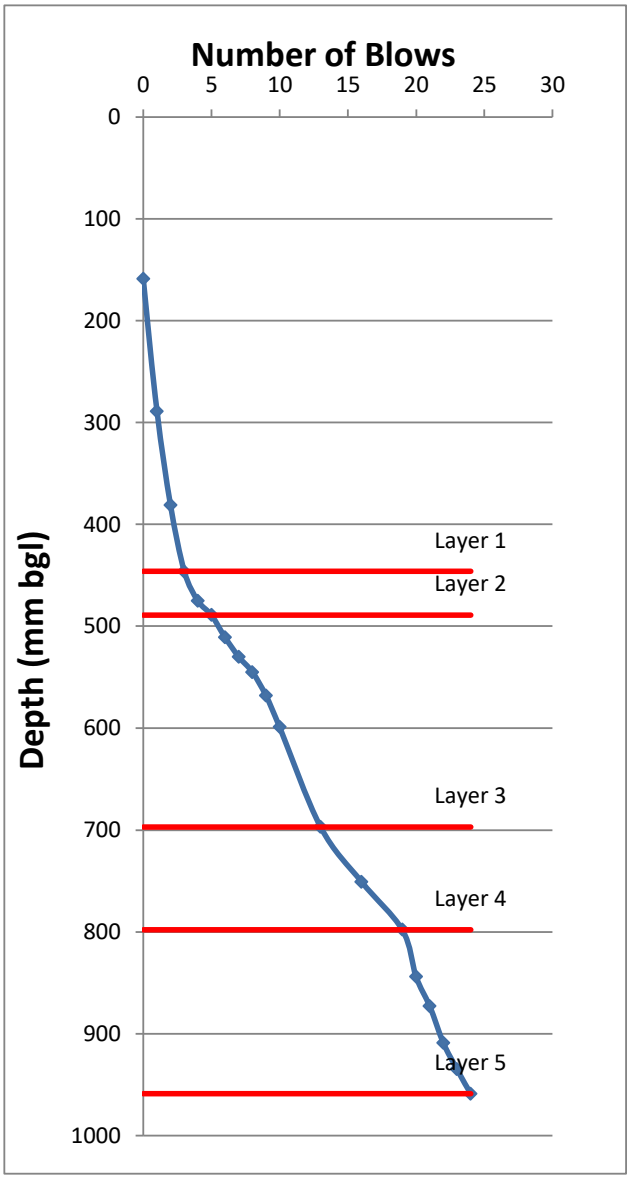
Comments / Deviation from standard method / Abnormalities noted during visual inspection.
*Length after sample preparation

NAME O.P. Davies BA (Hons) (Director / Head of Laboratory) SIGNED  DATE 03-Jan-25

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS102 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	160	159
1	290	289
2	382	381
3	447	446
4	476	475
5	490	489
6	512	511
7	531	530
8	546	545
9	569	568
10	600	599
13	698	697
16	752	751
19	799	798
20	845	844
21	874	873
22	910	909
23	936	935
24	960	959

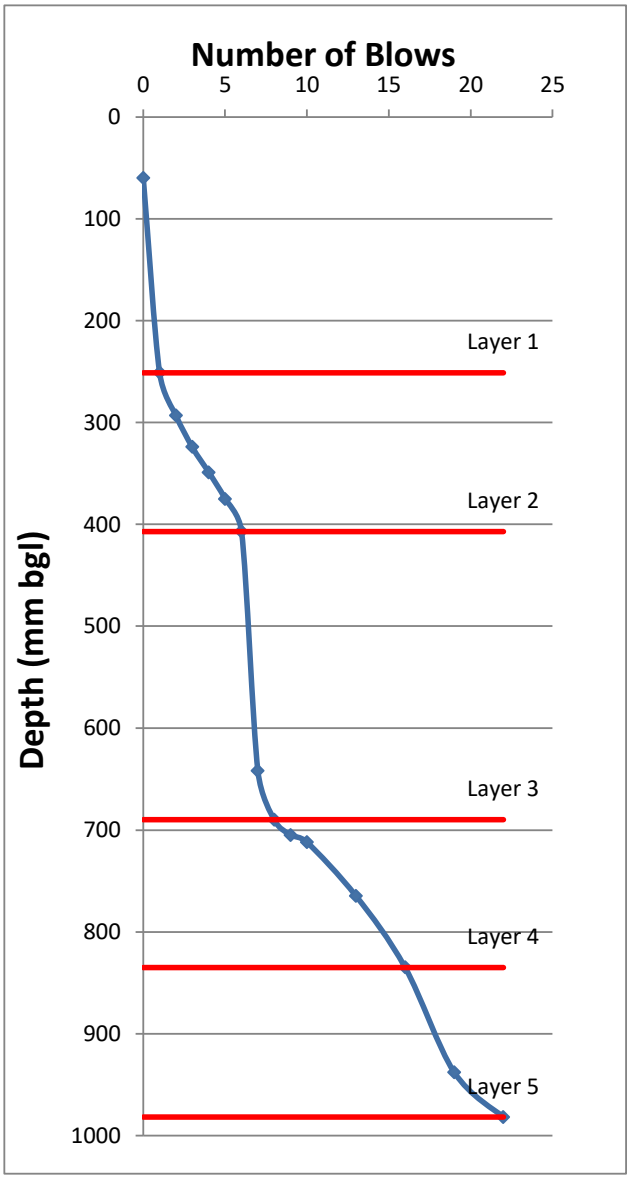


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	159	446	3	95.67	1.28
2	446	489	5	21.50	8.55
3	489	697	13	26.00	6.71
4	697	798	19	16.83	11.67
5	798	959	24	32.20	5.11

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS103 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	61	60
1	252	251
2	294	293
3	325	324
4	350	349
5	376	375
6	408	407
7	643	642
8	691	690
9	706	705
10	713	712
13	766	765
16	836	835
19	939	938
22	983	982

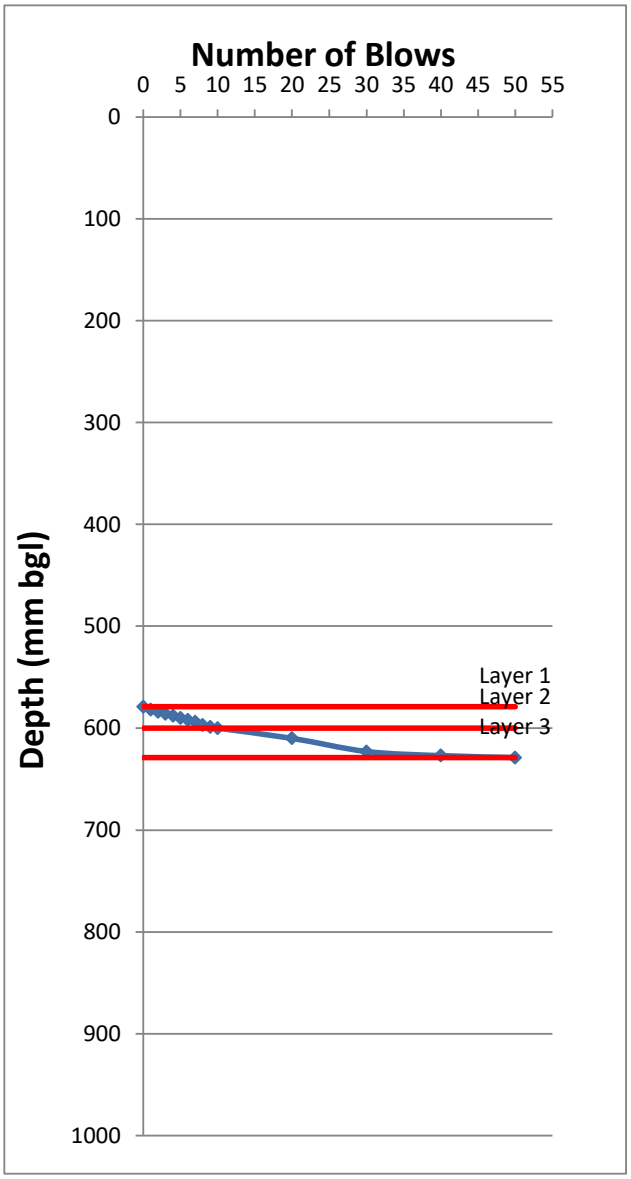


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	60	251	1	191.00	0.53
2	251	407	6	31.20	5.32
3	407	690	8	141.50	0.78
4	690	835	16	18.13	10.62
5	835	982	22	24.50	7.24

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS108 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	580	579
1	583	582
2	585	584
3	587	586
4	589	588
5	591	590
6	593	592
7	595	594
8	598	597
9	600	599
10	601	600
20	611	610
30	624	623
40	628	627
50	630	629

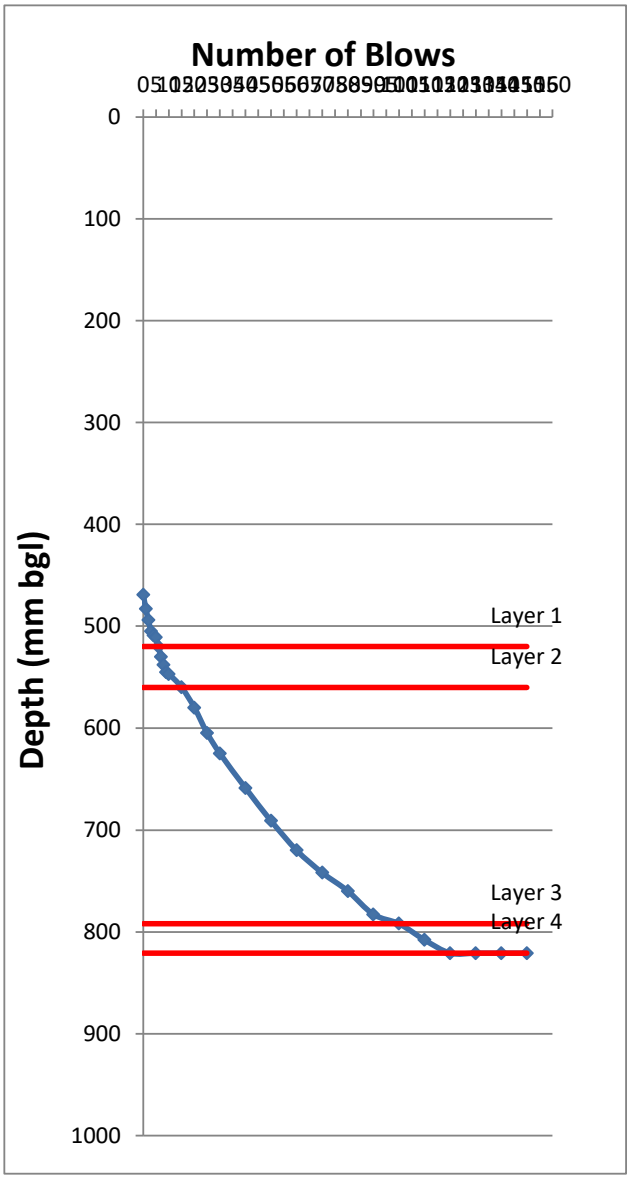


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	579	579	0		
2	579	600	10	2.10	165.13
3	600	629	50	0.73	639.43
4	629				
5					

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS109 DCP
Test Date	22.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	470	469
1	484	483
2	495	494
3	506	505
4	510	509
5	512	511
6	521	520
7	531	530
8	539	538
9	546	545
10	548	547
15	561	560
20	581	580
25	606	605
30	626	625
40	660	659
50	692	691
60	721	720
70	743	742
80	761	760
90	784	783
100	793	792
110	809	808
120	822	821
130	822	821
140	822	821
150	822	821

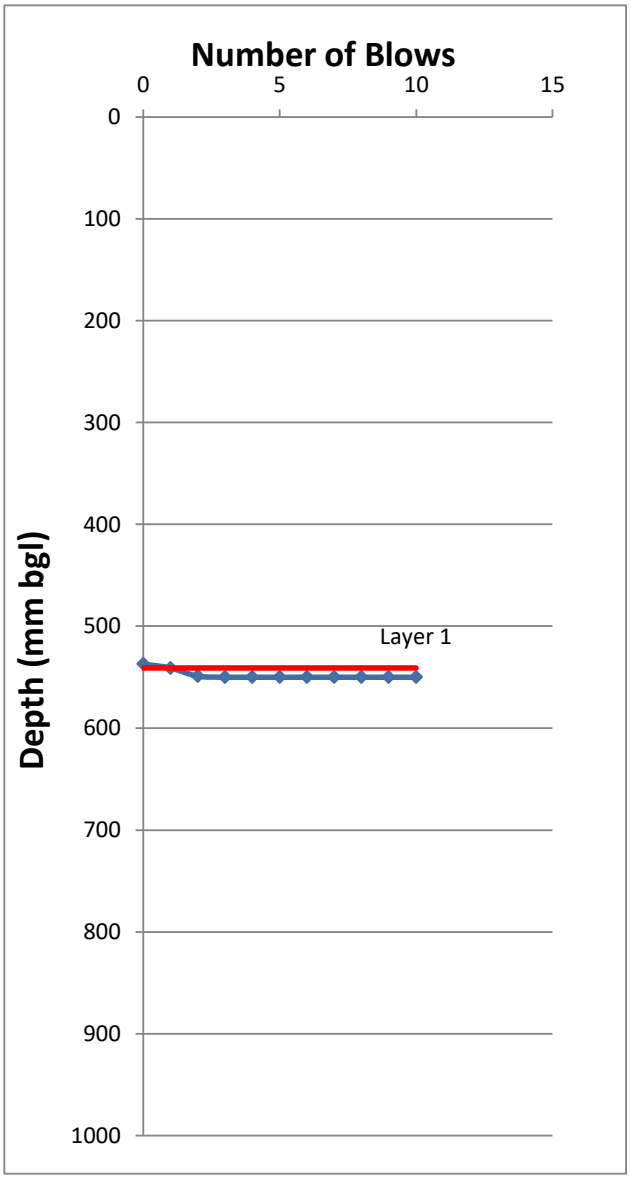


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	469	520	6	8.50	27.85
2	520	560	15	4.44	63.58
3	560	792	100	2.73	118.27
4	792	821	120	1.45	264.59
5	821				

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS111 DCP
Test Date	22.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	538	537
1	542	541
2	550	549
3	551	550
4	551	550
5	551	550
6	551	550
7	551	550
8	551	550
9	551	550
10	551	550



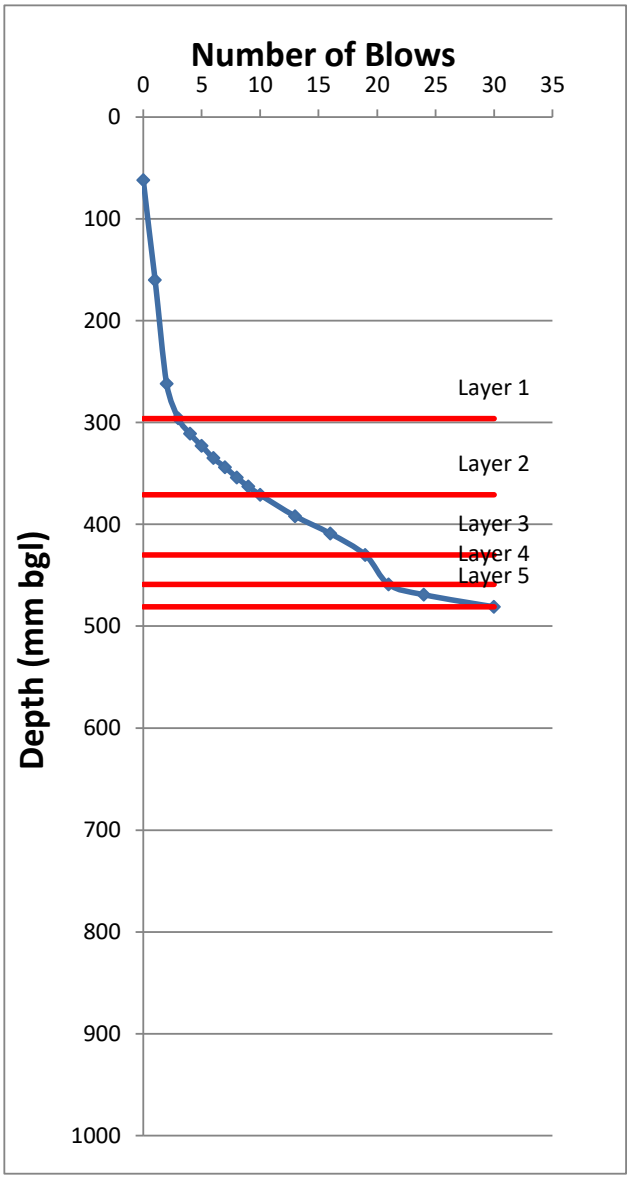
Based on the Kleyn and Van Heerden Model

Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	537	541	1	4.00	72.71
2	541				
3					
4					
5					

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS113 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	63	62
1	161	160
2	263	262
3	297	296
4	312	311
5	324	323
6	336	335
7	345	344
8	355	354
9	364	363
10	372	371
13	393	392
16	410	409
19	431	430
21	460	459
24	470	469
30	482	481

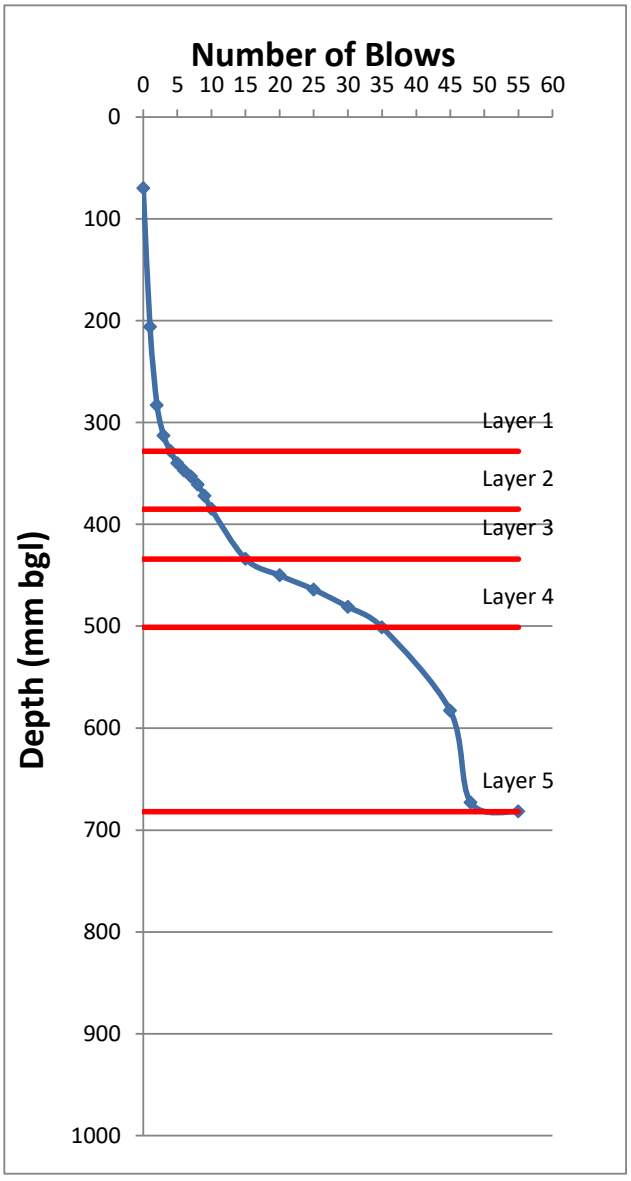


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	62	296	3	78.00	1.66
2	296	371	10	10.71	20.74
3	371	430	19	6.56	38.77
4	430	459	21	14.50	14.11
5	459	481	30	2.44	136.10

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS113A DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	71	70
1	207	206
2	284	283
3	314	313
4	329	328
5	341	340
6	348	347
7	354	353
8	362	361
9	373	372
10	386	385
15	435	434
20	451	450
25	465	464
30	482	481
35	502	501
45	584	583
48	674	673
55	683	682

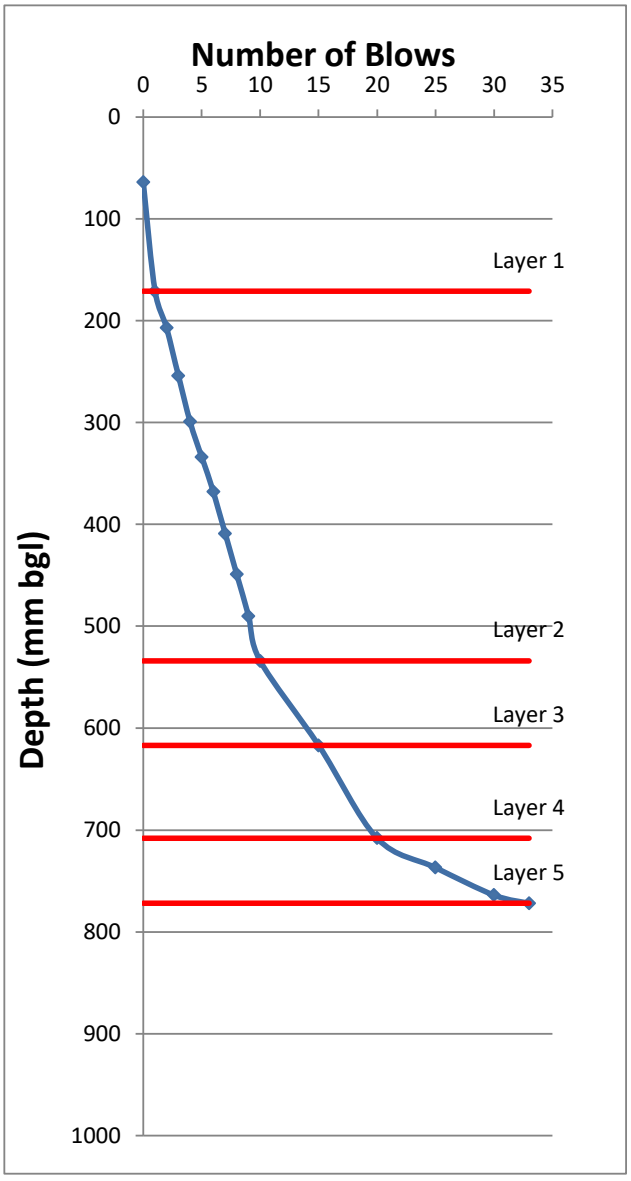


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	70	328	4	64.50	2.11
2	328	385	10	9.50	24.17
3	385	434	15	9.80	23.24
4	434	501	35	3.35	91.12
5	501	682	55	9.05	25.71

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS115 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	65	64
1	172	171
2	208	207
3	255	254
4	300	299
5	335	334
6	369	368
7	410	409
8	450	449
9	491	490
10	535	534
15	618	617
20	709	708
25	738	737
30	765	764
33	773	772

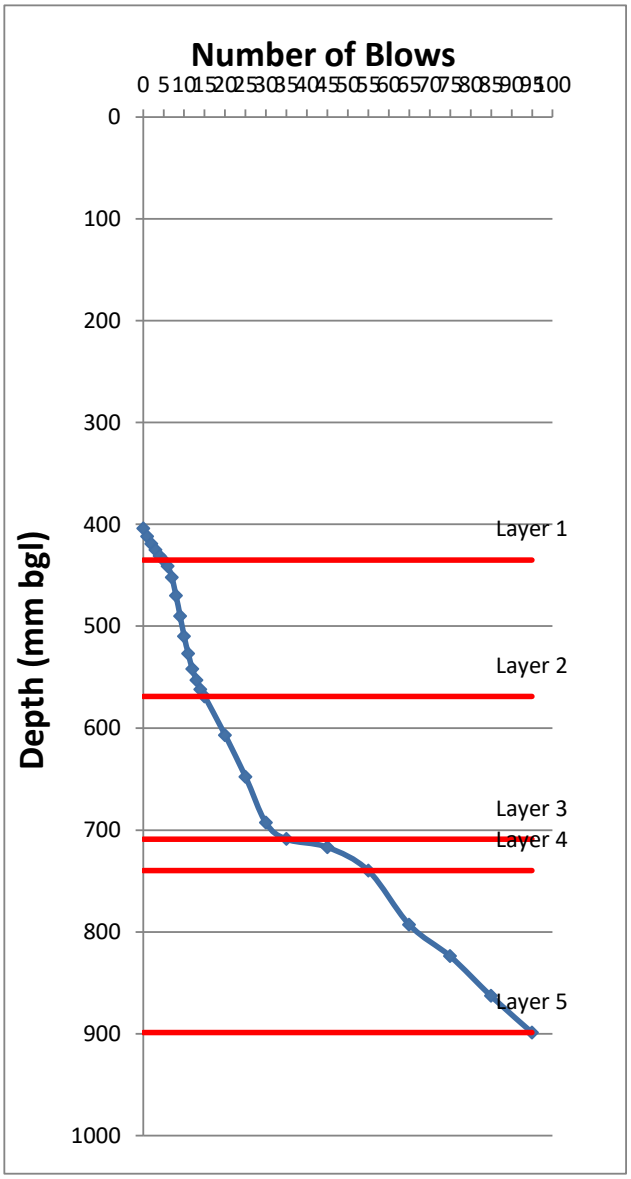


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	64	171	1	107.00	1.11
2	171	534	10	40.33	3.84
3	534	617	15	16.60	11.88
4	617	708	20	18.20	10.57
5	708	772	33	4.92	55.82

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS116 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	405	404
1	413	412
2	420	419
3	426	425
4	432	431
5	436	435
6	442	441
7	453	452
8	471	470
9	491	490
10	511	510
11	528	527
12	543	542
13	554	553
14	563	562
15	570	569
20	608	607
25	649	648
30	694	693
35	710	709
45	718	717
55	741	740
65	794	793
75	825	824
85	864	863
95	900	899

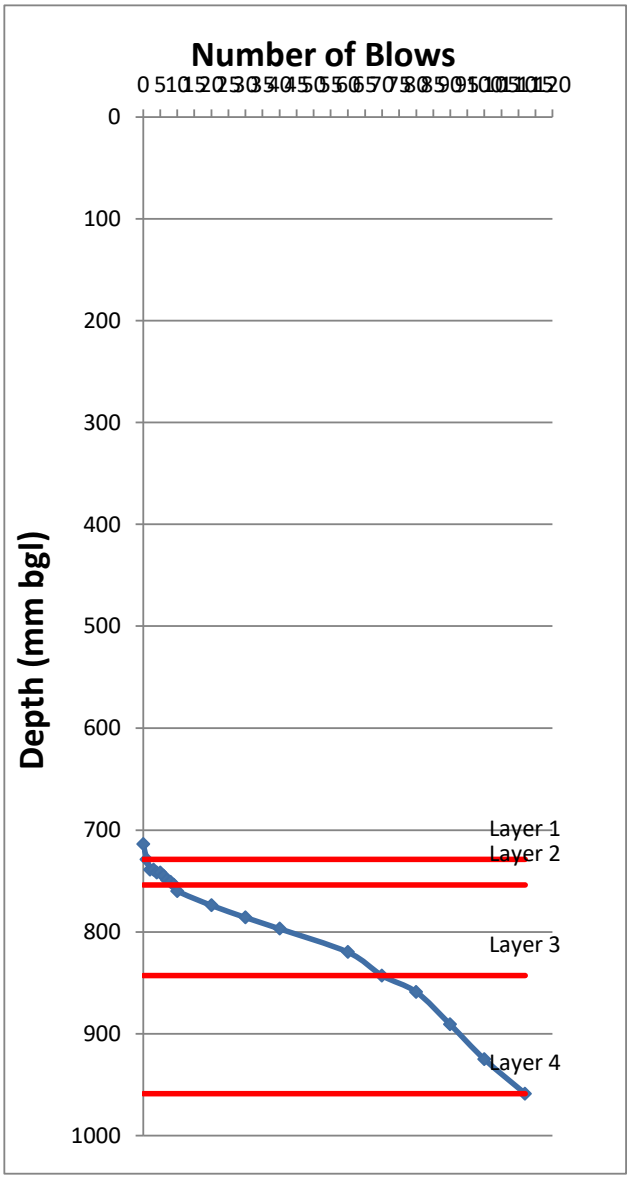


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	404	435	5	6.20	41.62
2	435	569	15	13.40	15.60
3	569	709	35	7.00	35.66
4	709	740	55	1.55	243.06
5	740	899	95	3.98	73.29

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	WS184 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	715	714
1	730	729
2	740	739
3	740	739
4	743	742
5	743	742
6	746	745
7	750	749
8	752	751
9	755	754
10	761	760
20	775	774
30	787	786
40	798	797
60	821	820
70	844	843
80	860	859
90	892	891
100	926	925
112	960	959

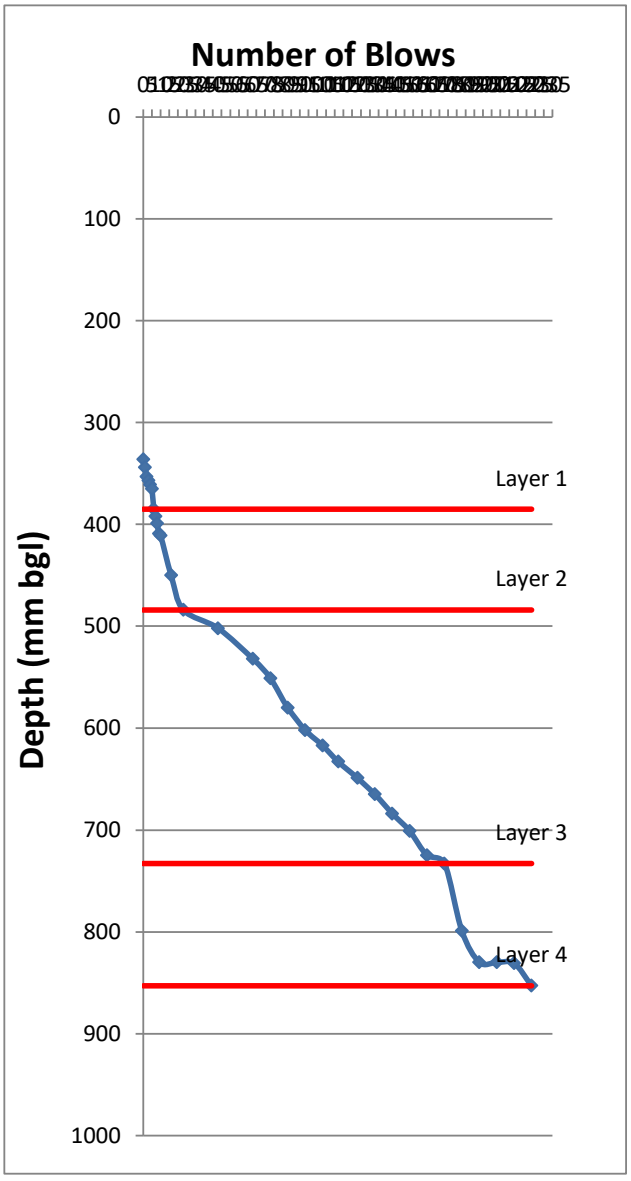


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	714	729	1	15.00	13.52
2	729	754	9	3.13	99.55
3	754	843	70	1.46	262.51
4	843	959	112	2.76	116.50
5	959				

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	CP101 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	337	336
1	345	344
2	354	353
3	358	357
4	362	361
5	366	365
6	386	385
7	393	392
8	400	399
9	410	409
10	412	411
16	451	450
23	485	484
43	503	502
63	533	532
73	552	551
83	581	580
93	603	602
103	618	617
112	634	633
123	650	649
133	666	665
143	685	684
153	702	701
163	726	725
173	734	733
183	800	799
193	831	830
203	831	830
213	832	831
223	854	853

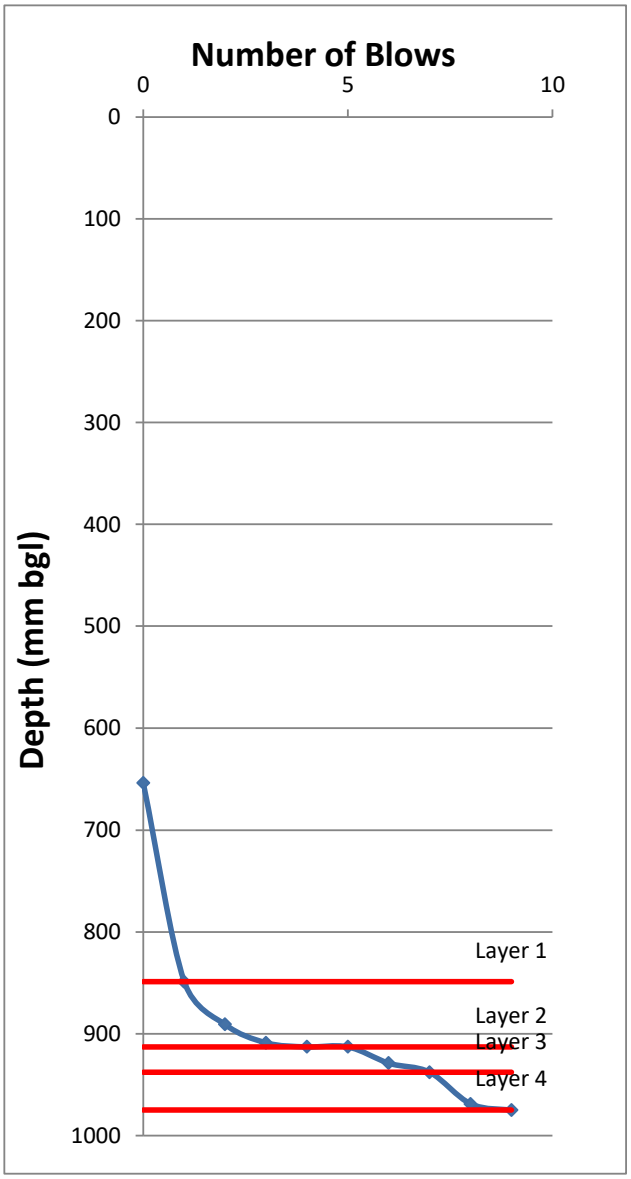


Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	336	385	6	8.17	29.31
2	385	484	23	5.82	45.07
3	484	733	173	1.66	222.74
4	733	853	223	2.40	139.31

DYNAMIC CONE PENETROMETER RECORD SHEET

JOB DETAILS	
Job No:	TE1880
Site:	HOPWOOD HALL COLLEGE
Location	HDP105 DCP
Test Date	21.11.2024
Zero Error mm	1
Cone Angle	
Layers Removed	

No of Blows (Cumulative)	Height (mm)	Depth (mm bgl)
0	655	654
1	850	849
2	892	891
3	910	909
4	914	913
5	914	913
6	930	929
7	939	938
8	970	969
9	976	975



Based on the Kleyn and Van Heerden Model					
Layer	Top of layer	Base of Layer	Total blows	DCP (mm / blow)	CBR %
1	654	849	1	195.00	0.52
2	849	913	4	21.33	8.63
3	913	938	7	8.33	28.56
4	938	975	9	18.50	10.35
5	975				

APPENDIX F - GROUNDWATER AND GAS MONITORING RESULTS & GAS ANALYSER CALIBRATION CERTIFICATE

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	17.12.2024

Job No:	TE1880		
Visit No:	1	of	6
Operator:	LH		
Project Manager:	SE		

Ground Gas Instrument	**GA5000**						
Ambient Gas Concentrations:	**CH_4**	ND	**CO_2**	0.1	**O_2**	20.9	
METEOROLOGICAL AND SITE INFORMATION							
State of ground:	X	Dry		Moist		Wet		Snow		Frozen
Wind:		Calm	X	Light		Moderate		Strong		
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Preciptation:	X	None		Slight		Moderate		Heavy		
Barometric pressure (mbar):			1006	Before			1006	After		
Pressure Trend			X	Falling		Steady		Rising		

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	Typically <1% CH4 and <5% CO2
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Monitoring Point	FLOW DATA		GAS CONCENTRATIONS										WELL AND WATER DATA				RESPONSE ZONE	COMMENTS
	Flow rate (l/hr)		Methane (%v/v) CH4		Carbon dioxide (%v/v) CO2		Oxygen (%v/v) O2		Carbon monoxide (ppm) CO		Hydrogen sulphide (ppm) H2S		Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)		
	Peak	Steady	Peak	Steady	Peak	Steady	Lowest	Steady	Peak	Steady	Peak	Steady						
RH101	ND	ND	ND	ND	0.2	0.1	20.8	20.9	ND	ND	ND	ND	0.22	33.80	119.52	119.30	Deep PCM (inc. coal)	
RH102	ND	ND	ND	ND	0.3	0.3	18.7	18.7	3	3	ND	ND	1.95	7.43	119.64	117.69	Shallow PCM	
RH103C	24.0	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.00	32.80	119.53	119.53	Deep PCM (inc. coal)	FLOODED
CP101	ND	ND	ND	ND	2.9	2.9	12.3	12.3	4	ND	ND	ND	3.11	5.13	119.53	116.42	MG / GT / PCM	
CP102	1.0	ND	ND	ND	0.2	0.2	19.1	19.1	2	ND	ND	ND	3.70	4.42	119.51	115.81	MG / PCM	
CP103	ND	ND	ND	ND	1.2	1.2	19.2	19.2	3	1	ND	ND	3.94	6.15	119.43	115.49	MG	
CP105	0.1	ND	ND	ND	0.4	0.1	10.2	13.1	13	12	ND	ND	2.14	3.82	119.50	117.36	MG / PCM	
WS104	ND	ND	ND	ND	0.1	0.1	20.0	20.0	ND	ND	ND	ND	ND	0.65	119.69		MG	
WS107	ND	ND	ND	ND	2.6	0.3	13.4	20.1	2	ND	ND	ND	ND	0.97	119.51		MG	
WS108	ND	ND	ND	ND	0.2	0.1	19.7	19.7	2	ND	ND	ND	ND	0.65	119.61		MG	
WS109	4.3	ND	ND	ND	0.1	0.1	14.0	17.5	4	2	ND	ND	0.35	0.41	119.56	119.21	MG	
WS112	ND	ND	ND	ND	2.2	2.2	0.5	0.5	4	ND	ND	ND	3.67	4.19	118.86	115.19	MG / GFD	
WS116	ND	ND	ND	ND	0.1	0.1	20.1	20.3	1	ND	ND	ND	ND	2.07	119.14		MG	
WS111	ND	ND	ND	ND	1.8	0.1	12.1	19.8	2	ND	ND	ND	ND	0.70	119.74		MG	
Min	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.5	ND	ND	ND	ND		0.41	118.86	115.19		
Max	24.0	0.1	0.1	0.1	2.9	2.9	20.8	20.9	13	12	ND	ND	3.94	33.80	119.74	119.53		

Borehole Hazardous Gas Flow Rates (l/hr)							
Peak Flow Rates				Steady Flow Rates			
CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0003	0.0001	0.0003	0.0001	0.0003	0.0001	0.0003
0.024	0.024	0.024	0.024	0.0001	0.0001	0.0001	0.0001
0.0001	0.0029	0.0001	0.0029	0.0001	0.0029	0.0001	0.0029
0.001	0.002	0.001	0.002	0.0001	0.0002	0.0001	0.0002
0.0001	0.0012	0.0001	0.0012	0.0001	0.0012	0.0001	0.0012
0.0001	0.0004	0.0001	0.0001	0.0001	0.0004	0.0001	0.0001
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0026	0.0001	0.0003	0.0001	0.0026	0.0001	0.0003
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0043	0.0043	0.0043	0.0043	0.0001	0.0001	0.0001	0.0001
0.0001	0.0022	0.0001	0.0022	0.0001	0.0022	0.0001	0.0022
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0018	0.0001	0.0001	0.0001	0.0018	0.0001	0.0001

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	07.01.2025

Job No:	TE1880		
Visit No:	2	of	6
Operator:	LH		
Project Manager:	SE		

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	**Typically <1% CH4 and <5% CO2**
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Ground Gas Instrument	**GA5000**

Ambient Gas Concentrations:	CH_4	ND	CO_2	0.1	O_2	20.9

METEOROLOGICAL AND SITE INFORMATION										
State of ground:		Dry		Moist	X	Wet		Snow		Frozen
Wind:		Calm	X	Light		Moderate		Strong		
Cloud cover:		None		Slight		Cloudy	X	Overcast		
Preciptation:		None		Slight	X	Moderate		Heavy		
Barometric pressure (mbar):			979	Before			979	After		
Pressure Trend				Falling		Steady	X	Rising		

Monitoring Point	FLOW DATA: Flow rate (l/hr) Peak	Flow rate (l/hr) Steady	GAS CONCENTRATIONS: Methane (%v/v) CH4 Peak	CH4 Steady	Carbon dioxide (%v/v) CO2 Peak	CO2 Steady	Oxygen (%v/v) O2 Lowest	O2 Steady	Carbon monoxide (ppm) CO Peak	CO Steady	Hydrogen sulphide (ppm) H2S Peak	H2S Steady	WELL AND WATER DATA: Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)	RESPONSE ZONE	COMMENTS
RH101	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00	33.89	119.52	119.52	Deep PCM (inc. coal)	Well head flooded. Water rising slowly but stopped at top of well head
RH102	1.0	ND	0.3	0.2	1.0	0.6	12.3	16.7	86	6	ND	ND	1.89	7.49	119.64	117.75	Shallow PCM	
RH103C	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.00	32.80	119.53	119.53	Deep PCM (inc. coal)	well head flooded, water contiued to flow out of well and did not stop
CP101	ND	ND	ND	ND	2.5	2.5	16.0	16.0	12	ND	ND	ND	3.05	5.15	119.53	116.48	MG / GT / PCM	
CP102	1.0	ND	ND	ND	2.4	2.3	17.4	17.5	1	ND	1	ND	3.43	5.44	119.51	116.08	MG / PCM	
CP103	0.1	ND	ND	ND	1.7	1.7	18.1	18.1	26	6	ND	ND	3.77	6.15	119.43	115.66	MG	
CP105	0.1	ND	ND	ND	0.2	0.1	13.2	15.1	41	9	ND	ND	1.28	3.71	119.50	118.22	MG / PCM	
WS104	0.1	ND	0.1	ND	0.2	0.1	17.4	17.4	ND	ND	ND	ND	ND	0.64	119.69		MG	
WS107	ND	ND	ND	ND	0.3	0.2	20.7	20.8	3	2	ND	ND	ND	0.98	119.51		MG	
WS108	ND	ND	ND	ND	0.3	0.2	20.6	20.9	ND	ND	ND	ND	ND	0.66	119.61		MG	
WS109	0.8	ND	ND	ND	0.2	0.1	18.0	18.4	8	ND	ND	ND	ND	0.39	119.56		MG	
WS112	ND	ND	ND	ND	2.0	2.0	8.2	8.2	ND	ND	ND	ND	3.44	4.15	118.86	115.42	MG / GFD	
WS116	ND	ND	ND	ND	0.3	0.2	21.1	21.5	1	ND	ND	ND	ND	2.05	119.14		MG	
WS111	ND	ND	ND	ND	0.2	0.1	21.0	21.0	ND	ND	ND	ND	ND	0.70	119.74		MG	
Min	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	ND	ND	ND	ND		0.39	118.86	115.42		
Max	1.0	0.1	0.3	0.2	2.5	2.5	21.1	21.5	86	9	1	ND	3.77	33.89	119.74	119.53		

Borehole Hazardous Gas Flow Rates (l/hr)

Peak Flow Rates: CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	Steady Flow Rates: CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.003	0.01	0.002	0.006	0.0003	0.001	0.0002	0.0006
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0025	0.0001	0.0025	0.0001	0.0025	0.0001	0.0025
0.001	0.024	0.001	0.023	0.0001	0.0024	0.0001	0.0023
0.0001	0.0017	0.0001	0.0017	0.0001	0.0017	0.0001	0.0017
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002
0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002
0.0008	0.0016	0.0008	0.0008	0.0001	0.0002	0.0001	0.0001
0.0001	0.002	0.0001	0.002	0.0001	0.002	0.0001	0.002
0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	15.01.2025

Job No:	TE1880		
Visit No:	3	of	6
Operator:	LH		
Project Manager:	SE		

Ground Gas Instrument	**GA5000**						
Ambient Gas Concentrations:	**CH_4**	0	**CO_2**	0.1	**O_2**	20.9	
METEOROLOGICAL AND SITE INFORMATION							
State of ground:		Dry		Moist	X	Wet	Snow		Frozen
Wind:		Calm	X	Light		Moderate		Strong	
Cloud cover:		None		Slight		Cloudy	X	Overcast	
Preciptation:	X	None		Slight		Moderate		Heavy	
Barometric pressure (mbar):			1016	Before			1017	After	
Pressure Trend				Falling	X	Steady		Rising	

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	Typically <1% CH4 and <5% CO2
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Monitoring Point	FLOW DATA		GAS CONCENTRATIONS										WELL AND WATER DATA				RESPONSE ZONE	COMMENTS
	Flow rate (l/hr)		Methane (%v/v) CH4		Carbon dioxide (%v/v) CO2		Oxygen (%v/v) O2		Carbon monoxide (ppm) CO		Hydrogen sulphide (ppm) H2S		Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)		
	Peak	Steady	Peak	Steady	Peak	Steady	Lowest	Steady	Peak	Steady	Peak	Steady						
RH101	ND	ND	ND	ND	0.1	0.1	20.7	21.1	13	ND	ND	ND	0.12	33.53	119.52	119.40	Deep PCM (inc. coal)	
RH102	0.1	ND	0.1	ND	0.7	0.4	15.8	16.0	3	ND	ND	ND	2.08	7.69	119.64	117.56	Shallow PCM	
RH103C	0.1	ND	ND	ND	0.2	0.1	22.1	22.3	6	ND	ND	ND	0.85	32.53	119.53	118.68	Deep PCM (inc. coal)	water in pipe test cut short
CP101	ND	ND	ND	ND	2.4	2.4	15.0	15.0	1	ND	ND	ND	3.10	5.05	119.53	116.43	MG / GT / PCM	
CP102	ND	ND	ND	ND	2.3	2.3	17.5	17.5	ND	ND	ND	ND	3.70	5.43	119.51	115.81	MG / PCM	
CP103	ND	ND	ND	ND	1.7	1.7	19.7	19.7	5	ND	ND	ND	3.92	6.15	119.43	115.51	MG	
CP105	ND	ND	ND	ND	0.2	ND	14.3	15.4	18	ND	ND	ND	2.05	3.67	119.50	117.45	MG / PCM	
WS104	ND	ND	ND	ND	0.1	0.1	19.2	19.2	3	ND	ND	ND	ND	0.63	119.69		MG	
WS107	ND	ND	ND	ND	0.3	0.1	20.6	20.7	ND	ND	ND	ND	ND	0.98	119.51		MG	
WS108	ND	ND	ND	ND	0.1	0.1	21.1	21.4	24	ND	ND	ND	0.58	0.65	119.61	119.03	MG	
WS109	ND	ND	ND	ND	0.1	ND	17.8	19.0	48	6	ND	ND	0.10	0.41	119.56	119.46	MG	water in pipe test cut short
WS112	ND	ND	ND	ND	3.1	3.1	3.9	3.9	ND	ND	ND	ND	3.69	4.13	118.86	115.17	MG / GFD	
WS116	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	119.14		MG	No access, car parked over well cover
WS111	ND	ND	ND	ND	0.2	0.1	21.3	21.3	ND	ND	ND	ND	ND	0.70	119.74		MG	
Min	0.1	0.1	0.1	0.1	0.1	0.1	3.9	3.9	ND	ND	ND	ND	0.10	0.41	118.86	115.17		
Max	0.1	0.1	0.1	0.1	3.1	3.1	22.1	22.3	48	6	ND	ND	3.92	33.53	119.74	119.46		

Borehole Hazardous Gas Flow Rates (l/hr)								
Peak Flow Rates				Steady Flow Rates			
CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0007	0.0001	0.0004	0.0001	0.0007	0.0001	0.0004
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0024	0.0001	0.0024	0.0001	0.0024	0.0001	0.0024
0.0001	0.0023	0.0001	0.0023	0.0001	0.0023	0.0001	0.0023
0.0001	0.0017	0.0001	0.0017	0.0001	0.0017	0.0001	0.0017
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0003	0.0001	0.0001	0.0001	0.0003	0.0001	0.0001
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0031	0.0001	0.0031	0.0001	0.0031	0.0001	0.0031
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	24.01.2025

Job No:	TE1880		
Visit No:	4	of	6
Operator:	Lee Hogg		
Project Manager:	SE		

Ground Gas Instrument	**GA5000**						
Ambient Gas Concentrations:	**CH_4**	0.1	**CO_2**	0.2	**O_2**	20.6	
METEOROLOGICAL AND SITE INFORMATION							
State of ground:	X	Dry		Moist		Wet		Snow		Frozen
Wind:		Calm		Light		Moderate	X	Strong		
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Preciptation:	X	None		Slight		Moderate		Heavy		
Barometric pressure (mbar):			963	Before			967	After		
Pressure Trend			X	Falling		Steady		Rising		

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	Typically <1% CH4 and <5% CO2
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Monitoring Point	FLOW DATA		GAS CONCENTRATIONS										WELL AND WATER DATA				RESPONSE ZONE	COMMENTS
	Flow rate (l/hr)		Methane (%v/v) CH4		Carbon dioxide (%v/v) CO2		Oxygen (%v/v) O2		Carbon monoxide (ppm) CO		Hydrogen sulphide (ppm) H2S		Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)		
	Peak	Steady	Peak	Steady	Peak	Steady	Lowest	Steady	Peak	Steady	Peak	Steady						
RH101	0.2	0.2	0.1	0.1	0.2	0.2	20.4	20.4	ND	ND	ND	ND	0.20	33.80	119.52	119.32	Deep PCM (inc. coal)	
RH102	-0.1	-0.1	ND	ND	0.9	0.8	15.9	15.9	2	1	ND	ND	2.06	7.60	119.64	117.58	Shallow PCM	
RH103C	NR	NR	NR	NR	NR	NR	NR	NR	ND	NR	ND	NR	0.85	32.52	119.53	118.68	Deep PCM (inc. coal)	
CP101	ND	ND	ND	ND	2.6	2.6	14.3	14.3	ND	ND	ND	ND	3.11	5.03	119.53	116.42	MG / GT / PCM	
CP102	ND	ND	ND	ND	2.9	2.9	13.4	13.4	ND	ND	ND	ND	3.70	5.42	119.51	115.81	MG / PCM	
CP103	ND	ND	ND	ND	1.9	1.9	18.8	18.8	3	ND	ND	ND	3.97	6.14	119.43	115.46	MG	
CP105	ND	ND	ND	ND	0.2	0.1	10.2	10.2	12	1	ND	ND	1.85	3.67	119.50	117.65	MG / PCM	
WS104	ND	ND	ND	ND	0.2	0.1	17.0	17.0	ND	ND	ND	ND	ND	0.64	119.69		MG	
WS107	ND	ND	ND	ND	0.3	0.2	19.2	19.2	ND	ND	ND	ND	ND	0.97	119.51		MG	
WS108	-0.1	-0.1	ND	ND	0.3	0.1	18.6	18.6	7	ND	ND	ND	ND	0.66	119.61		MG	
WS109	-0.1	-0.1	ND	ND	0.2	0.1	16.4	19.2	60	2	ND	ND	0.10	.0.40	119.56	119.46	MG	
WS112	ND	ND	ND	ND	3.2	3.2	1.3	1.3	ND	ND	ND	ND	3.64	4.15	118.86	115.22	MG / GFD	
WS116	-0.1	-0.1	ND	ND	0.3	0.2	20.5	21.0	2	ND	ND	ND	ND	2.03	119.14		MG	
WS111	ND	ND	ND	ND	0.2	0.1	19.6	19.8	1	1	ND	ND	ND	0.70	119.74		MG	
Min	0.1	0.1	0.1	0.1	0.2	0.1	1.3	1.3	ND	ND	ND	ND	0.10	0.64	118.86	115.22		
Max	0.2	0.2	0.1	0.1	3.2	3.2	20.5	21.0	60	2	ND	ND	3.97	33.80	119.74	119.46		

Borehole Hazardous Gas Flow Rates (l/hr)							
Peak Flow Rates				Steady Flow Rates			
CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0002	0.0004	0.0002	0.0004	0.0002	0.0004	0.0002	0.0004
-0.0001	-0.0009	-0.0001	-0.0008	-0.0001	-0.0009	-0.0001	-0.0008
0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
0.0001	0.0026	0.0001	0.0026	0.0001	0.0026	0.0001	0.0026
0.0001	0.0029	0.0001	0.0029	0.0001	0.0029	0.0001	0.0029
0.0001	0.0019	0.0001	0.0019	0.0001	0.0019	0.0001	0.0019
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002
-0.0001	-0.0003	-0.0001	-0.0001	-0.0001	-0.0003	-0.0001	-0.0001
-0.0001	-0.0002	-0.0001	-0.0001	-0.0001	-0.0002	-0.0001	-0.0001
0.0001	0.0032	0.0001	0.0032	0.0001	0.0032	0.0001	0.0032
-0.0001	-0.0003	-0.0001	-0.0002	-0.0001	-0.0003	-0.0001	-0.0002
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	05/02/2025

Job No:	TE1880		
Visit No:	5	of	6
Operator:	LEE HOGG		
Project Manager:	SE		

Ground Gas Instrument	**GA5000**						
Ambient Gas Concentrations:	**CH_4**	0.7	**CO_2**	0.2	**O_2**	20.6	
METEOROLOGICAL AND SITE INFORMATION							
State of ground:		Dry	X	Moist		Wet		Snow		Frozen
Wind:	X	Calm		Light		Moderate		Strong		
Cloud cover:		None		Slight	X	Cloudy		Overcast		
Preciptation:		None	X	Slight		Moderate		Heavy		
Barometric pressure (mbar):			1017	Before			1020	After		
Pressure Trend				Falling		Steady	X	Rising		

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	Typically <1% CH4 and <5% CO2
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Monitoring Point	FLOW DATA		GAS CONCENTRATIONS										WELL AND WATER DATA				RESPONSE ZONE	COMMENTS
	Flow rate (l/hr)		Methane (%v/v) CH4		Carbon dioxide (%v/v) CO2		Oxygen (%v/v) O2		Carbon monoxide (ppm) CO		Hydrogen sulphide (ppm) H2S		Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)		
	Peak	Steady	Peak	Steady	Peak	Steady	Lowest	Steady	Peak	Steady	Peak	Steady						
RH101	0.3	0.3	0.6	0.6	0.3	0.2	20.6	20.9	3	1	ND	ND	0.28	24.07	119.52	119.24	Deep PCM (inc. coal)	Flow rate measured for 70 seconds (1 minute and 10 seconds).
RH102	-0.1	ND	0.7	0.7	1.1	1.1	15.6	15.6	2	2	ND	ND	2.10	7.32	119.64	117.54	Shallow PCM	Flow rate measured for 70 seconds (1 minute and 10 seconds).
RH103C	ND	ND	0.6	0.6	0.2	0.2	19.5	19.5	8	8	ND	ND	0.15	32.52	119.53	119.38	Deep PCM (inc. coal)	Flow rate measured for 10 seconds (10 seconds).
CP101	0.2	0.2	0.6	0.6	0.6	0.6	20.1	20.6	4	4	ND	ND	3.01	5.13	119.53	116.52	MG / GT / PCM	Flow rate measured for 70 seconds (1 minute and 10 seconds).
CP102	ND	ND	0.6	0.6	2.6	2.6	14.9	14.9	ND	ND	ND	ND	3.77	4.87	119.51	115.74	MG / PCM	Flow rate measured for 70 seconds (1 minute and 10 seconds).
CP103	0.2	0.2	0.7	0.7	1.9	1.9	19.3	19.4	ND	ND	ND	ND	4.01	6.21	119.43	115.42	MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
CP105	ND	ND	0.6	0.6	0.2	0.1	13.8	13.8	28	ND	ND	ND	2.19	3.68	119.50	117.31	MG / PCM	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS104	0.1	0.1	0.7	0.7	0.2	0.1	18.3	18.3	ND	ND	ND	ND	DRY	0.67	119.69		MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS107	0.4	0.4	0.7	0.6	0.2	0.2	20.8	20.8	ND	ND	ND	ND	DRY	1.04	119.51		MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS108	0.1	0.1	0.6	0.6	0.3	0.1	18.9	19.1	ND	ND	ND	ND	0.67	0.70	119.61	118.94	MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS109	ND	ND	0.7	0.7	0.2	0.2	20.4	20.4	ND	ND	ND	ND	ND	ND	119.56		MG	Flow rate measured for 10 seconds (10 seconds).
WS112	0.2	0.2	0.6	0.6	3.7	3.7	11.0	11.0	ND	ND	ND	ND	DRY	1.14	118.86		MG / GFD	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS116	-0.5	-0.5	0.6	0.6	0.5	0.2	18.6	21.2	ND	ND	ND	ND	DRY	2.03	119.14		MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS111	0.2	0.2	0.6	0.6	0.3	0.1	20.0	20.0	1	1	ND	ND	0.71	0.72	119.74	119.03	MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
Min	0.1	0.1	0.6	0.6	0.2	0.1	11.0	11.0	ND	ND	ND	ND	0.15	0.67	118.86	115.42		
Max	0.4	0.4	0.7	0.7	3.7	3.7	20.8	21.2	28	8	ND	ND	4.01	32.52	119.74	119.38		

Borehole Hazardous Gas Flow Rates (l/hr)								
Peak Flow Rates				Steady Flow Rates			
CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0018	0.0009	0.0018	0.0006	0.0018	0.0009	0.0018	0.0006
-0.0007	-0.0011	-0.0007	-0.0011	0.0007	0.0011	0.0007	0.0011
0.0006	0.0002	0.0006	0.0002	0.0006	0.0002	0.0006	0.0002
0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012
0.0006	0.0026	0.0006	0.0026	0.0006	0.0026	0.0006	0.0026
0.0014	0.0038	0.0014	0.0038	0.0014	0.0038	0.0014	0.0038
0.0006	0.0002	0.0006	0.0001	0.0006	0.0002	0.0006	0.0001
0.0007	0.0002	0.0007	0.0001	0.0007	0.0002	0.0007	0.0001
0.0028	0.0008	0.0024	0.0008	0.0028	0.0008	0.0024	0.0008
0.0006	0.0003	0.0006	0.0001	0.0006	0.0003	0.0006	0.0001
0.0007	0.0002	0.0007	0.0002	0.0007	0.0002	0.0007	0.0002
0.0012	0.0074	0.0012	0.0074	0.0012	0.0074	0.0012	0.0074
-0.003	-0.0025	-0.003	-0.001	-0.003	-0.0025	-0.003	-0.001
0.0012	0.0006	0.0012	0.0002	0.0012	0.0006	0.0012	0.0002

GAS AND GROUNDWATER MONITORING ACROSS BOREHOLE LOCATIONS FIELD PROFORMA

JOB DETAILS:	
Client:	Willmott Dixon
Site:	Hopwood Hall College
Date:	18/02/2025

Job No:	TE1880		
Visit No:	6	of	6
Operator:	JACK LLOYD		
Project Manager:	SE		

Ground Gas Instrument	**GA5000**						
Ambient Gas Concentrations:	**CH_4**	ND	**CO_2**	0.2	**O_2**	20.4	
METEOROLOGICAL AND SITE INFORMATION							
State of ground:	X	Dry		Moist		Wet		Snow		Frozen
Wind:		Calm	X	Light		Moderate		Strong		
Cloud cover:		None	X	Slight		Cloudy		Overcast		
Preciptation:	X	None		Slight		Moderate		Heavy		
Barometric pressure (mbar):			1001	Before			1003	After		
Pressure Trend				Falling	X	Steady		Rising		

Key

CS	Hazard Potential	GSV (l/hr)	Additional Factors
CS1	Very Low	<0.07	Typically <1% CH4 and <5% CO2
CS2	Low	<0.70	Typical measured flow rate <70 l/h
CS3	Moderate	<3.5	N/A
CS4	Moderate to High	<15	N/A
CS5	High	<70	N/A
CS6	Very High	>70	N/A

Monitoring Point	FLOW DATA		GAS CONCENTRATIONS										WELL AND WATER DATA				RESPONSE ZONE	COMMENTS
	Flow rate (l/hr)		Methane (%v/v) CH4		Carbon dioxide (%v/v) CO2		Oxygen (%v/v) O2		Carbon monoxide (ppm) CO		Hydrogen sulphide (ppm) H2S		Water Depth (mbgl)	Depth of Well (mbgl)	Ground Level (mAOD)	Water Level (mAOD)		
	Peak	Steady	Peak	Steady	Peak	Steady	Lowest	Steady	Peak	Steady	Peak	Steady						
RH101	ND	ND	ND	ND	0.2	0.2	20.5	21.1	ND	ND	ND	ND	0.32	34.02	119.52	119.20	Deep PCM (inc. coal)	Flow rate measured for 50 seconds (50 seconds).
RH102	-0.1	ND	ND	ND	1.0	0.8	15.9	16.0	1	ND	ND	ND	2.05	7.84	119.64	117.59	Shallow PCM	Flow rate measured for 60 seconds (1 minute).
RH103C	ND	ND	0.1	ND	0.7	0.7	15.4	15.4	2	1	ND	ND	0.19	32.93	119.53	119.34	Deep PCM (inc. coal)	Flow rate measured for 70 seconds (1 minute and 10 seconds).
CP101	ND	ND	ND	ND	2.4	2.4	15.5	15.5	ND	ND	ND	ND	3.11	5.04	119.53	116.42	MG / GT / PCM	Flow rate measured for 70 seconds (1 minute and 10 seconds).
CP102	ND	ND	ND	ND	3.0	3.0	14.4	14.4	1	ND	ND	ND	3.70	5.42	119.51	115.81	MG / PCM	Flow rate measured for 60 seconds (1 minute).
CP103	0.1	ND	ND	ND	1.8	1.8	18.8	18.8	ND	ND	ND	ND	4.14	6.11	119.43	115.29	MG	Flow rate measured for 90 seconds (1 minute and 30 seconds).
CP105	ND	ND	ND	ND	0.2	0.1	12.2	12.2	39	ND	ND	ND	2.15	3.65	119.50	117.35	MG / PCM	Flow rate measured for 50 seconds (50 seconds).
WS104	ND	ND	ND	ND	0.3	0.1	18.1	18.1	ND	ND	ND	ND	ND	0.61	119.69		MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS107	ND	ND	ND	ND	0.3	0.2	20.7	20.7	ND	ND	ND	ND	ND	0.98	119.51		MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS108	ND	ND	ND	ND	0.2	0.1	20.2	20.2	ND	ND	ND	ND	0.61	0.66	119.61	119.00	MG	Flow rate measured for 70 seconds (1 minute and 10 seconds).
WS109	ND	ND	ND	ND	0.2	0.1	18.6	19.2	25	ND	ND	ND	0.27	0.38	119.56	119.29	MG	Flow rate measured for 50 seconds (50 seconds).
WS112	ND	ND	ND	ND	4.2	4.2	3.8	3.8	ND	ND	ND	ND	3.76	4.14	118.86	115.10	MG / GFD	Flow rate measured for 60 seconds (1 minute).
WS116	ND	ND	ND	ND	0.2	0.2	21.3	21.5	4	ND	ND	ND	ND	2.04	119.14		MG	Flow rate measured for 50 seconds (50 seconds).
WS111	ND	ND	ND	ND	0.2	0.1	20.9	20.9	1	1	ND	ND	0.64	0.70	119.74	119.10	MG	Flow rate measured for 60 seconds (1 minute).
Min	0.1	0.1	0.1	0.1	0.2	0.1	3.8	3.8	ND	ND	ND	ND	0.19	0.38	118.86	115.10		
Max	0.1	0.1	0.1	0.1	4.2	4.2	21.3	21.5	39	1	ND	ND	4.14	34.02	119.74	119.34		

Borehole Hazardous Gas Flow Rates (l/hr)							
Peak Flow Rates				Steady Flow Rates			
CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)	CH4 Qhg (Peak)	CO2 Qhg (Peak)	CH4 Qhg (Steady)	CO2 Qhg (Steady)
0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002
-0.0001	-0.001	-0.0001	-0.0008	0.0001	0.001	0.0001	0.0008
0.0001	0.0007	0.0001	0.0007	0.0001	0.0007	0.0001	0.0007
0.0001	0.0024	0.0001	0.0024	0.0001	0.0024	0.0001	0.0024
0.0001	0.003	0.0001	0.003	0.0001	0.003	0.0001	0.003
0.0001	0.0018	0.0001	0.0018	0.0001	0.0018	0.0001	0.0018
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0003	0.0001	0.0001	0.0001	0.0003	0.0001	0.0001
0.0001	0.0003	0.0001	0.0002	0.0001	0.0003	0.0001	0.0002
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
0.0001	0.0042	0.0001	0.0042	0.0001	0.0042	0.0001	0.0042
0.0001	0.0002	0.0001	0.0002	0.0001	0.0002	0.0001	0.0002
0.0001	0.0002	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001

CERTIFICATION OF CALIBRATION

Date Of Calibration: 09-Aug-2024 No. 66916 Certificate Number: G508641_9/36190

Issued by: QED Environmental Systems Inc.

Customer: **TIER ENVIRONMENTAL LTD**

UNIT 5 VILLAGE OFFICE CHESTER BUSINESS PARK CHESTER, CHESHIRE CH4 9QZ
GB

Description:

Model: GA5000

Serial Number: G508641

Accredited Results:

Methane (CH4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.42
15.1	15.1	0.66
60.0	59.9	1.03

Carbon Dioxide (CO2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.43
15.0	15.0	0.71
39.9	40.0	1.19

Oxygen (O2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
20.9	21.0	0.25

Gas cylinders are traceable and details can be provided if requested.

CH4, CO2 readings recorded at: 34.6 °C/94.2 °F

O2 readings recorded at: 26.0 °C/78.8 °F

Barometric Pressure: 0979 mbar/28.90 "Hg

Method of Test: The analyzer is calibrated in a temperature controlled chamber using reference gases. All analyzers are calibrated in accordance with our procedure ISP-17 using high purity grade gas.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with NIST requirements.

The calibration results published in this certificate were obtained using equipment capable of producing results that are traceable through NIST to the International System of Units (SI). Certification only applies to results shown. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

www.qedenv.com (800) 624-2026 info@qedenv.com
QED Environmental Systems Inc. 2355 Bishop Circle West, Dexter, MI 48130

CERTIFICATION OF CALIBRATION

Date Of Calibration: 09-Aug-2024 No. 66916 Certificate Number: G508641_9/36190

Issued by: QED Environmental Systems Inc.

Non Accredited results:

Pressure Transducers (inches of water column)					
Transducer	**Certified (Low)**	**Reading (Low)**	**Certified (High)**	**Reading (High)**	**Accuracy**
Relative	0"	0"	40"	40.7"	2.0"

Barometer (mbar)	
Reference	**Instrument Reading**
0979 mbar / 28.90 "Hg	0979 mbar / 28.90 "Hg

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	500	500
H_2S	256	256

As received gas check readings:

Methane (CH4)	
Certified Gas (%)	**Instrument Reading (%)**
5.0	5.0
15.1	14.9
60.0	60.4

Carbon Dioxide (CO2)	
Certified Gas (%)	**Instrument Reading (%)**
5.0	5.6
15.0	16.9
39.9	44.4

Oxygen (O2)	
Certified Gas (%)	**Instrument Reading (%)**
20.9	20.5

As received Gas readings recorded at: 34.6 °C/94.2 °F

As received Barometric Pressure recorded at: 26.0 °C/78.8 °F

As received gas check readings are only recorded if the instrument is received in a working condition. Where the instrument is received damaged no reading can be taken.

Date of Issue : 12 Aug 2024 Approved By Signatory

Linda Ostrowski

Laboratory Inspection

The calibration results published in this certificate were obtained using equipment capable of producing results that are traceable through NIST to the International System of Units (SI). Certification only applies to results shown. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

www.qedenv.com (800) 624-2026 info@qedenv.com
QED Environmental Systems Inc. 2355 Bishop Circle West, Dexter, MI 48130

APPENDIX G - PHOTOGRAPHS

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH101
Engineer	SE		Plate No.
Client	WILMOTT DIXON		1



From: 1.2

To: 6.35



From: 6.35

To: 9.15

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH101
Engineer	SE		Plate No.
Client	WILMOTT DIXON		2



From: 9.15

To: 12.15



From: 12.15

To: 13.3

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH101
Engineer	SE		Plate No.
Client	WILMOTT DIXON		3



From: 13.5

To: 15.5



From: 15.5

To: 18.3

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH101
Engineer	SE		Plate No.
Client	WILMOTT DIXON		4



From:	18.3
To:	19.8

From:	
To:	

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH102
Engineer	SE		Plate No.
Client	WILMOTT DIXON		5



From: 6

To: 9



From: 9

10.5

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH102
Engineer	SE		Plate No.
Client	WILMOTT DIXON		6



From: 10.5

13.5



From: 13.5

To: 15.5

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH102
Engineer	SE		Plate No.
Client	WILMOTT DIXON		7



From: 15.5

To: 16.5

From:

To:

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH103
Engineer	SE		Plate No.
Client	WILMOTT DIXON		8



From: 3

To: 6



From: 6

To: 6.5

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH103C
Engineer	SE		Plate No.
Client	WILMOTT DIXON		9



From: 3

To: 5.8



From: 5.8

To: 8.5

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE	Photographic Record	Borehole ID
Project No.	TE1880		RH103C
Engineer	SE		Plate No.
Client	WILMOTT DIXON		10



From: 10.5

To: 13.5



From: 13.5

To: 15

Photographed By		Date	
SE		Dec-24	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS102
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		1



Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS103
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		2



Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS104
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		3



Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS105
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		4





Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS107
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		5



Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS112
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		6



Photographed By		Date	
SE		19/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS113
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		7



Photographed By		Date	
SE		20/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS115
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		8



Photographed By		Date	
SE		20/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS115B
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		9





Photographed By		Date	
SE		20/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS118
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		10



Photographed By		Date	
SE		20/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS118A
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		11



Photographed By		Date	
SE		20/11/2024	

Project Name	HOPWOOD HALL COLLEGE, ROCHDALE	Photographic Record	Borehole ID
Project No.	TE1880		WS118B
Engineer	STEF ELLIS / JACK LLOYD		Plate No.
Client	WILLMOTT DIXON		12



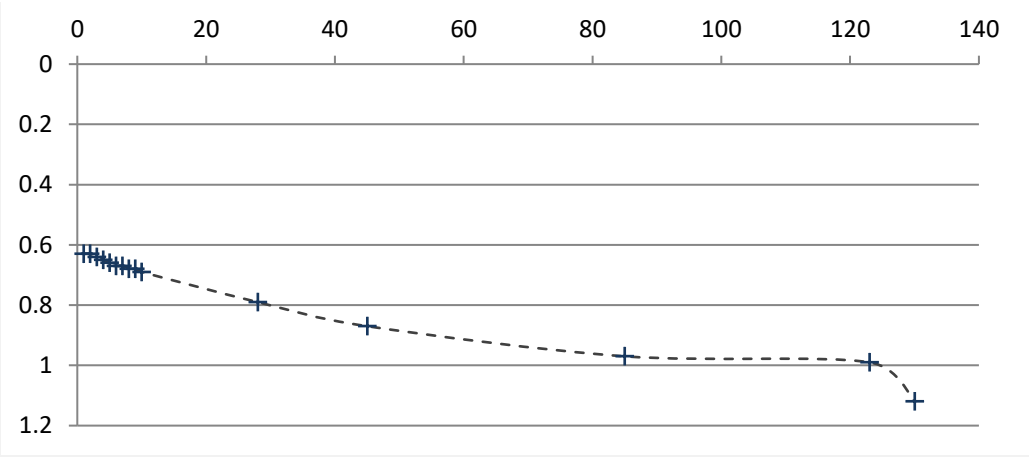
Photographed By		Date	
SE		20/11/2024	

APPENDIX H – INFILTRATION TEST RESULTS

	Tier Environmental Chadwick House Birchwood Park Warrington Rd WA3 6AE	**Test ID:**	SA01 CYCLE 1
		Job Number:	TE1880
		Technician:	LH
		Test Date:	26/11/2024
Client:	WILMOTT DIXON	**Test Number:**	1 of 2
Site:	HOPWOOD HALL COLLEGE	**Comments:**	

Soakage Pit Width [m]	0.75
Soakage Pit Length [m]	2.2
Soakage Pit Depth [m]	1.98
Depth to water at start of test bgl [m]	
Effective Storage Depth [m]	1.98
Free Volume [%]	100

Effective Depth at 25% Drainage	0.495
Effective Depth at 75% Drainage	1.485
Time to Drain From 25% to 75% [s]	N/A
Internal Surface Area [m^2]	7.491
Effective Storage Volume [m^3]	1.6335
Test Completion [%]	57%



Soil infiltration rate(m/s)	Soakaway failed. Estimated to take at least 3.06 hours to drain 75%

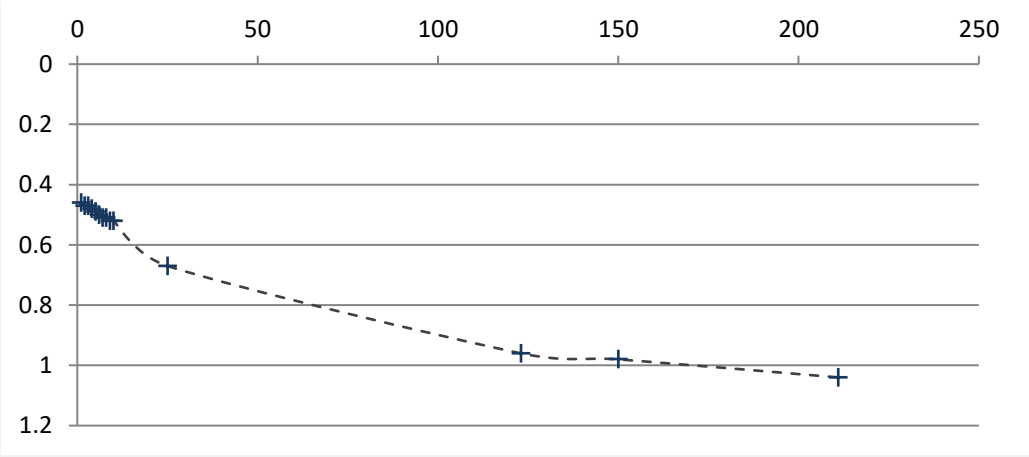
SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

Measurement N°	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
Time [min]	1	2	3	4	5	6	7	8	9	10	28	45	85	123	130					
Depth to water [m]	0.63	0.63	0.64	0.65	0.66	0.67	0.67	0.68	0.68	0.69	0.79	0.87	0.97	0.99	1.12					

	Tier Environmental Chadwick House Birchwood Park Warrington Rd WA3 6AE	**Test ID:**	SA01 CYCLE 2
		Job Number:	TE1880
		Technician:	LH
		Test Date:	26/11/2024
Client:	WILMOTT DIXON	**Test Number:**	2 of 2
Site:	HOPWOOD HALL COLLEGE	**Comments:**	

Soakage Pit Width [m]	0.75
Soakage Pit Length [m]	2.2
Soakage Pit Depth [m]	1.98
Depth to water at start of test bgl [m]	
Effective Storage Depth [m]	1.98
Free Volume [%]	100

Effective Depth at 25% Drainage	0.495
Effective Depth at 75% Drainage	1.485
Time to Drain From 25% to 75% [s]	N/A
Internal Surface Area [m^2]	7.491
Effective Storage Volume [m^3]	1.6335
Test Completion [%]	53%



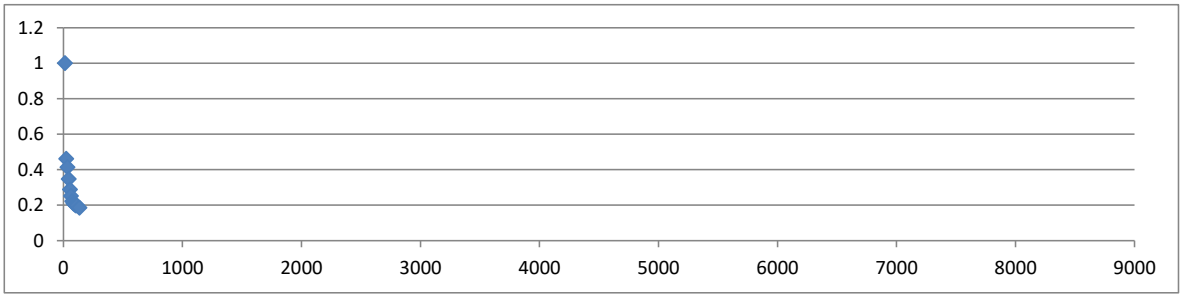
Soil infiltration rate(m/s)	Soakaway failed. Estimated to take at least 18.85 hours to drain 75%

SOAKAGE TRIAL PIT INFILTRATION TEST RESULTS

Measurement N°	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*	*19*	*20*
Time [min]	1	2	3	4	5	6	7	8	9	10	25	123	150	211						
Depth to water [m]	0.46	0.47	0.47	0.48	0.49	0.5	0.51	0.51	0.52	0.52	0.67	0.96	0.98	1.04						

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS112	TEST No.:	1			
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	1



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0
14	0.93	1.67	1
24	1.83	0.77	0.46107784
34	1.91	0.69	0.41317365
44	2.02	0.58	0.34730539
54	2.12	0.48	0.28742515
64	2.18	0.42	0.25149701
74	2.23	0.37	0.22155689
84	2.25	0.35	0.20958084
94	2.26	0.34	0.20359281
104	2.27	0.33	0.19760479
114	2.27	0.33	0.19760479
134	2.29	0.31	0.18562874
180	2.3		
300	2.35		
420	2.41		
540	2.53		
1920	3.38		
3120	3.52		
7800	3.6		

Test Section Depth	m	2.6	
Borehole Depth	m	5.45	
Borehole Diameter	m	0.15	
Casing Depth	m	NA	
Depth to Standing Water Level (d_1)	Assumed m	0.93	
Height of casing agl (h_c)	m	0.6	
Height of top of casing above water table	m	1.53	
Depth to Water at Start of Test below casing level (d_0)	m	0.06	
Depth to Water at End of Test below casing level	m	2.58	
Depth to Filter at Start of Test	m		
Depth to Filter at End of Test	m		
Response Zone Length	m	0.2	
Borehole Diameter in Test Section	m	0.15	
Cross-sectional Area of Borehole	m2	0.02	
Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
Basic Time Lag = (T) t_1=	14.00	$s.h_1$ =	1.00
t_2=	104.00	$s.h_2$ =	0.20
Coefficient of Permeability (k) ms-1 =			2.78E-04

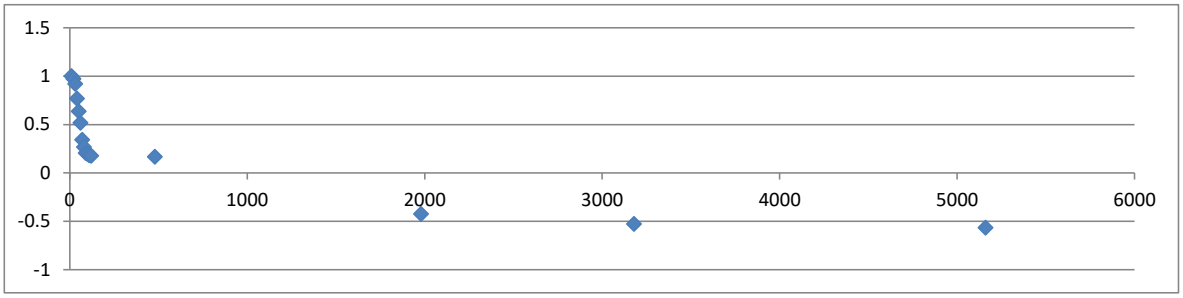
Remarks	Borehole cleaned out prior to test.				
Compiled By	JB	Date	17/11/2014		
Checked By	AR	Date	19/11/2014		
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)				

Tier Environmental Ltd
Unit 5 Office Village
Sandpiper Court, Chester Business Park
Chester CH4 9QZ
Tel. 01925 818 388

Project Number	
Project Name	
Client	

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS112	TEST No.:	2			
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	2



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0
10	0.84	1.76	1
20	0.89	1.71	0.97159091
30	0.98	1.62	0.92045455
40	1.25	1.35	0.76704545
50	1.48	1.12	0.63636364
60	1.69	0.91	0.51704545
70	2	0.6	0.34090909
80	2.13	0.47	0.26704545
90	2.24	0.36	0.20454545
100	2.26	0.34	0.19318182
110	2.28	0.32	0.18181818
120	2.29	0.31	0.17613636
480	2.31	0.29	0.16477273
1980	3.35	-0.75	-0.4261364
3180	3.53	-0.93	-0.5284091
5160	3.6	-1	-0.5681818

Test Section Depth	m	2.6	
Borehole Depth	m	5.45	
Borehole Diameter	m	0.15	
Casing Depth	m	NA	
Depth to Standing Water Level (d_1)	Assumed m	0.93	
Height of casing agl (h_c)	m	0.6	
Height of top of casing above water table	m	1.53	
Depth to Water at Start of Test below casing level (d_0)	m	0.06	
Depth to Water at End of Test below casing level	m	2.58	
Depth to Filter at Start of Test	m		
Depth to Filter at End of Test	m		
Response Zone Length	m	0.2	
Borehole Diameter in Test Section	m	0.15	
Cross-sectional Area of Borehole	m2	0.02	
Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
Basic Time Lag = (T) t_1=	10.00	$s.h_1$ =	1.00
t_2=	100.00	$s.h_2$ =	0.19
Coefficient of Permeability (k) ms-1 =			2.82E-04

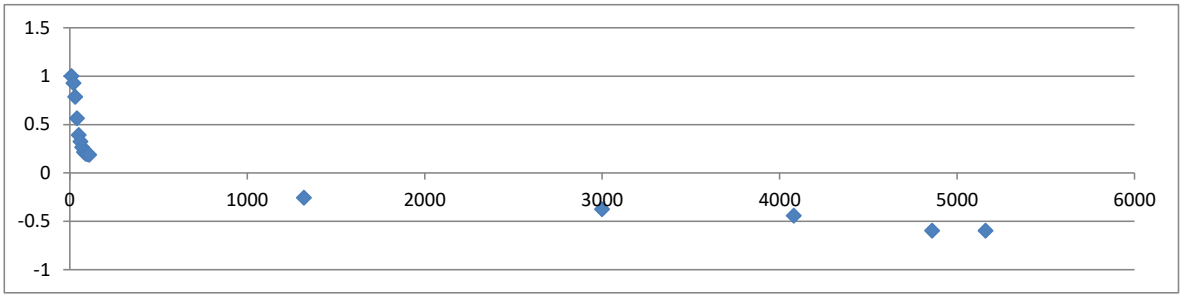
Remarks	Borehole cleaned out prior to test.			
Compiled By	JB	Date	17/11/2014	
Checked By	AR	Date	19/11/2014	
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)			

Tier Environmental Ltd
Unit 5 Office Village
Sandpiper Court, Chester Business Park
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Tel. 01925 818 388

Project Number	
Project Name	
Client	

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS112	TEST No.:	3			
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	3



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0
10	0.93	1.67	1
20	1.05	1.55	0.92814371
30	1.29	1.31	0.78443114
40	1.66	0.94	0.56287425
50	1.95	0.65	0.38922156
60	2.06	0.54	0.32335329
70	2.16	0.44	0.26347305
80	2.24	0.36	0.21556886
90	2.27	0.33	0.19760479
100	2.28	0.32	0.19161677
110	2.29	0.31	0.18562874
1320	3.03	-0.43	-0.257485
3000	3.23	-0.63	-0.3772455
4080	3.34	-0.74	-0.4431138
4860	3.6	-1	-0.5988024
5160	3.6	-1	-0.5988024

Test Section Depth	m	2.6	
Borehole Depth	m	5.45	
Borehole Diameter	m	0.15	
Casing Depth	m	NA	
Depth to Standing Water Level (d_1)	Assumed m	0.93	
Height of casing agl (h_c)	m	0.6	
Height of top of casing above water table	m	1.53	
Depth to Water at Start of Test below casing level (d_0)	m	0.06	
Depth to Water at End of Test below casing level	m	2.58	
Depth to Filter at Start of Test	m		
Depth to Filter at End of Test	m		
Response Zone Length	m	0.2	
Borehole Diameter in Test Section	m	0.15	
Cross-sectional Area of Borehole	m2	0.02	
Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
Basic Time Lag = (T) t_1=	10.00	$s.h_1$ =	1.00
t_2=	100.00	$s.h_2$ =	0.19
Coefficient of Permeability (k) ms-1 =			2.83E-04

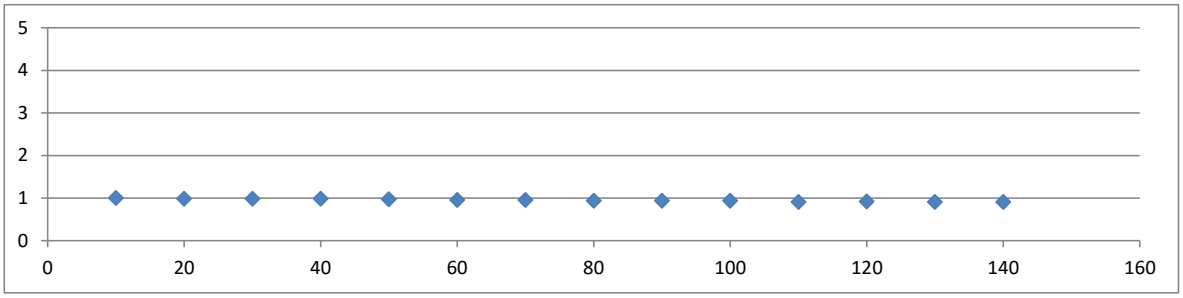
Remarks	Borehole cleaned out prior to test.			
Compiled By	JB	Date	17/11/2014	
Checked By	AR	Date	19/11/2014	
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)			

Tier Environmental Ltd
Unit 5 Office Village
Sandpiper Court, Chester Business Park
Chester CH4 9QZ
Tel. 01925 818 388

Project Number	
Project Name	
Client	

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS116	TEST No.:	1				
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	1	



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0					
10	1.97	0.63	1		Test Section Depth	m	2.6	
20	1.98	0.62	0.98412698		Borehole Depth	m	5.45	
30	1.98	0.62	0.98412698		Borehole Diameter	m	0.15	
40	1.98	0.62	0.98412698		Casing Depth	m	NA	
50	1.99	0.61	0.96825397		Depth to Standing Water Level (d_1)	Assumed m	0.93	
60	2	0.6	0.95238095		Height of casing agl (h_c)	m	0.6	
70	2	0.6	0.95238095		Height of top of casing above water table	m	1.53	
80	2.01	0.59	0.93650794		Depth to Water at Start of Test below casing level (d_0)	m	0.06	
90	2.01	0.59	0.93650794		Depth to Water at End of Test below casing level	m	2.58	
100	2.01	0.59	0.93650794		Depth to Filter at Start of Test	m		
110	2.03	0.57	0.9047619		Depth to Filter at End of Test	m		
120	2.02	0.58	0.92063492		Response Zone Length	m	0.2	
130	2.03	0.57	0.9047619		Borehole Diameter in Test Section	m	0.15	
140	2.03	0.57	0.9047619		Cross-sectional Area of Borehole	m2	0.02	
		2.6	4.12698413		Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
		2.6	4.12698413		Basic Time Lag = (T) t_1=	10.00	$s.h_1$ =	1.00
					t_2=	100.00	$s.h_2$ =	0.94
					Coefficient of Permeability (k) ms-1 =			1.13E-05

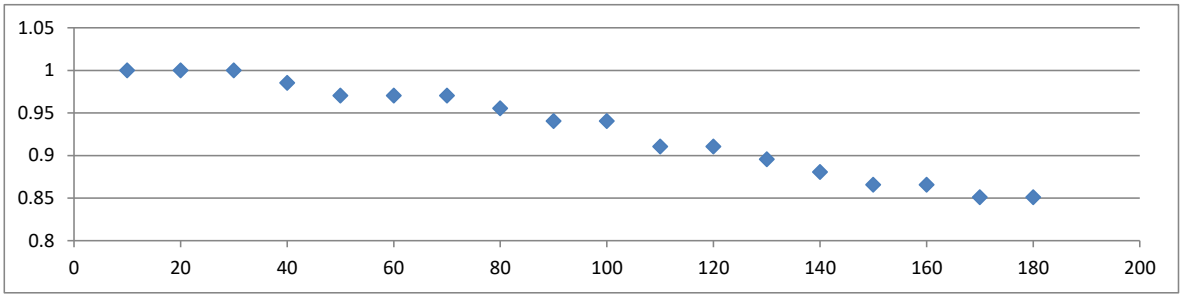
Remarks	Borehole cleaned out prior to test.				
Compiled By	JB	Date	17/11/2014		
Checked By	AR	Date	19/11/2014		
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)				

Tier Environmental Ltd
Unit 5 Office Village
Sandpiper Court, Chester Business Park
Chester CH4 9QZ
Tel. 01925 818 388

Project Number	
Project Name	
Client	

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS116	TEST No.:	2			
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	2



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0
10	1.93	0.67	1
20	1.93	0.67	1
30	1.93	0.67	1
40	1.94	0.66	0.98507463
50	1.95	0.65	0.97014925
60	1.95	0.65	0.97014925
70	1.95	0.65	0.97014925
80	1.96	0.64	0.95522388
90	1.97	0.63	0.94029851
100	1.97	0.63	0.94029851
110	1.99	0.61	0.91044776
120	1.99	0.61	0.91044776
130	2	0.6	0.89552239
140	2.01	0.59	0.88059701
150	2.02	0.58	0.86567164
160	2.02	0.58	0.86567164
170	2.03	0.57	0.85074627
180	2.03	0.57	0.85074627

Test Section Depth	m	2.6	
Borehole Depth	m	5.45	
Borehole Diameter	m	0.15	
Casing Depth	m	NA	
Depth to Standing Water Level (d_1)	Assumed m	0.93	
Height of casing agl (h_c)	m	0.6	
Height of top of casing above water table	m	1.53	
Depth to Water at Start of Test below casing level (d_0)	m	0.06	
Depth to Water at End of Test below casing level	m	2.58	
Depth to Filter at Start of Test	m		
Depth to Filter at End of Test	m		
Response Zone Length	m	0.2	
Borehole Diameter in Test Section	m	0.15	
Cross-sectional Area of Borehole	m2	0.02	
Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
Basic Time Lag = (T) t_1=	10.00	$s.h_1$ =	1.00
t_2=	100.00	$s.h_2$ =	0.94
Coefficient of Permeability (k) ms-1 =			1.06E-05

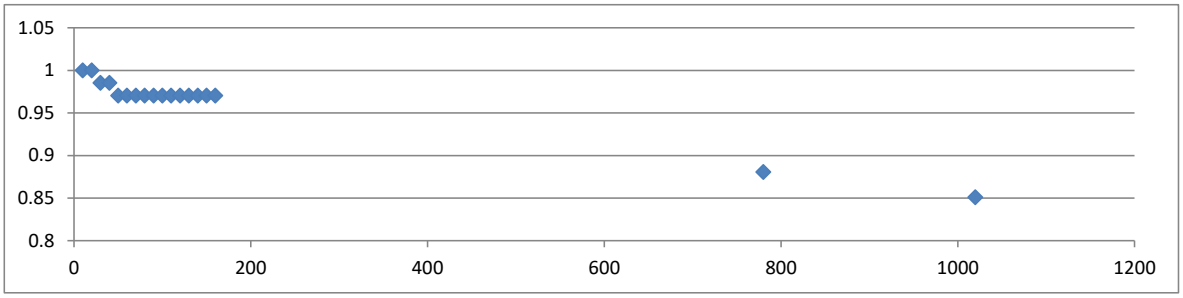
Remarks	Borehole cleaned out prior to test.				
Compiled By	JB	Date	17/11/2014		
Checked By	AR	Date	19/11/2014		
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)				

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Unit 5 Office Village
Sandpiper Court, Chester Business Park
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Project Number	
Project Name	
Client	

VARIABLE HEAD PERMEABILITY TEST IN BOREHOLE

BOREHOLE No.:	WS116	TEST No.:	2			
	DEPTH (m)	5.45	DATE	11.12.2024	SHEET	2



Time Elapsed (secs)	Depth of water below top of casing - d_t (m)	h (m) - (d_1-d_t)	h_1/h_0
10	1.93	0.67	1
20	1.93	0.67	1
30	1.94	0.66	0.98507463
40	1.94	0.66	0.98507463
50	1.95	0.65	0.97014925
60	1.95	0.65	0.97014925
70	1.95	0.65	0.97014925
80	1.95	0.65	0.97014925
90	1.95	0.65	0.97014925
100	1.95	0.65	0.97014925
110	1.95	0.65	0.97014925
120	1.95	0.65	0.97014925
130	1.95	0.65	0.97014925
140	1.95	0.65	0.97014925
150	1.95	0.65	0.97014925
160	1.95	0.65	0.97014925
780	2.01	0.59	0.88059701
1020	2.03	0.57	0.85074627

Test Section Depth	m	2.6	
Borehole Depth	m	5.45	
Borehole Diameter	m	0.15	
Casing Depth	m	NA	
Depth to Standing Water Level (d_1)	Assumed m	0.93	
Height of casing agl (h_c)	m	0.6	
Height of top of casing above water table	m	1.53	
Depth to Water at Start of Test below casing level (d_0)	m	0.06	
Depth to Water at End of Test below casing level	m	2.58	
Depth to Filter at Start of Test	m		
Depth to Filter at End of Test	m		
Response Zone Length	m	0.2	
Borehole Diameter in Test Section	m	0.15	
Cross-sectional Area of Borehole	m2	0.02	
Intake factor (BS5930 p51):	Figure 7 (F) =	1.14	
Basic Time Lag = (T) t_1=	10.00	$s.h_1$ =	1.00
t_2=	100.00	$s.h_2$ =	0.97
Coefficient of Permeability (k) ms-1 =			5.20E-06

Remarks	Borehole cleaned out prior to test.
Compiled By	JB
Date	17/11/2014
Checked By	AR
Date	19/11/2014
Geology of Test Section:	Very dense light brown very sandy subangular to rounded fine to coarse GRAVEL of flint. (LYNCH HILL MEMBER)

Tier Environmental Ltd
Unit 5 Office Village
Sandpiper Court, Chester Business Park
Chester CH4 9QZ
Tel. 01925 818 388

Project Number	
Project Name	
Client	

APPENDIX I - DEFINITIONS OF TERMS USED IN QUALITATIVE AND QUANTITATIVE RISK ASSESSMENTS

CIRIA C552 Terminology

For the qualitative and quantitative assessment of risks posed by potential pollutant linkages have been undertaken using the risk matrix adapted from CIRIA C552 and outlined in the table below.

	Category	Definition
Potential severity	Severe	Acute (short term) risk to human health, Major pollution of sensitive controlled waters, ecosystems or habitat. Catastrophic damage to buildings or property or crops.
	Medium	Chronic (Medium / long term) risk to human health Pollution of sensitive controlled waters, ecosystems or species, Significant damage to crops, buildings or structures
	Mild	Easily preventable permanent health effects on humans. Pollution of non-sensitive controlled waters. Minor damage to buildings or structures.
	Minor	Easily preventable non-permanent health effects on humans, or no effects. Minor, low level and localised contamination of on-site soil. Easily repairable damage to buildings or structures.
Probability of risk	High Likelihood	Pollutant linkage may be present, and the risk is almost certain to occur , or there is evidence of harm already occurring.
	Likely	Pollutant linkage may be present, and it is probable that the risk will occur over the long term.
	Low Likelihood	Pollutant linkages may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
	Unlikely	Pollutant linkage may be present but the circumstances under which harm would occur are improbable.

		Potential Severity			
		Severe	**Medium**	**Mild**	**Minor**
Probability of risk	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate / low risk
	Likely	High risk	Moderate risk	Moderate / low risk	Low risk
	Low Likelihood	Moderate risk	Moderate / low risk	Low risk	Very low risk
	Unlikely	Moderate / low risk	Low risk	very low risk	Very low risk

APPENDIX J - HUMAN HEALTH ASSESSMENT CRITERIA

HUMAN HEALTH ASSESSMENT CRITERIA

Context

Contaminated Land is defined under law through Part IIA of the Environmental Protection Act 1990, implemented through Section 57 of the Environment Act 1995 and associated guidance ("Part IIA"). These specify that a "suitable for use" approach is to be applied in the assessment of potentially contaminated land, implemented through a phased programme of site investigation and risk assessment appropriate to the site under consideration.

The assessment of potential risks posed by contaminated land is based upon the assessment of plausible contaminant source - pathway - receptor linkages ("pollutant linkages") for the current and/or proposed future use of the site. The process for the assessment of contaminated land adopted in this report is in line with guidance issued by the Environment Agency Land contamination risk management (LCRM) - GOV.UK (www.gov.uk)

Land contamination can harm:

- human health
- drinking water supplies, groundwater and surface water
- soils
- ecosystems including wildlife, animals and wetlands.
- property

It can also affect the current and future land use. Dealing with land contamination helps make the environment clean and safe. Through regeneration it can:

- enhance the health and wellbeing of all.
- add to the economic, ecological and amenity value of the area.

Use land contamination risk management (LCRM) to:

- identify and assess if there is an unacceptable risk.
- assess what remediation options are suitable to manage the risk.
- plan and carry out remediation.
- verify that remediation has worked.

You can use LCRM in a range of regulatory and management contexts. For example, voluntary remediation, planning, assessing liabilities or under the Part 2A contaminated land regime. The Environment Agency expects you to follow LCRM if you are managing the risks from land contamination.

We support the use of the National Quality Mark Scheme (NQMS). You can use it for any type of land contamination report.

Using the NQMS:

- will make sure all legislative requirements and necessary standards related to managing land contamination are met.
- can provide increased confidence by submitting reports of the quality we expect.
- can result in cost and time savings by 'getting it right first time'.

LCRM is made up of 4 guides.

1. LCRM: Before you start.
2. LCRM: Risk assessment.
3. LCRM: Options appraisal.
4. LCRM: Remediation and verification.

We use a staged risk based approach. There are 3 stages, and each stage is broken down into tiers or steps.

Stage 1: Risk assessment

You will use a tiered approach to risk assessment. The 3 tiers are:

1. Preliminary risk assessment.
2. Generic quantitative risk assessment.
3. Detailed quantitative risk assessment.

Stage 1 includes information for intrusive site investigations.

Stage 2: Options appraisal

There are 3 steps to follow.

1. Identify feasible remediation options.
2. Do a detailed evaluation of options.
3. Select the final remediation option.

Stage 3: Remediation and verification

There are 4 steps to follow.

1. Develop a remediation strategy.
2. Remediate.
3. Produce a verification report.
4. Do long term monitoring and maintenance, if required

You must always start with a preliminary risk assessment.

The risk assessment stage is an iterative process. You can do the 3 tiers in order or progress from a preliminary risk assessment to a detailed quantitative risk assessment. As part of a generic or detailed quantitative risk assessment you will need to collect detailed information about the site. This is usually through an intrusive site investigation.

Depending on the level of risk or regulatory requirements, you can proceed from a preliminary risk assessment to the options appraisal stage. If you proceed direct to the options appraisal stage, you still need to collect the detailed site investigation information required by the generic and detailed quantitative risk assessments. This is to confirm that your approach is viable and acceptable.

Following the risk assessment stage, if you conclude that the risks are acceptable, with agreement from the relevant regulator, you can end the process.

If there are unacceptable risks, then remediation or mitigation is required. Follow stages 2 and 3 in order.

In stage 2 options appraisal, you will:

- look at the most feasible options.
- produce a shortlist of options.
- use evaluation criteria to assess them.
- select which ones are the most suitable to take forward to stage 3.

In stage 3 remediation and verification, you will produce a remediation strategy, do the remediation and then produce a verification report.

You will decide at the options appraisal stage if long term monitoring and maintenance is the remediation option. You may need to do post-remediation monitoring for further verification.

The risk assessment and subsequent investigation, remediation and verification must address all potential sources of pollutants that may be present on the site (the “hazards”), all receptors that may be harmed by these (e.g., human health, controlled waters, ecological receptors) and the pathways by which the contamination may be transported from the contaminant source(s) to the receptor(s). This is defined within the conceptual model for the site, which represents the characteristics of the site in a form that shows the possible pollutant linkages. As further information becomes available (for example, through site investigation), so the conceptual model will be refined.

Remedial action can be specified at any phase within this assessment process to break the identified pollutant linkage in determining whether or not to undertake further assessment or to undertake remediation, the potential cost-savings arising from a more thorough assessment of the pollutant linkages and more tightly defined remedial strategy must be considered against the direct costs involved in the work and the time that this will take to execute and gain regulatory approval.

A different approach to the statistical appraisal of data is required depending on whether the assessment is being undertaken to assess land as Contaminated Land in accordance with the regulations or whether the assessment is to assess whether the site is suitable for new development in accordance with the Planning regime. The statistical approach to assessment is discussed further in CL:AIRE:2020 “Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration”.

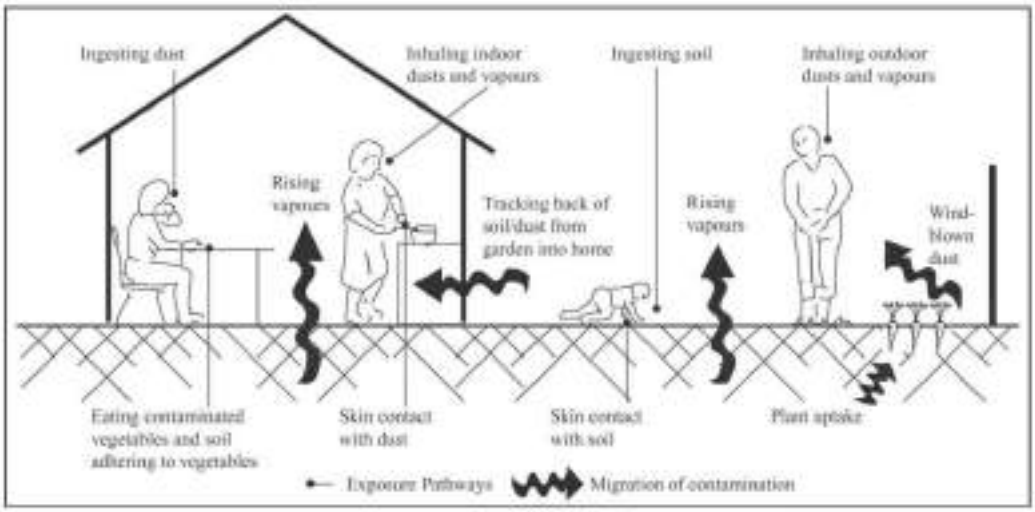
Some form of Detailed Quantitative Risk Assessment (DQRA) will be essential for those cases where appropriate GAC values cannot be established for the contaminant linkages under consideration.

Generic Assessment Criteria for Human Health Risk Assessment

In March 2002, the Department for Environment, Food and Rural Affairs (DEFRA) and the Environment Agency (EA) published the Contaminated Land Exposure Assessment (CLEA) Model and a series of related reports and guidance. These were designed to provide a scientifically based framework for the assessment of chronic risks to human health from contaminated land. The initial documents (CLR7 – 10) were withdrawn and replaced with revised guidance issued by the Environment Agency including:

- "Using Soil Guideline Values"; EA,2009; Land contamination: using soil guideline values (SGVs) - GOV.UK (www.gov.uk)
- "Human Health toxicology assessment of contaminants in soil" EA;, 2009; https://www.gov.uk/government/publications/human-health-toxicological-assessment-of-contaminants-in-soil
- "Update technical background to the CLEA model" 2009; https://www.gov.uk/government/publications/updated-technical-background-to-the-clea-model
- CLEA Software (Version1.05) Handbook 2015; https://www.gov.uk/government/publications/contaminated-land-exposure-assessment-clea-tool
- Compilation of Data for priority Organic Contaminants for Derivation of Soil Guideline Values; Science Report SC050021/SR7, 2008; and,
- "Professional Guidance: Comparing Soil Contamination Data with a Critical Concentration". CL:AIRE:2020 https://www.claire.co.uk/component/phocadownload/category/9-other-cl-aire-documents?download=745:2020-stats-guidance

The CLEA model and associated guidance was developed to calculate an estimated tolerable daily intake (TDI) of contaminants for site users given a set of 'typical' human health exposure pathways which are detailed in "SR3: Updated technical background to the CLEA model"



(Science Report SC050021/SR3, EA, 2009) and reproduced below.

Ingestion

- Outdoor soil;
- Indoor dust;
- Home grown produce;
- Soil attached to home grown produce.

Dermal Contact

- Outdoor soil;
- Indoor dust.

Inhalation

- Outdoor dust;
- Indoor dust;
- Outdoor vapour;
- Indoor vapour.

It should be noted that the CLEA model does not include an exhaustive list of potential exposure pathways, e.g. certain compounds can pass through plastic water pipes into drinking water supply.

The potential significance of each of the exposure pathways is dependent upon the type of land use and the nature of the contaminant being considered. The CLEA model considers principal 'default' land use scenarios and makes a series of assumptions with regards to building type (where applicable), identification of the critical human receptor group, exposure frequency and duration. The definitions of the principal land use types given in SR3 (EA, 2009) are:

Residential land use;

- A typical residential property consisting of a two-storey terraced house built on a ground-bearing slab of 0.15m thickness with a private garden consisting of lawn, flowerbeds, and a small fruit and vegetable patch. The occupants are assumed to be parents with young children, who make regular use of the garden. The critical receptor is a 0 – 6-year-old female.
- Active exposure pathways are ingestion of outdoor soil, ingestion of indoor dust, ingestion of home grown produce and soil adhering to home grown produce; direct dermal contact with outdoor soil and indoor dust; inhalation of outdoor dust and vapour and indoor dust and vapour.

Allotments

- A plot of open space commonly made available by the Local Authority to tenants to grow fruit and vegetables for their own consumption. There are usually several plots to a site and the overall site area may cover more than one hectare. The tenants are assumed to be the parents or grandparents and that young children make occasional accompanied visits to the plots. The critical receptor is a 0 – 6-year-old female and there is no building present on site.
- Active exposure pathways are ingestion of outdoor soil, ingestion of home grown produce and soil adhering to home grown produce; direct dermal contact with outdoor soil; inhalation of outdoor vapour.

Commercial and industrial land use.

- A typical commercial or light industrial property consisting of a three-story office building (pre-1970) with a ground bearing floor slab at which employees spend most time indoors and are involved in office based or related light physical work. The critical receptor is a working female adult aged 16 – 65 years.
- Active exposure pathway is ingestion of outdoor soil, ingestion of indoor dust; direct dermal contact with outdoor soil and indoor dust; inhalation of outdoor dust and vapour and inhalation of indoor dust and vapour.

Soil Guideline Values

Based on the assumption of each land use type, the EA and DEFRA developed and published Soil Guideline Value (SGV) using the CLEA model for a number of principal contaminants and 'default' end-use scenarios of residential, allotments and commercial/industrial use. The primary purpose of the SGVs is as trigger value for the tolerable daily intake (TDI), below which it can be assumed that the soil does not pose an unacceptable risk to the identified receptor. Where soils contamination is present above this level further assessment may be required. SGVs were developed for the following contaminants:

- Heavy metals and other inorganic compounds: arsenic, cadmium, chromium, cyanide, lead (now withdrawn), mercury, nickel and selenium.
- Benzene, ethylbenzene, toluene and xylenes.
- Phenol.
- Dioxins and dioxin-like polychlorinated biphenyls (PCBs)
- Polycyclic aromatic hydrocarbons (PAHs) – 11 substances

LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment

In addition, in 2009 CIEH through LQM and EIC published generic assessment criteria (GACs) for 82 substances including metals, petroleum hydrocarbons, PAHs and explosive substances for a variety of soil types and the three 'default' land uses – (residential, allotments and commercial end-uses) as described in SR3 (EA, 2009). These have been superseded as described below.

Category 4 Screening Values

In 2013 "SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination" (CL:AIRE 2013) was issued which detailed findings of a research project undertaken by CL:AIRE to set out the framework by which potential Category 4 Screening Levels (pC4SL) may be derived for 6 contaminants of concern, Arsenic, Benzene, Benzo(a)pyrene, Cadmium, Chromium VI and Lead.

This was supplemented in 2014 by "SP1010: Development of Category 4 Screening Levels for the Assessment of Land Affected by Contamination – Policy Companion Document" (DEFRA, 2014). SP1010 proposed several updated toxicology information relating to contaminant behaviour updated assumptions relating to the modelling of human exposure to soil contaminants, derivation of separate C4SLs for residential with the consumption of home grown produce, residential without the consumption of home grown produce, and two new land uses: public open spaces near residential housing (POS resi) and public parks (POS park).

Public Open Space: Residential

- For public open space in close proximity to residential housing and the central green area around which houses are located, as on many housing estates from the 1930s to 1970s. It is also applicable for smaller areas commonly incorporated in newer developments as informal grassed areas or more formal landscaped areas with a mixture of open space and covered soil with planting. It is considered to be a generally grassed area up to 0.5ha with up to 50% bare soil. The land use is an important resource

for children and the area is near the homes. The critical receptor is a female child age >3 - <9 years old (CLEA age class 4 – 9) as younger children are unlikely to play outdoors unsupervised.

- Active exposure pathways are ingestion of outdoor soil, ingestion of indoor dust; direct dermal contact with outdoor soil and indoor soil derived dust; inhalation of outdoor and indoor dust and inhalation of outdoor vapour.

Public Open Space: Park

- A public park is defined as an area of open space provided for recreational use and usually owned and maintained by the Local Authority. It is anticipated the park could be used for a wide range of activities, including the following:
    - Family visits and picnics;
    - Children's play area;
    - Sporting activities such as football on an informal basis (i.e. not a dedicated sports pitch); and
    - Dog walking.
- The park is modelled as an area >0.5 ha of predominantly grasses open space with no more than 25% of exposed soil.
- The critical receptor is a female child with CLEA age classes 1 – 6.
- Active exposure pathways are: ingestion of outdoor soil; direct dermal contact with outdoor soil; inhalation of outdoor dust and inhalation of outdoor vapour.

Furthermore, the C4SLs are based on a different toxicological benchmark, the 'low level of toxicological concern' (LLTC). This difference in approach was adopted because the C4SLs were primarily intended for use under Part2A of the EPA 1990 to quickly screen out Category 4 sites where there is "*no risk or that the level of risk posed is low*". SGVs and LQM GACs are based on the more conservative 'minimal or tolerable level of risk' as defined in SR2 (EA, 2009) and were derived for assessment of contamination for the Planning process.

LQM/CIEH Suitable 4 Use Levels (S4ULs)

The publication of the C4SLs resulted in considerable and inconclusive debate about the applicability of the lower level of protection of the C4SL, which are underlain by the LLTC, outside of the Part 2A context for which they were derived. In 2014 LQM/CIEH presented a Suitable 4 Use Levels (S4ULs), which incorporate the updated assumption exposure derived for the production of the C4SLs but within the context of deriving screening criteria above which further assessment of the risks or remedial action may be needed. The S4ULs replace the 82 substances, species and fractions and congeners contained in the previous LQM/CIEH GACs issued in 2009. Additionally, following changes and new land uses proposed in the C4SL research project, S4ULs have also been derived for the majority of substances for which the EA derived SGVs in 2009 with the exception of lead (see below).

Lead

The C4SL for lead provides a technically robust and conservative assessment tool using significantly updated toxicological modelling than the withdrawn SGV and derived in line with current science of lead toxicology.

EIC/AGS/CL:AIRE Soil Generic Assessment Criteria (2010)

In some instances, EIC/AGC/CL:AIRE GACs for certain VOC / SVOC potential contaminants of concern have been used *in lieu* of available LQM / CIEH S4UL values.

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Metals/metalloids																			
Arsenic	37			40			43			640			79			170			LQM (2014)
Beryllium	1.7			1.7			35			12			2.2			63			LQM (2014)
Boron	290			11000			45			240000			21000			46000			LQM (2014)
Cadmium	11			85			1.9			190			120			532			LQM (2014)
Chromium III	910			910			18000			8600			1500			33000			LQM (2014)
Chromium VI	6			6			1.8			33			7.7			220			LQM (2014)
Copper	2400			7100			520			68000			12000			44000			LQM (2014)
Lead	200			310			80			2330			630			1300			C4SL
Mercury (elemental)	1.2			1.2			21			58 (25.8)			16			30 (25.8)			LQM (2014)
Mercury (Inorganic)	40			56			19			1100			120			240			LQM (2014)
Methylmercury	11			15			6			320			40			68			LQM (2014)
Nickel	180			180			230			980			230			3400			LQM (2014)
Selenium	250			430			88			12000			1100			1800			LQM (2014)
Vanadium	410			1200			91			9000			2000			5000			LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Zinc	3700			40000			620			730000			81000			170000			LQM (2014)
Other																			
Total Sulphate	2,400			2,400			2,400			2,400			2,400			2,400			BRE (2005)
Water Soluble Sulphate (g/l)	0.5			0.5			0.5			0.5			0.5			0.5			BRE (2005)
PAHs																			
Acenaphthene	210	510	1100	3000 (57)	4700(141)	6000 (336)	34	85	200	84000 (57)	97000 (141)	100000	15000	15000	15000	29000	30000	30000	LQM (2014)
Acenaphthylene	170	420	920	2900 (86.1)	4600 (212)	6000 (506)	28	69	160	8300 (86.1)	97000 (212)	100000	15000	15000	15000	29000	30000	30000	LQM (2014)
Anthracene	2400	5400	11000	31000 (1.17)	35000	37000	380	950	2200	520000	540000	540000	74000	74000	74000	150000	150000	150000	LQM (2014)
Benzo(a)anthracene	7.2	11	13	11	14	15	2.9	6.5	13	170	170	180	29	29	29	49	56	62	LQM (2014)
Benzo(a)pyrene	2.2	2.7	3	3.2	3.2	3.2	0.97	2	3.5	35	35	36	5.7	5.7	5.7	11	12	13	LQM (2014)
Benzo(b)fluoranthene	2.6	3.3	3.7	3.9	4	4	0.99	2.1	3.9	44	44	45	7.1	7.1	7.1	13	15	16	LQM (2014)
Benzo(g,h,i)perylene	320	340	350	360	360	360	290	470	640	3900	4000	4000	640	640	640	1400	1500	1600	LQM (2014)
Benzo(k)fluoranthene	77	93	100	110	110	110	37	75	130	1200	1200	1200	190	190	190	370	410	440	LQM (2014)
Chrysene	15	22	27	30	31	32	4.1	9.4	19	350	350	350	57	57	57	93	110	120	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Dibenz(a,h)anthracene	0.24	0.28	0.3	0.31	0.32	0.32	0.14	0.27	0.61	3.5	3.6	3.6	0.57	0.57	0.58	1.1	1.3	1.4	LQM (2014)
Fluoranthene	280	560	890	1500	1600	1600	52	130	290	23000	23000	23000	3100	3100	3100	63	6300	6400	LQM (2014)
Fluorene	170	400	860	2800 (30.9)	3800 (76.5)	4500 (183)	27	67	160	63000 (30.9)	68000	71000	9900	9900	9900	20000	20000	20000	LQM (2014)
Indeno(1,2,3-cd)pyrene	27	36	41	45	46	46	9.5	21	39	500	510	510	82	82	82	150	170	180	LQM (2014)
Naphthalene	2.3	5.6	13	2.3	5.6	13	4.1	10	24	190 (76.4)	460 (183)	1100 (432)	4900	4900	4900	1200 (76.4)	1900 (183)	3000	LQM (2014)
Phenanthrene	95	220	440	1300 (36)	1500	1500	15	38	90	22000	22000	23000	3100	3100	3100	6200	6200	6300	LQM (2014)
Pyrene	620	1200	2000	3700	3800	3800	110	270	620	54000	54000	54000	7400	7400	7400	15000	15000	15000	LQM (2014)
Coal Tar (BaP as surrogate marker)	0.79	0.98	1.1	1.2	1.2	1.2	0.32	0.67	1.2	15	15	15	2.2	2.2	2.2	4.4	4.7	4.8	LQM (2014)
BTEX and TPH																			
Benzene	0.087	0.17	0.37	0.38	0.7	1.4	0.017	0.034	0.075	27	47	90	72	72	73	90	100	110	LQM (2014)
Toluene	130	290	660	880 vap (869)	1900	3900	22	51	120	56000 vap (869)	110000 vap (1920)	180000 vap (4360)	56000	56000	56000	87000 vap (869)	95000 vap (1920)	100000 vap (4360)	LQM (2014)
Ethylbenzene	47	110	260	83	190	440	16	39	91	5700 vap (518)	13000 vap (1220)	27000 vap (2840)	24000	24000	25000	17000 vap (518)	22000 vap (1220)	27000 vap (2840)	LQM (2014)
Xylene - o	60	140	330	88	210	480	28	67	160	6600 (478)	15000 (1120)	33000 (2620)	41000	42000	43000	17000 (478)	24000 (1120)	33000 (2620)	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Xylene - m	59	140	320	82	190	450	31	74	170	6200 (625)	14000 (1470)	31000 (3460)	41000	42000	43000	17000 (625)	24000 (1470)	32000 (3460)	LQM (2014)
Xylene - p	56	130	310	79	180	430	29	69	160	5900 (576)	14000 (1350)	30000 (3170)	41000	42000	43000	17000 (576)	23000 (1350)	31000 (3170)	LQM (2014)
Aliphatic EC 5-6	42	78	160	42	78	160	730	1700	3900	3200 (304)	5900 (558)	12000 (1150)	570000 (304)	590000	600000	95000 (304)	130000 (558)	180000 (1150)	LQM (2014)
Aliphatic EC >6-8	100	230	530	100	230	530	2300	5600	13000	7800 (144)	17000 (322)	40000 (736)	600000	610000	620000	150000 (144)	220000 (322)	320000 (736)	LQM (2014)
Aliphatic EC >8-10	27	65	150	27	65	150	320	770	1700	2000 (78)	4800 (190)	11000 (451)	13000	13000	13000	14000 (78)	18000 (190)	21000 (451)	LQM (2014)
Aliphatic EC >10-12	130 (48)	330 (118)	760 (283)	130 (48)	330 (118)	760 (283)	2200	4400	7300	9700 (48)	23000 (118)	47000 (283)	13000	13000	13000	21000 (48)	23000 (118)	24000(283)	LQM (2014)
Aliphatic EC >12-16	1100 (24)	2400 (59)	4300 (142)	1100 (24)	2400 (59)	4300 (142)	11000	13000	13000	59000 (24)	82000 (59)	90000 (142)	13000	13000	13000	25000 (24)	25000 (59)	26000 (142)	LQM (2014)
Aliphatic EC >16-35	65000 (8.48)	92000 (21)	110000	65000 (8.48)	92000 (21)	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000	LQM (2014)
Aliphatic EC >35-44	65000 (8.48)	92000 (21)	110000	65000 (8.48)	92000 (21)	110000	260000	270000	270000	1600000	1700000	1800000	250000	250000	250000	450000	480000	490000	LQM (2014)
Aromatic EC 5-7	70	140	300	370	690	1400	13	27	57	26000 (1220)	46000 (2260)	86000 (4710)	56000	56000	56000	76000 (1220)	84000 (2260)	92000 (4710)	LQM (2014)
Aromatic EC >7-8	130	290	660	860	1800	3900	22	51	120	56000 (869)	110000 (1920)	180000 (4360)	56000	56000	56000	87000 (869)	95000 (1920)	100000 (4360)	LQM (2014)
Aromatic EC >8-10	34	83	190	47	110	270	8.6	21	51	3500 (613)	8100 (1500)	17000 (3580)	5000	5000	5000	7200 (613)	8500 (1500)	9300 (3580)	LQM (2014)
Aromatic EC >10-12	74	180	380	250	590	1200	13	31	74	16000 (364)	28000 (899)	34000 (2150)	5000	5000	5000	9200 (364)	9700 (899)	10000	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Aromatic EC >12-16	140	330	660	1800	2300 (419)	2500	23	27	130	36000 (169)	37000	38000	5100	5100	5000	10000	10000	10000	LQM (2014)
Aromatic EC >16-21	260	540	930	1900	1900	1900	46	110	260	28000	28000	28000	3800	3800	3800	7600	7700	7800	LQM (2014)
Aromatic EC >21-35	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	LQM (2014)
Aromatic EC >35-44	1100	1500	1700	1900	1900	1900	370	820	1600	28000	28000	28000	3800	3800	3800	7800	7800	7900	LQM (2014)
Aromatic EC >44-75	1600	1800	1900	1900	1900	1900	1200	2100	3000	28000	28000	28000	3800	3800	3800	7800	7800	7900	LQM (2014)
VOCs																			
1,2-dichloroethane (1,2-DCA)	0.0071	0.011	0.019	0.0092	0.013	0.023	0.0046	0.0083	0.016	0.67	0.97	1.7	29	29	29	21	24	28	LQM (2014)
1,1,1-trichloroethane	8.8	18	39	9	18	40	48	110	240	660	1300	3000	140000	140000	140000	57000 (1425)	76000 (2915)	100000 (6392)	LQM (2014)
1,1,2,2,tetrachloroethane	1.6	3.4	7.5	3.9	8	17	0.41	0.89	2	270	550	1100	1400	1400	1400	1800	2100	2300	LQM (2014)
tetrachloroethene	0.18	0.39	0.9	0.18	0.4	0.92	0.65	1.5	3.6	19	45	95	1400	1400	1400	810 (424)	1100 (951)	1500	LQM (2014)
tetrachloromethane (Carbon tetrachloride)	0.026	0.056	0.13	0.026	0.056	0.13	0.45	1	2.4	2.9	6.3	14	890	920	950	190	270	400	LQM (2014)
Trichloroethene	0.016	0.034	0.075	0.017	0.036	0.08	0.041	0.091	0.21	1.2	2.6	5.7	120	120	120	70	91	120	LQM (2014)
Trichloromethane (chloroform)	0.91	1.7	3.4	1.2	2.1	4.2	0.42	0.83	1.7	99	170	350	2500	2500	2500	2600	2800	3100	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Chloroethene (Vinyl chloride)	0.00064	0.00087	0.0014	0.00077	0.001	0.0015	0.00055	0.001	0.0018	0.059	0.077	0.12	3.5	3.5	3.5	4.8	5	5.4	LQM (2014)
2,4,6 Trinitrotoluene (TNT)	1.6	3.7	8.1	65	66	66	0.24	0.58	1.4	1000	1000	1000	130	130	130	260	270	270	LQM (2014)
RDX	120	250	540	13000	13000	13000	17	38	85	210000	210000	210000	26000	26000	27000	49000 (18.7)	51000	53000	LQM (2014)
HMX	5.7	13	26	6700	6700	6700	0.86	1.9	3.9	110000	110000	110000	13000	13000	13000	23000 (0.35)	23000 (0.39)	24000 (0.48)	LQM (2014)
Aldrin	5.7	6.6	7.1	7.3	7.4	7.5	3.2	6.1	9.6	170	170	170	18	18	18	30	31	31	LQM (2014)
Dieldrin	0.97	2	3.5	7	7.3	7.4	0.17	0.41	0.96	170	170	170	18	18	18	30	30	31	LQM (2014)
Atrazine	3.3	7.6	17.4	610	620	620	0.5	1.2	2.7	9300	9400	9400	1200	1200	1200	2300	2400	2400	LQM (2014)
Dichlovos	0.032	0.066	0.014	6.4	6.5	6.6	0.0049	0.01	0.022	140	140	140	16	16	16	26	26	27	LQM (2014)
Alpha-Endosulfan	7.4	18	41	160 (0.003)	280 (0.007)	410 (0.016)	1.2	2.9	6.8	5600 (0.003)	7400 (0.007)	8400 (0.016)	1200	1200	1200	2400	2400	2500	LQM (2014)
alpha-Hexachlorocyclohexane	0.23	0.55	1.2	6.9	9.2	11	0.035	0.087	0.21	170	180	180	24	24	24	47	48	48	LQM (2014)
beta-hexachlorocyclohexanes	0.085	0.2	0.46	3.7	3.8	3.8	0.013	0.032	0.077	65	65	65	8.1	8.1	8.1	15	15	16	LQM (2014)
gamma-hexachlorocyclohexanes	0.06	0.14	0.33	2.9	3.3	3.5	0.0092	0.023	0.054	67	69	70	8.2	8.2	8.2	14	15	15	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Chlorobenzene	0.46	1	2.4	0.46	1	2.4	5.9	14	32	56	130	290	11000	13000	14000	1300 (675)	2000 (1520)	2900	LQM (2014)
1,2-Dichlorobenzene	23	55	130	24	57	130	94	230	540	2000 (571)	4800 (1370)	11000 (3240)	90000	95000	98000	24000 (571)	36000 (1370)	51000 (3240)	LQM (2014)
1,3-Dichlorobenzene	0.4	1	2.3	0.44	1.1	2.5	0.25	0.6	1.5	30	73	170	300	300	300	390	440	470	LQM (2014)
1,4-Dichlorobenzene	61	150	350	61	150	350	15	37	88	4400 (224)	10000 (540)	25000 (1280)	17000	17000	17000	36000 (224)	36000 (540)	36000 (1280)	LQM (2014)
VOCs Continued																			
1,2,3-Trichlorobenzene	1.5	3.6	8.6	1.5	3.7	8.8	4.7	12	28	102	250	590	1800	1800	1800	770 (134)	1100 (330)	1600 (789)	LQM (2014)
1,2,4-Trichlorobenzene	2.6	6.4	15	2.6	6.4	15	55	140	320	220	530	1300	15000	17000	19000	1700 (318)	2600 (786)	4000 (1880)	LQM (2014)
1,3,5-Trichlorobenzene	0.33	0.81	1.9	0.33	0.81	1.9	4.7	12	28	23	55	130	1700	1700	1800	380 (36.7)	580 (90.8)	860 (217)	LQM (2014)
1,2,3,4-Tetrachlorobenzene	15	36	78	24	56	120	4.4	11	26	1700 (122)	3080 (304)	4400 (728)	830	830	830	1500 (122)	1600	1600	LQM (2014)
1,2,3,5-Tetrachlorobenzene	0.66	1.6	3.7	0.75	1.9	4.3	0.38	0.9	2.2	49 (39.4)	120 (98.1)	240 (235)	78	79	79	110 (39)	120	130	LQM (2014)
1,2,4,5-Tetrachlorobenzene	0.33	0.77	1.6	0.73	1.7	3.5	0.06	0.16	0.37	42 (19.7)	72 (49.1)	96	13	13	13	25	26	26	LQM (2014)
Pentachlorobenzene	5.8	12	22	19	30	38	1.2	3.1	7	640 (43)	770 (107)	830	100	100	100	190	190	190	LQM (2014)

Parameter	Residential with homegrown produce			Residential without homegrown produce			Allotment			Commercial / Industrial			Public Open Space near Residential			Public Open Space - Park			Source
	(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			(mg/kg, unless otherwise stated)			
SOM	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	**1%**	**2.50%**	**6%**	
Hexachlorobenzene	1.8 (0.2)	3.3 (0.5)	4.9	4.1 (0.2)	5.7 (0.5)	6.7 (1.2)	0.47	1.1	2.5	110 (0.2)	120	120	16	16	16	30	30	30	LQM (2014)
Phenol	280	550	1100	750	1300	2300	66	140	280	760 dir (31000)	1500 dir (35000)	3200 dir (37000)	760 dir (31000)	1500 dir (35000)	3200 dir (37000)	760 dir (31000)	1500 dir (35000)	3200 dir (37000)	LQM (2014)
Chlorophenols (excluding pentachlorophenol)	0.87 (g)	2	4.5	94	150	210	0.13 (g)	0.3	0.7	3500	4000	4300	620	620	620	1100	1100	1100	LQM (2014)
Pentachlorophenol	0.22	0.52	1.2	27 (16.4)	29	31	0.03	0.08	0.19	400	400	400	60	60	60	110	120	120	LQM (2014)
Carbon Disulphide	0.14	0.29	0.62	0.14	0.29	0.62	4.8	10	23	11	22	47	11000	11000	12000	1300	1900	2700	LQM (2014)
Hexachlorobutadiene	0.29	0.7	1.6	0.32	0.78	1.8	0.25	0.61	1.4	31	66	120	25	25	25	48	50	51	LQM (2014)

(g) derived based on 2,3,4,6-tetrachlorophenol; dir - based on a threshold protective of direct skin contact with phenol (guideline in brackets based on health effects following long term exposure provided for illustration only); (vap) calculated for vapour phase only. SOM – Soil Organic Matter; (4.5) solubility.

APPENDIX K - CONTROLLED WATERS RISK ASSESSMENT

CURRENT GUIDANCE FOR CONTROLLED WATERS RISK ASSESSMENT

Regulatory Context

Government policy is based upon a "suitable for use approach," which is relevant to both the current use of land and also to any proposed future use. When considering the current use of land, Part IIA of the Environment Protection Act 1990 (EPA 1990) provides the regulatory regime, which was introduced by Section 57 of the Environment Act 1995, which came into force in England on 1 April 2000. The main objective of introducing the Part IIA regime is to provide an improved system for the identification and remediation of land where contamination is causing unacceptable risks to human health, controlled waters or the wider environment given the current use and circumstances of the land. Part IIA provides a statutory definition of contaminated land under Section 78A(2) as:

> *"any land which appears to the Local Authority in whose area it is situated to be in such a condition, by reason of substances in, on, or under the land, that:*
>
> *(a) Significant harm is being caused or there is a significant possibility of such harm being caused; or*
>
> *(b) Pollution of controlled waters is being, or is likely to be, caused."*

Part IIA provides a statutory definition of the pollution of controlled waters under Section 78A(9) as:

> *"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter"*

Controlled Waters are defined Section 104 of the Water Resources Act 1991. In summary, the comprise relevant territorial waters which extend seaward for three miles from the low-tide limit from which the territorial sea adjacent to England and Wales is measured.

The Environment Agency has powers under Part 7 of The Water Resources Act (1991) to take action to prevent or remedy the pollution of controlled waters, including circumstances where the pollution arises from contamination in the land. This is reinforced in The Contaminated Land (England) (Amendment) Regulations 2012 and Contaminated Land Statutory Guidance (DEFRA, 2012) which came into force in early April 2012.

Part IIA introduces the concept of a contaminant linkage; where for potential harm to exist there must be a connection between the source of the hazard and the receptor via a pathway. Risk assessment in contaminated land is therefore directed towards identifying the contaminants, pathways and receptors that can provide contaminant linkages. This is known as the contaminant-pathway-receptor link (CPR or contaminant linkage).

Part IIA places contaminated land responsibility as a part of the planning and redevelopment process, rather than Local Authority or Environment Agency directly, except in cases of very high pollution risk or where harm is occurring. In the planning process, guidance is provided by National Planning Policy Framework (NPPF) of March 2012. The NPPF requires that a site which has been developed shall not be capable of being determined "contaminated land" under Part IIA. Therefore, appropriate risk-based investigation is required to identify the contaminant linkages that can then be assessed, and then mitigated using methods that can be agreed with the planners.

Source Protection Zones

Source Protection Zones (SPZs) are defined by the Environment Agency (for England and Wales), SEPA (Scotland) and the Environment and Heritage Service (Northern Ireland) for groundwater sources such as wells, boreholes and springs that are used for public drinking water supply. The zones show the risk of contamination from activities that might cause groundwater pollution in the area. The size and shape of a zone depends upon subsurface conditions, how the groundwater is removed, and other environmental factors.

SPZs are classified into four categories:

- **Zone 1 (Inner protection zone).** Any pollution that can travel to the abstraction point within 50 days from any point within the zone is classified as being inside Zone 1. This applies at and below the groundwater table. This zone also has a minimum 50m protection radius around the abstraction point. These criteria are designed to protect against the transmission of toxic chemicals and water-borne disease.
- **Zone 2 (Outer protection zone).** The outer zone covers pollution that takes up to 400 days to travel to the abstraction point, or 25% of the total catchment area, whichever area is the largest. This travel time is the minimum period over which the Environment Agency considers that pollutants need to be diluted, reduced in strength or delayed by the time they reach the abstraction point.
- **Zone 3 (Total catchment).** This is the total area needed to support removal of water from the abstraction point, and to support any discharge from this.
- **Zone of special interest.** This may occasionally be defined as a special case. This is usually where local conditions mean that industrial sites and other potential sources of contamination could affect the groundwater source, even though they are outside the normal catchment area.

Groundwater Vulnerability Assessments

From 1 April 2010 The Environment Agency Groundwater Protection Policy began to use aquifer designations which are consistent with the Water Framework Directive. These designations reflect the importance of aquifers in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.

The aquifer designation data is based on geological mapping provided by the British Geological Survey. It is updated regularly to reflect their ongoing programme of improvements to these maps. The maps are split into two different type of aquifer designation:

- Superficial (Drift) - permeable unconsolidated (loose) deposits. For example, sands and gravels.
- Bedrock -solid permeable formations e.g. sandstone, chalk and limestone.

The maps display the following aquifer designations:

Table 1. Aquifer Classification ("Geological Classification").

Classification	Definition
Principal Aquifers (Highly Permeable)	These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.
Secondary A Aquifers	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
Secondary B Aquifers	Predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.
Secondary Undifferentiated Aquifers	This has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.
Unproductive Strata	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Environment Agency Guidance

The Environment Agency's stance on groundwater resources is:

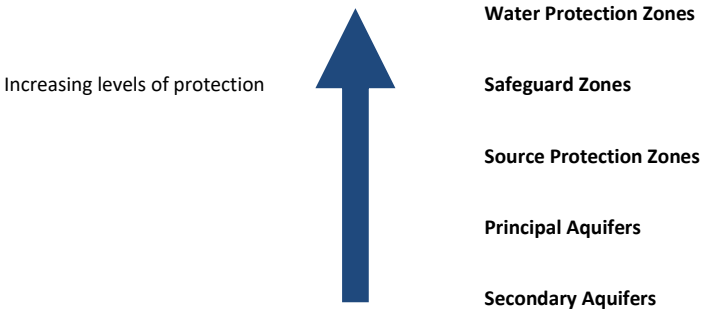
> *"to protect and manage groundwater resources for present and future generations in ways that are appropriate for the risks we identify"* (Groundwater Protection: Policy and Practice GP3, 2012).

At present, the legislation and guidance pertaining to the protection of controlled waters in the UK is complex; however, the core objectives seek to enforce the position given above.

In 1992, the National Rivers Authority published their Policy and Practice for the Protection of Groundwater (PPPG), this document introduced areas of focus for developments such as Source Protection Zones (SPZs) and Groundwater Vulnerability Maps. The Policy was revised in 1998, since which there have been substantial changes in legislation, driven by key European Directives relating to groundwater include the Groundwater Directive (80/68/EEC) and the Water Framework Directive (2000/60/EC). Aspects of these directives are controlled by primary UK legislation such as the Water Resources Act 1991 as amended by the Water Act 2003. Gaps in the 1998 PPPG that emerged as the result of further legislative changes were addressed in the Environment Agency Policy document Groundwater Protection: Policy and Practice (GP3), Version 1 of November 2012. The three main parts of GP3 were:

- Groundwater principals;
- Position statements and legislation; and
- Technical information.

The Environment Agency has a tiered risk based approach to drinking water protection as summarised below:



Controlled Waters Risk Assessment

A number of tools are available (as detailed in GP3) in order for a developer of a potentially contaminated site to fulfil their obligations under the legislation. A site assessment would be required in order to identify any potential risks to controlled waters and to derive suitable clean up criteria, if required, to ensure the protection of controlled waters.

There are three main stages to any risk assessment of controlled waters:

1. Risk Screening (devise Conceptual Site Model, making reference to groundwater vulnerability maps, site setting, controlled waters context etc)
2. Generic Risk Assessment (EA Remedial Targets Methodology Tier 1 / Comparison of groundwater data with relevant standards)
3. Detailed Quantitative Risk Assessment (Consideration of aquifer properties and site specific parameters, EA Remedial Targets Methodology Tiers 2 & 3)

Risk Screening

Here, the Conceptual Site Model (CSM) is a critical tool to assessing any potentially contaminated site. The information from a robust CSM can be used to establish any pathways or receptors that do not require further assessment at an early stage. For example, it may be possible to confirm the absence of a particular sensitive controlled water receptor (such as a surface water feature) within the vicinity of the site thereby breaking the associated source-pathway-receptor pollutant linkage. Information from subsequent tiers of risk assessment, such as following intrusive investigations, are used to update the CSM accordingly.

Generic Risk Assessment - England and Wales

When undertaking the Generic Hydrogeological Risk Assessment (EA Remedial Targets Methodology Tier 1), comparison of chemical analytical results is made with those screening criteria.

In accordance with Part 2A of the Environmental Protection Act 1990, Tier Environmental has made regard to all of the Water Quality Standards (WQS) that are relevant to the specific site and a judgment has been made against the most stringent of those relevant standards:

- EQS Directive 2008/105/EC
- Priority Substances Directive 2013/39/EU
- Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015
- UK Drinking Water Standards (UK DWS)
- World Health Organisation (WHO Guidelines) for Drinking Water Quality
- Council Directive 98/83/EC on the quality of water intended for human consumption (Drinking water directive)

In some instances, the laboratory method detection limit is greater than the appropriate EQS/UKDWS value. In these instances, only measured concentrations in excess of the laboratory method detection limit have been considered likely to potentially represent a possible significant risk to controlled waters.

Please note that there is no quantitative criterion for total petroleum hydrocarbons (TPH), or speciated TPH fractions. Historically, standards provided for petroleum hydrocarbons ranges from 10µg/l (Private Water Supply Regulations 1991, removed from the 2009 regulations) to 50µg/l-1000µg/l (Surface Waters (Abstraction for Drinking Water) Regulations 1989) which related to the degree of treatment of water prior to use as drinking water. Over time, the legislative standards have been rescinded and no alternative standard provided, although the Environment Agency planned to release speciated TPH criteria (Fretwell et al., 2009).

In order to assess whether there is a potentially unacceptable risk of pollution of controlled waters, the results of the groundwater chemical analysis for TPH and BTEX were evaluated against Water Quality Standards (WQS) appropriate to the conceptual model for the site:

Table 2. Summary of Selected TPH and BTEX Water Quality Standards Selected for Tier 1 Screening

Determinand	Units	WQS Selected	Source of WQS
Aliphatics >C5-C6	µg/l	15000	Table 5.4 of CL:AIRE 2017#
Aliphatics >C6-C8	µg/l	15000	Table 5.4 of CL:AIRE 2017#
Aliphatics >C8-C10	µg/l	300	Table 5.4 of CL:AIRE 2017#
Aliphatics >C10-C12	µg/l	300	Table 5.4 of CL:AIRE 2017#
Aliphatics >C12-C16	µg/l	300	Table 5.4 of CL:AIRE 2017#
Aliphatics >C16-C21	µg/l	-	Table 5.4 of CL:AIRE 2017#
Aliphatics >C21-C35	µg/l	-	Table 5.4 of CL:AIRE 2017#
Aromatics >C5-EC7	µg/l	10	Table 5.4 of CL:AIRE 2017#
Aromatics >EC7-EC8	µg/l	700	Table 5.4 of CL:AIRE 2017#
Aromatics >EC8-EC10	µg/l	300	Table 5.4 of CL:AIRE 2017#
Aromatics >EC10-EC12	µg/l	100	Table 5.4 of CL:AIRE 2017#

Aromatics >EC12-EC16	µg/l	100	Table 5.4 of CL:AIRE 2017#
Aromatics >EC16-EC21	µg/l	90	Table 5.4 of CL:AIRE 2017#
Aromatics >EC21-EC35	µg/l	90	Table 5.4 of CL:AIRE 2017#
Benzene	µg/l	10	Priority Substance Water Framework Directive 2015 and Table 5.3 of CL:AIRE 2017#
Toluene	µg/l	74	Table 1 Water Framework Directive 2015 and Table 5.3 of CL:AIRE 2017#
Ethylbenzene	µg/l	20	R&D Technical Report P2-115/TR4, 2002
Total xylenes	µg/l	30	DoE (1997c) Hedgecott S. and Lewis S, An update on proposed environmental quality standards for xylenes in water, final report to the Department of the Environment. Report No. DoE 4273/1. Medmenham: WRc; and; Table 5.3 of CL:AIRE 2017#

Notes - # = CL:AIRE document 'Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies' (ISBN 978-1-905046-31-7, dated 2017),

Table 5.3 was referenced in the first instance from the CL:AIRE document 'Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies' (ISBN 978-1-905046-31-7, dated 2017), the to select appropriate Freshwater EQS values for benzene, toluene and total xylenes. The selected value for Ethylbenzene was derived from the proposed EQS value of 20µg/l from the Environment Agency R&D Technical Report P2-115/TR4, 2002. This represents a more conservative value than the 300µg/l value in Table 5.3.

With respect to speciated TPH CWG fractions, Table 5.3 states and refers the reader to 'See Table 5.4'. On this basis, Tier Environmental selected the World Health Organization (WHO) guide values for TPHCWG fractions in drinking water that are presented in Table 5.4 which may be considered appropriately protective of the controlled waters environment based on the conceptual site model.

Generic Risk Assessment is generally undertaken via comparison of reported leachate and/or groundwater concentrations against selected assessment criteria for the potential contaminants of concern identified for the site from a preliminary desk based assessment.

The selected Generic Assessment Criteria (GAC) derived from a Water Quality Standard (WQS) for any specific substance may not necessarily be a simple number and can often be found to be expressed as:

- Annual mean concentration;
- Maximum allowable concentration;
- 95th percentile concentration for *n* samples;
- Total concentration;
- Dissolved concentration (applicable to filtered samples)

The values may sometimes be expressed for individual substances (e.g. arsenic or for groups of substances e.g. total xylenes or sums of certain PAHs).

Environmental Quality Standards (EQS) have been used where available for Priority Substances and Priority Hazardous Substances set at a European level:

- Priority Substances Directive 2013/39/EU;
- Amending 2008/105 and 2000/118/EC

In addition, EQS values derived for Specific Pollutants have been used as presented in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

For assessing risks to potable water abstraction supplies, UK Drinking Water Standards presented in the Water Supply (Water Quality) Regulations 2000 (SI/2000/3184) (as amended) have been applied.

In selecting a GAC for a particular site, Tier Environmental considers the following factors:

- Current use/function of the groundwater (e.g. drinking water, irrigation water, industrial use, base-flow to rivers and streams);
- Plausible, proposed or planned future uses of the water and nearby waters;
- Sensitivity of the critical receptor (e.g. human health, aquatic life); and,
- Requirements to trigger action under the legal context.

In accordance with Part 2A:

> *"in deciding whether pollution of controlled waters is occurring, the assessor will have regard to all of the water quality standards that are relevant to the specific site and make a judgment against the most stringent of those relevant standards."*

Should the Level 1 or 2 assessments indicate threshold levels to be exceeded, then there are three alternative ways in which to proceed:

- To devise suitable remedial solutions;
- To carry out more investigation, sampling and analysis;
- To conduct a site-specific Detailed Quantitative Risk Assessment (DQRA) to whether or not the soil materials are suitable for their site-specific intended use or to devise a site-specific clean-up level.

Detailed Quantitative Risk Assessment (DQRA)

The decision to carry out a DQRA will be informed by the initial qualitative and generic assessment. The scope of any such assessment will be accurately defined by the outcomes of the former two stages. The robust CSM will be sufficiently refined by this stage that only certain contaminants of concern, certain pathways and certain receptors will require further assessment.

Additional site specific data is normally required for this stage of assessment, as explained above, more processes that are capable of affecting contaminant concentrations are considered (such as dilution and attenuation).

Remediation criteria derived will therefore be specific to each site and will be based on a detailed assessment of the potential impact at the identified receptor or compliance point. A greater level of confidence can be placed on the predicted impact on the compliance point following a DQRA.

Hazardous and Non Hazardous Substances

The Groundwater (England and Wales) Regulations 2009 control the disposal to the hydrogeological environment of potentially polluting substances which are divided into Hazardous Substances and Non-hazardous Contaminants (this roughly approximates to the former List 1 and List 2 substances).

Hazardous Substances are the most damaging and toxic and must be prevented from directly or indirectly entering the groundwater environment. Hazardous Substances include mineral oils and hydrocarbons, pesticides, biocides, herbicides, solvents and some metals. Discharge of Hazardous Substances to Controlled Waters must be prevented.

Non-hazardous Pollutants are any contaminants other than Hazardous Substances. Non-hazardous Pollutants are potentially toxic but are less harmful than Hazardous Substances, but their direct discharge to groundwater is generally not permitted and any indirect discharge to groundwater must be limited and be controlled by technical precautions in order to prevent pollution. Non-hazardous Pollutants include ammonia and nitrites, many metals and fluorides.

APPENDIX L - ASSESSMENT CRITERIA APPLIED FOR GROUND GAS

Ground Gas Monitoring Methodology

Monitoring for the following is generally performed as part of ground gas assessment:

- Methane (CH_4): an odourless, flammable gas. Mixtures of methane with air containing between 5 and 15% v/v methane are explosive.
- Carbon dioxide (CO_2): an asphyxiant at elevated concentrations. Denser than air, it can accumulate in excavations, and within low points inside buildings.
- Oxygen (O_2): important in the assessment of the potential formation of explosive mixtures with methane. Monitoring normally measures both methane and oxygen concentrations in ground gas to derive an indication of the risk of explosive mixture formation, expressed as a percentage of the Lower Explosive Limit (LEL). Low concentrations of oxygen in ground gas can also exacerbate the risk of CO_2 asphyxiation.
- Hydrogen sulphide (H_2S): odorous and toxic, capable of forming flammable mixtures with air.

In addition, depending on the Conceptual Site Model, monitoring may also include for measurements of Volatile Organic Compounds (VOCs); present as chemical contaminants of soil and sometimes also biologically produced in low concentrations.

Assessment of methane (CH_4) and carbon dioxide (CO_2)

Methane and carbon dioxide can arise from natural geological sources, mine workings, rotting organic matter (peat, landfilled materials, etc.) and/or contaminant biodegradation. Assessment of ground gas composition and flows is therefore an essential part of site assessment. The need to adequately address potential risks from ground gas on development sites is therefore required under the planning regime.

In order to appropriately assess the site risks, the Construction Industry Research and Information Association (CIRIA) and others have issued several guidance documents on landfill and ground gas that are intended to provide advice on how to investigate and deal with gas contaminated ground with respect to development. These are:

- Report 149: 'Protecting Development from Methane' (CIRIA, 1995a)
- Report 150: 'Methane Investigation Strategies' (CIRIA, 1995b)
- Report 151: 'Interpreting Measurement of Gas in the Ground' (CIRIA, 1995c)
- Report 152: 'Risk Assessment for Methane and Other Gases from the Ground' (CIRIA, 1995d)

More recent guidance has been published to update the documents detailed above to collaborate and promote industry 'good practice'. These are:

- CIRIA Report 665: 'Assessing risks posed by hazardous ground gases to buildings (CIRIA, 2008)
- NHBC: 'Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present' (NHBC, 2007)
- BS8485:201+A1:2019: Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings (BSI Group, 2019)
- BS8576:2013: Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs) (BSI Group, 2013)
- SoBRA Report Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater (Feb 2017)
- CL:AIRE Technical Bulletin TB17 Ground Gas Monitoring and 'Worst Case' Conditions (CL:AIRE Aug 2018)

The earlier CIRIA 149 approach is now considered to be too conservative. A more realistic measure of the risk posed by methane and CO2 in ground gas can be established by determining an appropriate Gas Screening Value (GSV), using the methods described in the NHBC and CIRIA 659 documents. These values are based upon earlier work undertaken by Wilson and Card (1999).

GSVs are calculated by multiplying the borehole flow rate (l/hr) by the percentage (% v/v) concentration in the gas stream of the specific component, i.e.:

GSV = (Concentration / 100) x Flow rate.

A risk-based methodology for deriving GSVs is defined for two situations (designated A and B), which are adequate for the great majority of site cases (as per CIRIA 665 Section 8.3):

- **Situation A**: Any development other than Situation B, e.g. factories, shops, commercial, warehouses, schools, cinemas, sports centres, stadiums, high rise housing, housing with basements, etc
- **Situation B**: Low rise building with minimum ventilated under floor void (min 150mm)

Under Situation A, classification of the scope of protection required is determined from the site GSV, summarised in Table 1. For Situation B, GSVs derived are used in a 'Traffic Light' classification (summarised in Table 2) which determines the required level and scope of protection measures. Tables 1 and 2 are summaries only: the details provided in the body text, footnotes and appendices of the above-referenced documents should be read in conjunction with the results to determine the appropriate level of protection.

For conservatism, Tier Environmental **initially** uses the maximum concentration and gas flow rate of methane detected in any borehole during all of the monitoring visits in deriving recommendations on appropriate protection measures. This represents the worst-case risk of forming an explosive mixtures. For carbon dioxide, steady state concentrations and flow data are applied, as these determine the development of an asphyxiating mixture. All values are selected whether or not they occurred in the same borehole or during the same monitoring event.

Exceedances of the maximum concentrations used in a Tier 1 Gas Risk Assessment can be tolerated, when the conceptual site model indicates that it is safe to do so. However, appropriately derived GSV values must never be exceeded - where site-specific circumstances permit the derivation of alternative GSVs according to the defined conceptual model, then the appropriate GSV values should be applied.

Table 1. GSV Categories Defined for Situation A (Summarised from CIRIA Report 665).

Risk classification	GSV (CH4 or CO2; l/hr)	Additional factors	Characteristic Situation
Very low	<0.07	Typically methane <=1% and/or CO_2 <=5%, otherwise consider increase to Low Risk.	1
Low	<0.7	Typically borehole ground gas flow rate <=70 l/hr; otherwise consider increase to Moderate Risk.	2
Moderate	<3.5	---	3
Moderate to high	<15	QRA required to evaluate scope of remediation measures.	4
High	<70	---	5
Very high	>70	---	6

Table 2. GSV Categories Defined for Situation B (Summarised from NHBC, 2007).

Methane		CO_2		"Traffic light" classification
Typical max. conc. (% v/v)	GSV (l/hr)	Typical max. conc. (% v/v)	GSV (l/hr)	
				Green
1	0.13	5	0.78	Amber 1
5	0.63	10	1.60	Amber 2
20	1.60	30	3.10	Red

Assessment of hydrogen sulphide (H2S)

H2S is toxic and highly odorous ("rotten eggs") gas. It is often a minor component within mine gases, in ground gas within or overlying strata rich in pyrites or other sulphide-rich ores, and in most natural gas fields.

H2S can be generated biologically in significant concentrations by the decomposition by sulphate-reducing bacteria of natural or anthropogenic organic matter under oxygen-free conditions. Its potential generation will be greater in environments containing elevated sulphate concentrations (including sea water). H2S is therefore common within the gas arising from estuarine and marine sediments, pond sediment, stagnant water bodies, bogs and marshlands and landfilled waste, for example.

It must be noted that H2S normally occurs together with other potentially hazardous ground gases. The measures adopted for protection against these will prove equally protective against H2S.

There are no standards by which H2S concentrations in ground gas can be assessed directly. Therefore, the significance of measured H2S concentrations in ground gas must be evaluated on a case-by-case basis, taking into account the measured concentrations of other components and the specific conceptual site and exposure models. To assist in this process, the following standards and guidance may be applied.

General protection of land users

There are no UK air quality standards for general exposure to H2S. The World Health Organisation has derived ambient air quality standards (WHO, 2000) for this gas, which may be used to inform risk assessment and decision-making:

The 24 hour average exposure guideline value for ambient air: 0.15mg/m3 (0.1 ppmv, approx.; this was derived by the application of a 100x safety factor to the LOAEL for long-term exposure).

This is significantly above the odour threshold, which is typically around 0.01 mg/m3. To avoid substantial nuisance odour complaints, WHO (2000) recommends that the 30 minute average H2S concentration in ambient air should not exceed: 0.007 mg/m3 (0.005 ppmv, approx.).

Occupational exposures

For occupational exposure, the HSE (2005) limits for H2S are applicable:

- 8 hour time weighted average occupational exposure limit: 5 ppmv (7 mg/m3).
- Short-term exposure limit (15 minute reference period): 10 ppmv (14 mg/m3).

VOC Data Collection, Sampling and Assessment

BS8576 Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs).

Volatile organic compounds (VOCs) include, for example, halogenated hydrocarbons such as trichloroethene, non-halogenated hydrocarbons such as benzene, and organosulfur compounds such as thiols (mercapatans). They can occur as a component of ground gas originating from historically contaminated ground, spills and leaks from industry, commercial or residential properties (e.g. from pipelines, storage facilities, and at the point of use or dispensing), land-filled wastes and from naturally occurring sources.

The migration of VOCs in ground gas can be via three primary mechanisms:

- diffusive flow (movement of constituent along a concentration gradient);
- advective flow (movement of constituent due to motion of a transporting fluid);
- dispersion (transport resulting from local variations in fluid flow, e.g. due to friction effects in the matrix).

The choice of sampling and monitoring techniques should be based upon the conceptual model and be designed to achieve the objectives of the investigation, bearing in mind the requirements of any subsequent analytical procedures and the need to provide relevant data of sufficient quantity and quality. Consideration should also be given to the nature of ground under investigation, as well as the nature and distribution of contamination, the geology and the hydrogeology. Every effort should be made to avoid cross-contamination and at no point should underlying aquifers be put at risk.

Where the response zone extends below the water table, gas present in the groundwater will tend to produce an equilibrium concentration in the well headspace. This applies to both permanent gases and VOCs but can be particularly misleading in the latter case. Testing for dissolved gases in groundwater is useful to help interpret monitoring results in such a situation. Similarly, any VOCs in a floating non-aqueous hydrocarbon layer will produce an equilibrium concentration in the well headspace.

The monitoring period and frequency of monitoring for VOCs in ground gases should be developed on a site-specific basis from the conceptual site model and investigation data quality objectives.

Ground gas samples can be collected from the unsaturated zone adjacent to, or above, the known or suspected source of VOCs in ground gas through installation of a ground gas monitoring point in the unsaturated zone (see 10.2), and from a near-surface location beneath hardstanding or a floor or foundation slab through installation of a near- or sub-slab monitoring point (see 10.3). For monitoring of VOCs in ground gas the monitoring well should be installed into unsaturated ground to allow sampling for VOCs to take place. The borehole should not be progressed below the groundwater table or the surface of any floating non-aqueous layer. The borehole should be progressed to the target sampling depth within the unsaturated zone. Full details can be found in BS8576 Section 10.2 onwards.

Assessment of VOC concentrations have been made for limited number of VOCs by SoBRA with the Development of Generic Assessment Criteria for Assessing Vapour Risks to Human Health from Volatile Contaminants in Groundwater in Feb 2017.

The assessment of VOC concentrations is not covered by above-referenced reports. These data can be used to inform the human health risk assessment for site occupants but should not be relied upon to assess human health risk due to uncertainties in the ground gas flow regime, variability in the (generally low) contaminant concentrations measured and inaccuracies in the concentrations measured by PID instruments.

Data on the VOC concentration in ground gas can also help inform potential occupational exposure risks to construction and similar workers. For this purpose, the measured values can be compared to the relevant occupational exposure limit (OEL) for the contaminant(s) of concern, as given in HSE (2005). In cases of doubt as to the identity of the organic contaminants within the ground gas or when these are present as a complex mixture, then the 8 hour time-weighted average (TWA) exposure limit for benzene (1 ppmv) will be applied for screening purposes. This is a reasonably conservative approach since the OEL for benzene is lower than that for the great majority of organic contaminants commonly encountered in soil and groundwater at contaminated sites.

APPENDIX M - CHEMICAL AND GEOTECHNICAL TEST SAMPLING

Samples were selected by a representative of Tier Environmental during the site investigation works in accordance with the sampling approach described elsewhere in this report.

Samples for geotechnical and related testing

Bulk samples were placed within robust heavy duty plastic bags and sealed, together with small-disturbed samples, within airtight 1 litre plastic containers.

100mm diameter 'undisturbed' samples ("U100 samples") were obtained where possible from cable percussive and large diameter window sample boreholes within cohesive materials.

Samples for chemical analysis

All samples for chemical analysis were placed into clean new containers as summarised in Table 1. Unless explicitly stated elsewhere in this report, no preservatives were used to eliminate the risk that preservatives cause contaminant dissolution or analytical interference. Containers for VOC analysis were fully filled to exclude headspace.

Soil samples were dispensed as soon as possible after collection using reusable stainless steel spatulas, trowels or similar implements.

Ground water samples were collected from boreholes using single-use Teflon bailers or dedicated Waterra tubing with foot valves, except as otherwise noted within this report. Caution was taken to avoid excessive agitation during collection.

New disposable gloves were used by the engineer for the collection of each sample.

Reusable equipment was washed down with distilled or deionised water between samples, except where tarry or similarly sticky materials were present. In such cases specific cleaning procedures were adopted as specifically described elsewhere in this report.

All sub-samples taken for chemical analysis were placed into refrigerators or cool boxes containing frozen ice packs immediately after aliquoting. All samples were transferred in cool boxes containing frozen ice packs to the relevant UKAS/MCERTS accredited laboratory as soon as possible. Recommended maximum holding times before analysis are summarised in Table 1.

Table 1. Sample containers and holding times.

Analysis	**Container/special requirements**	**Max. holding time at 4°C before analysis**
Soil and sediment samples		
VOCs	30-60 g brown or green glass jar with VOC-resistant cap and inert cap liner. Must be fully filled.	14 days
TPHCWG	30-60 g brown or green glass jar with VOC-resistant cap and inert cap liner **PLUS** 250-500 g brown or green glass jar with unwaxed cap liner.[1] The former must be fully filled.	14 days
All other organics	250-500 g brown or green glass jar with unwaxed cap liner.	7 days
Inorganics	Air-tight 0.5-2.0 kg plastic container (250-500 g brown or green glass jar may also be used).	14 days[2]
Water samples		
VOCs	40-50ml glass vial with VOC resistant screw cap and inert liner. Must be fully filled.	14 days
TPHCWG	40-50ml glass vial with VOC resistant screw cap and inert liner **PLUS** 500-1000ml brown or green glass bottle with screw cap and unwaxed liner.[1] The former must be fully filled, the latter should be filled if possible.	14 days
All other organics	500-1000ml brown or green glass bottle with screw cap. Fill if possible.	7 days
Inorganics	500-1000ml translucent or opaque screw cap plastic *or* brown or green glass bottles. Fill if possible.	14 days[3]

1 The smaller vessel is used for analysis of the volatile components within the TPH mixture and the larger one is for the non-volatile components.

2 14 days is set as a reasonable limit for all routine analyses of soil for those inorganic components vulnerable to chemical and/or biological breakdown. Samples for sulphate analysis are vulnerable to biological sulphate-reduction but can be held for up to 28 days. For total metals, a holding period of up to 6 months is acceptable.

3 14 days applies for all routine analyses of most inorganic components that may be vulnerable to chemical and/or biological reactions. In the specific cases of sulphide, nitrite, nitrate and phosphate analyses, storage time must not exceed 48 hours. For total metals, a holding time of up to 6 months is acceptable.

Tier Environmental standard analytical suites

The analyses included with Tier Environmental's standard analytical suites for soil, soil leachate and water samples are presented in Table 2. Other individual analyses were specified as described within this report.

Table 2. Tier Environmental Standard Analytical Suites.

Parameter	**Sample type**					
	Soil		**Leachate[1]**		**Water**	
		LoD[2] (mg/kg or as stated)		**LoD (µg/l or as stated)**		**LoD (µg/l or as stated)**
Metals and metalloids						
Arsenic	✓	1	✓	10	✓	10
Cadmium	✓	1	✓	5	✓	5
Chromium	✓	1	✓	5	✓	5
Mercury	✓	1	✓	1	✓	1
Lead	✓	1	✓	4	✓	4
Selenium	✓	2	✓	10	✓	10
Copper	✓	1	✓	1	✓	1
Nickel	✓	1	✓	50	✓	50
Zinc	✓	1	✓	8	✓	8
Other inorganics						
Ammonia (as NH_4-N)					✓	15
Total sulphate	✓	100			✓	50 mg/l
Water-soluble sulphate	✓	0.1 g/l				
Hardness (as $CaCO_3$)					✓	1 mg/l
Organics						
Monohydric phenol	✓	1	✓	0.5	✓	0.5
Speciated PAHs (USEPA 16)	✓	0.1	✓	0.01	✓	0.01
Total Organic Carbon	✓	0.1 wt%				
Others						
Electrical conductivity					✓	NA
pH	✓	NA	✓	NA	✓	NA

NA - Not applicable

1 Leachate preparation according to NRA (1994), 10:1 liquid to solid ratio.

2 The table presents the desired limit of detection for the analysis. Higher LoDs may be reported on analytical data sheets due to interference between analytes within specific samples or if the laboratory needed to dilute samples to achieve results within the calibrated range for that instrument.

Analytical QA procedures

Introduction

Quality Assurance (QA) is a system of review and audit that assesses the effectiveness of that product and assures the producer and user that defined standards of quality have been met. If we consider site investigation and chemical analysis, QA is the management system that ensures these measures are in place and working as intended.

QA within the laboratory form part of relevant certification programmes (such as UKAS and MCERTS) and, indeed, will be undertaken in some form by any reputable analyst, whether for a certified technique or not. Laboratory QA/QC is beyond the control of Tier Environmental and will not be considered further in this document, although the relevant laboratory documentation can be obtained upon request. QA must also form part of the design and execution of a site investigation.

Two parameters often used to assess measurement quality objectives are bias and precision. Bias is a systematic deviation in the data. For example, a positive bias (concentrations higher than in reality) would be introduced if sampling bottles were a source of the analyte and this fact was unknown. Precision is the variation in the measurements around a central 'expected' value. This could be due both to real variability in the environmental medium being measured and random errors in the analytical process. Both precision and bias can be assessed by the use of appropriate blanks and replicates within the site investigation programme.

The objectives of the QA activities undertaken in this present site investigation were to recognise and quantify systematic bias within the analytical dataset and to obtain an indication of precision. In environmental samples, much of the observed variability is likely to result from heterogeneity in the sampled medium, particularly for soil and sediment samples.

Such QA practice within the sampling programme is required by current guidance (e.g., Environment Agency report P5-065/TR (2000); Environment Agency LFTGN02 (2002); BS 10175:2001).

Alternative QA procedures to the generic approach presented in this appendix may be specified for a project, provided case-specific justification is given.

QA checking procedure (data validation)

The responsible Engineer and Project Reviewer are required to undertake data validation and provide comment on data quality within the main body of the report(s) issued, when noteworthy matters arise. This QA checking should involve:

Confirming that data reported by the laboratory have achieved the standards specified by the certification scheme (MCERTS or UKAS). This will be indicated on the analytical certificates issued by the laboratory.

Checking that the limit of detection (LoD) and limit of quantification (LoQ) achieved by the laboratory for an individual analyte is appropriate for the purposes of the report. LoD and LoQ will vary dependent upon analyte concentrations, sample matrix properties and interference from co-contaminants.

A check that the reported range of concentrations are reasonable for the analyte. For example, the dissolved concentration of an analyte in a water sample should not exceed saturation. If it does, then this merits further consideration (e.g., was colloidal organic matter or other solid-phase material present or could there have been unobserved free-phase organic liquid?) and explicit comment. At its simplest, there may be a unit error.

Where analysis involves reporting of Tentatively Identified Compounds (TICs; normally by mass spectrometry), the reviewers should check that these might reasonably be expected at the site under consideration. The uncertainties in identification by MS mean that it is not uncommon that TICs are incorrectly assigned. In cases of doubt, the analytical laboratory can re-check the raw data and confirm.

A review of the analytical precision by comparing data obtained for duplicate samples. There is no absolute threshold - variability is entirely dependent upon the sample matrix and manner in which the contaminant has entered the sample. Variability that cannot reasonably be assigned to such factors (for example a very high apparent variability in data for sediment-free water samples) should be reviewed with the laboratory. Variability that is attributable to the sample matrix can nevertheless provide important pointers to improve understanding of contaminant transport pathways and the risks posed by pollutant linkages (e.g., soil heterogeneity, the association of contamination with particular soil fractions, the presence of residual NAPL within soil pores or the role of suspended sediments in contaminant transport).

Confirmation that no errors have been introduced by data transcription, unit conversion or corrections between preliminary and certificates issued by the laboratory. The reviewer should audit a proportion (typically 5-10%) of all data from the original (final) certificates of analysis through to the equivalent values in the report for those specific samples.

In is important to consult the analytical laboratory if apparent QA issues arise. Many apparent concerns can be adequately resolved on the basis of revisiting the raw analytical data or by obtaining a better understanding of the inherent limitations of the analysis for a particular matrix or sample type.

APPENDIX N - COAL TAR CONTAINING ASPHALT CONSIDERATIONS

Tier Environmental Approach to Coal Tar in Asphalt

This appendix outlines a summary of available guidance and describes the Tier Environmental interpretation of available information to inform, in a robust manner, the approach adopted to consider on, or both of the following objectives:

- If asphalt is present on site, what the waste classification and waste disposal route should be if there is an intention to grub up and dispose of either some, or all, of the asphalt;
- If asphalt is present and there is an intention (subject to suitability for re-use assessment) for re-use, then to determine how that may be achieved.

In order to info the decision making with respect to the above, the following guidance documents and articles have been referenced:

- Waste Classification - Guidance on the classification and assessment of waste (1st Edition v1.2.GB) Technical Guidance WM3. Environment Agency, Scottish Environmental Protection Agency and Natural Resources Wales;
- Managing Reclaimed Asphalt Highways And Pavements - An ADEPT & Construction Demolition Waste Forum Guidance Note (Version 2019 Revision 1, August 2019);
- Environment Agency Regulatory Position Statement 075: 'The movement and use of treated asphalt waste containing coal tar';
- Environment Agency Regulatory Position Statement 157: 'Storing and treating asphalt waste: RPS 157' (Updated 4th February 2020);
- Environment Agency WRAP Quality Protocol - Aggregates from inert waste. End of waste criteria for the production of aggregates from inert waste;
- CIRIA Sustainable management of surplus soil and aggregates from construction, CIRIA, C809, dated 2023;
- Contaminated Land: Applications in Real Environments (CL:AIRE) (2011) Definition of Waste Code of Practice (version 2);
- SEPA Guidance on the Production of fully Recovered Asphalt Road Planings (Scotland);
- AGS magazine – article entitled 'Coal Tar: Analysis and Detection' (March 2023 edition)

COAL TAR CONTAINING ASPHALT

WM3 includes the following text with regards to ascertaining the correct EWC code for waste asphalt:

> ***Waste containing coal tar***
>
> *This example provides guidance on the classification of road asphalt waste containing coal tar (AWCCT) and other construction and demolition wastes containing coal tar and related materials. This does not apply to wastes where coal tar is known not to be present.*
>
> *Coal tar and many coal tar distillates are potentially carcinogenic hazardous substances. If the concentration of such materials is at or above 0.1% the waste would possess the hazardous property HP 7 carcinogenic. Coal tar is complex mix of hydrocarbon compounds which have to be added to together to determine the concentration of coal tar. Therefore the 0.1% concentration must be applied to all fractions of the coal tar. Assessments based on PAH's alone are not consistent with the legislation and cannot be used to classify a waste as non-hazardous. However, if the concentration of coal tar is known, the MCL under the GB CLP uses benzo[a]pyrene (BaP) as a marker compound for carcinogenicity for certain coal tar entries. Where the concentration of BaP is less than 0.005% of the concentration of the coal tar (rather than in the waste as a whole), the coal tar is not carcinogenic and does not need to be considered for HP7.*
>
> *'Black top' (road surface) waste*
>
> *The following applies only to Asphalt material classified in the List of Wastes as*
>
> - *17 03 01* bituminous mixtures containing coal tar*
> - *17 03 02 bituminous mixtures other than those mentioned in 17 03 01*
>
> *Where the concentration of benzo[a]pyrene is at or above 50 ppm (mg/kg) in the black top alone (excluding other material) then the amount of coal tar should be considered to be sufficient (0.1% or more) for the material to be hazardous and thus coded 17 03 01*. Any sampling of black top would need to ensure that layers with different concentrations of benzo[a]pyrene are identified and sampled.*

Tier Environmental have observed third party assessments that have determined 'black top' (road surface) waste as non-hazardous when benzo(a)pyrene is at or below 50mg/kg; however, it is considered that this represents a misunderstanding of WM3 guidance for the following reasons:

1) The first paragraph in the 'Waste containing coal tar' section of WM3 is clear to state that *'This example provides guidance on the classification of road asphalt waste containing coal tar (AWCCT) and other construction and demolition wastes containing coal tar and related materials.';*
2) It also states, explicitly that *"Assessments based on PAH's alone are not consistent with the legislation and cannot be used to classify a waste as non-hazardous"*. Tier Environmental consider this statement is tacit to include road asphalt waste containing coal tar (AWCCT) as it is mentioned in the previous paragraph;
3) The 'Black top' (road surface) waste sub-section states *"Where the concentration of benzo[a]pyrene is at or above 50 ppm (mg/kg) in the black top alone (excluding other material) then the amount of coal tar should be considered to be sufficient (0.1% or more) for the material*

to be hazardous and thus coded 17 03 01"*. However, this does not mean that benzo(a)pyrene concentrations less than 50mg/kg can be classed as non-hazardous when you take into consideration the text in Item 2), above. This either suggests a contradiction in the guidance, or that benzo(a)pyrene alone can only be used to prove the whether the AWCCT is hazardous but that the opposite does not classify the material as non-hazardous such that to prove non-hazardous you would still require the concentration of the coal tar to be determined.

The AGS article (March 2023) states that for determining whether asphalt waste is hazardous waste that "we *also* have to consider [B(a)P being greater than or equal to 50mg/kg]" suggesting that is consistent with the Tier Environmental interpretation. However, a bit further down the article states that the ADEPT Guidance reiterates and references WM3 and *"the use of the 50mg/kg level for measuring B(a)P should the total coal tar concentration values not be available for measurement"*. Tier Environmental's interpretation of WM3 is that it does not make reference to the 50mg/kg B(a)P level being used as a threshold *in lieu* of a coal tar concentration value being available.

So if, in order to determine whether asphalt is non-hazardous waste, there is a requirement for the concentration of coal tar to be analysed then a decision needs to be made as to what type of coal tar test is adequate. The AGS article (March 2023) highlights that *"One of the challenges facing laboratories is the lack of standardization in the specification from clients and, also, the analysis itself".* The article explains that a review by the AGS Laboratory Working Group revealed a range of techniques and *"a potentially confusing landscape for the industry to navigate"*.

The ADEPT Guidance states there is data corroborating this assertion that 50mg/kg correlates to around 1000mg/kg road tar, this data is presented in Appendix D4.0. of the ADEPT Guidance document; however, Tier Environmental notes that the ADEPT Guidance states *"This guidance is not intended as a complete guide to managing waste materials and should be read in conjunction with Regulations and guidance issued by the relevant Regulator, these will take precedence over this guidance in all cases"*. As such, with respect to waste classification WM3 takes precedence over the ADEPT Guidance and WM3 does not provide details of any corroboration between B(a)P and road tar.

RE-USE OF ASPHALT

The AGS article (March 2023) summarises the ADEPT Guidance as follows:

> The ADEPT guidance provides more specific focus on the managing of reclaimed asphalt and provides information in to the classification of waste. It reiterates and references WM3 and the 0.1% threshold for coal tar and also the use of the 50mg/kg level for measuring B(a)P should the total coal tar concentration values not be available for measurement [see Tier Environmental comment above regarding this statement].
>
> What the ADEPT guidance then gives, is a clear and defined protocol for sampling, sample preparation, sample volumes and data review with also indication of analytical requirements and basic principles. The document gives details and refences to specific British Standards for the sampling and preparation of road plannings and road cores (BS 932 and BS 12697), and then recommends the following testing:
>
> - PAH analysis in the laboratory by gas chromatography mass spectrometry (GCMS) for the USEPA16 suite of PAHs, though only B(a)P may be necessary. It is worth noting here that labs will test for the full suite in a single process so requesting B(a)P only will usually give no cost or speed benefit. Should further characterisation for landfill disposal be required then the USEPA17 suite inclusive of coronene should be used,
> - Screening methods such as PAK marker sprays or Acrylic White sprays can be used but validated by the use of frequent 'full' analysis,
> - Specifies the use of Monohydric Phenol (Phenol Index) testing, with a potential requirement to speciate the individual compounds (Phenol, Cresols and Xylenols) should the levels be sufficiently high.
>
> In terms of data review the 3 potential outcomes are:
>
> 1) Classed as Inert for the purposes of the Quality Protocol for Aggregates from Inert Waste if:
>   a. The guidance of sample numbers has been observed,
>   b. All the B(Aa)P results are below 25mg/ kg,
>   c. There are ≥3 results.
> 2) Classed as Hazardous and treated accordingly is:
>   a. All the B(a)P results are above 50mg/kg Note: If there are limited results and close to the threshold then further investigation is required.
> 3) Full statistical analysis required to make assessment if:
>   a. Some or all results are above 25mg/kg and below 50mg/kg.

Tier Environmental once again notes that the ADEPT Guidance states *'This guidance is not intended as a complete guide to managing waste materials and should be read in conjunction with Regulations and guidance issued by the relevant Regulator, these will take precedence over this guidance in all cases'*. As such, with respect to *waste classification* WM3 takes precedence over the ADEPT Guidance.

ENVIRONMENT AGENCY REGULATORY POSITION STATEMENTS 075 AND 157

The ADEPT Guidance describes that these documents allow the treatment, movement and use of asphalt waste containing coal tar in construction operations for hard paving structures in England only. They do not enable the producer to demonstrate that end of waste criteria has been met, but they do state that if followed correctly, the EA will not pursue an application for an environmental permit.

CIRIA C809 states the following:

RPS 75 (EA, 2014d) allows the use of treated asphalt waste containing coal tar (AWCCT) (i.e. classified as hazardous) in specific construction operations for hard paving structures such as roads, pavements, footways, car parks and airfields.

While AWCCT is commonly treated by crushing, grinding, and screening, the treatment of AWCCT is not covered by this RPS. The AWCCT needs to meet the requirements of the Specification for Highways Works and can only be used in bound sub-surface layers, e.g. sub- base, base and binder layers.

SEPA GUIDANCE ON THE PRODUCTION OF FULLY RECOVERED ASPHALT ROAD PLANINGS (SCOTLAND)

The ADEPT Guidance describes that this document provides approved methodology that allows producers to demonstrate when aggregate produced from asphalt has been fully recovered and has ceased to be a waste. This guidance is only applicable in Scotland. However, it is not applicable to tar bound aggregates, asphalt contaminated with other substances or asphalt removed/processed by any other method than a road planer.

WRAP QUALITY PROTOCOL - AGGREGATES FROM INERT WASTE. END OF WASTE CRITERIA FOR THE PRODUCTION OF AGGREGATES FROM INERT WASTE

The ADEPT Guidance summarises that this document is applicable to England, Northern Ireland and Wales. It identifies that certain specified inert wastes (including uncontaminated asphalt) may achieve end of waste status through treatment and use in compliance with the Quality Protocol for recycled aggregates from inert waste.

RE-USE UNDER DOWCOP

Tier Environmental consider that *in situ* asphalt may be reasonably considered for re-use under DoWCoP, (subject to following DoWCoP fully including conducting site-specific risk assessments to demonstrate suitability for use) as it would constitute "*Source segregated aggregate material arising from demolition activities….*".

If the asphalt materials are coal tar containing then it would be necessary to consider the potential risks to human health and controlled waters carefully and agreement with the Local Authority (via Contaminated Land Officer or equivalent), Environment Agency / Natural Resources Wales local waste team / groundwater team would be necessary.

Due consideration may also need to be given to Series 600 if the materials is to be combined with other materials to form an engineering material.

APPENDIX O - COMPLYING WITH CONTROL OF ASBESTOS REGULATIONS 2012

Complying with Control of Asbestos Regulations (CAR): Risk Assessments, Licensing and Training

This appendix outlines CAR risk assessments and where they should be applied in relation to assessing and remediating brownfield sites. The information below details the different classifications of work with asbestos under CAR, summarises the legal requirements for asbestos awareness training for all involved in the investigation and management of asbestos containing soil (ACS), and details the potential requirements for suitable proficiency training relating specifically to ACS.

CAR RISK ASSESSMENTS

A CAR Risk Assessment is required for any work which may expose employees to asbestos. It is recommended that a precautionary approach is adopted if there is any doubt about risks associated with asbestos.

There are three main activities for potential asbestos exposure during work on brownfield sites:

- Site reconnaissance visits;
- Site investigation works; and
- Site remediation.

CAR risk assessments are needed at each stage but may be incorporated during the site investigation stage into the overarching health and safety risk assessments.

The CAR risk assessment must:

- Identify the type of asbestos to which employees are liable to be exposed, where possible, or assume it is present in different forms;
- Determine the type and extent of exposures to asbestos that may occur during the work.
- Identify the steps to be taken to prevent exposure or reduce it to the lowest level reasonably practicable; and,
- Consider the effects of control measures that have been or will be taken.

The CAR risk assessment should include any information used to inform the risk assessment such as asbestos reports or desk study information. In the event that this information is not available, the assessor should be assumed that all forms of asbestos may be present on site.

For all investigation and remediation of ACSs, a detailed written work plan should he produced and followed as detailed on the HSE website and in the CAR.

The CAR risk assessments for specific investigations or remediation projects, will determine whether or not work is 'licensable work' (LW)**,** notifiable non-licensable work' (NNLW) or 'non-licensed work' (NLW). In addition, training requirements are also defined by the CAR risk assessment.

Some examples of control measures that apply during site reconnaissance, site investigation works, and site remediation are given below and should be applied depending on the asbestos risks identified for the site at each stage of investigation:

- Avoiding stirring up dust;
- Cleaning footwear after site works;
- Removing and bagging any overalls for disposal/laundering;
- Respirators and hygiene facilities for high risk sites;
- Segregated welfare units;
- Wetting ground
- Minimising soil disturbances;
- Implementation or retention of capping/break layers;
- Implementation of awareness training;
- Air monitoring;
- Managing stockpiles;
- Area segregation;
- Wheel washing
- Road washing/cleaning

It is important to note that during site reconnaissance visits, site investigation works and site remediation that asbestos should not be considered in isolation and control measures are likely to form part of a wider health and safety precautions.

Respiratory protective equipment (RPE)

RPE is the last line of defence and its requirement would be defined by the CAR risk assessment. HSE (2013b) advises that RPE should have an assigned protection factor of 20 or more for all work with asbestos. In certain instances, full face-piece, positive pressure respirators with a protection factor of 40 are necessary (to EN 12942:1998, TM3).

Suitable types of RPE for most ***short*** duration non-licensed asbestos work:

- Disposable respirator to standards EN149 (type FFP3) or EN1827 (type FMP3)
- Half mask respirator (to standard EN140) with P3 filter
- Semi-disposable respirator (to EN405) with P3 filter

These filters are not suitable for people with beards/stubble or for long or continuous use.

LICENSING

CAR defined certain types of activities involving asbestos as 'licensable work' (LW) or as 'notifiable non-licensable work' (NNLW). All other work would be 'non-licensable work' (NLW).

LW is defined as:

- work where exposure is not 'sporadic and low intensity'.
- work where the risk assessment cannot demonstrate that the control limits (four hour and 10 minute limits) will not be exceeded.
- work on asbestos coating
- work on AIB or insulation where risk assessment is either of first two points above or not of short duration (where short duration is defined for any work liable to disturb asbestos as taking less than two hours per week (including ancillary work) and no one person carries out that work for more than one hour').

NNLW includes work with:

- AIB or asbestos insulation of short duration that is not licensable.
- fire-damaged asbestos cement or asbestos cement damaged so as to create significant dust and debris.
- asbestos ropes, yarns, woven cloths in poor condition or handling cutting or breaking up the materials.
- asbestos papers, felts and cardboard in poor condition, unencapsulated or not bound into another material.

Work with weathered asbestos cement, air monitoring and collecting samples of ACM in buildings would not normally be notifiable.

It is impossible to specify definitively what activities will and will not be licensable. This decision should be made as part of the CAR risk assessment. CAR is not primarily aimed at work with ACSs and there is little published information on airborne asbestos concentrations during work with ACSs. Nevertheless, CAR will require some remediation projects, and occasionally site investigations, to be LW. Investigations on other sites may involve NNLW. The decision as to whether work is LW or NNLW should be made during the CAR risk assessment by those in charge of the brownfield site investigations and remediation projects.

TRAINING REQUIREMENTS

Asbestos health and safety courses are offered by a number of providers in the UK. Training courses that include the problem of identifying ACMs in soil should be undertaken at regular intervals by those involved in the investigation, assessment and management of sites where ACs are known or suspected. It is the role of the employer to identify the level of training required for an employee based on their role, experience and duties. Reference to Regulation 10 of CAR should be referred to for more information on training requirements.

Recognising asbestos within soils is challenging due to the heterogeneity of such soils and the discolouration of asbestos by smeared soil. Specific training for ground workers should include understanding fibre release potential, potential control measures in the field, how to take representative ACSs safely, sample labelling and what analytical tests are available and when the y should be implemented.

Health and safety training required under CAR includes asbestos awareness, non-licensable work (including notifiable non-licensable work) and licensable work with asbestos.

In addition to health and safety training, some staff involved in the technical identification on site of ACMs, sampling and analysis may require technical proficiency training (competency training).

Training vs. Competence

HSE (2005) identifies that 'training alone does not make people competent. Training must be consolidated by practical experience so that the person becomes confident, skilful and knowledgeable in practice on the job'. It is critical that ACS surveyors demonstrate competency with details of relevant field experience alongside training and examples of previous works/references.