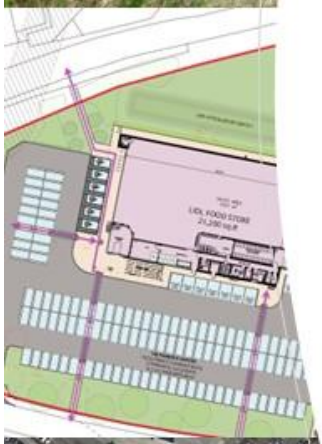

EARTH ENVIRONMENTAL & GEOTECHNICAL

GeoEnvironmental Site Investigation Report

Broughton Shopping Park

Broughton

Chester

January 2026

On behalf of

British Land

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
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GEOENVIRONMENTAL SITE INVESTIGATION REPORT

BROUGHTON SHOPPING PARK

BROUGHTON

CHESTER

Report Ref: A5552/23/SI/V3

JANUARY 2026

Prepared on Behalf of:

BRITISH LAND

By:

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DISTRIBUTION:

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GEOENVIRONMENTAL SITE INVESTIGATION REPORT

BROUGHTON SHOPPING PARK, BROUGHTON, CHESTER

Report Reference: A5552/23/SI/V3

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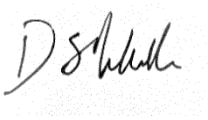

Daniel Shanks
Senior GeoEnvironmental Consultant

Approved by:

Adam Czarnecki
Managing Director

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1.0 EXECUTIVE SUMMARY

Appointment	A site investigation has been commissioned by SWF Consulting Ltd, on behalf of British Land (the Client), to examine ground conditions for a proposed new development at the land north of Broughton Shopping Park, Broughton, Chester.
The Investigation	The investigation comprised ten windowless sample boreholes, with associated sampling, in situ testing, laboratory geotechnical and contamination testing.
The Site	The site is located north of Broughton Shopping Park in Bretton, approximately 1km northeast of Broughton village centre and approximately 6km southwest of Chester city centre. The approximate National Grid Reference for the centre of the site is SJ 34950 64162 (X: 334950, Y: 364162) with the closest postcode being CH4 0DP.The site is underlain by superficial deposits of Devensian Till. The solid geology beneath the site is recorded as the Kinnerton Sandstone Formation.
Ground Conditions Encountered	The exploratory holes generally encountered topsoil between ground level and a maximum depth of 0.40m bgl, underlain by variable superficial deposits, largely comprising boulder clay with rare sand layers, to a maximum depth of 5.00m bgl. Perched groundwater was encountered during the fieldwork, exclusively in WS6 and WS8 at 0.60m bgl and 3.50m bgl respectively, however these values are not considered to be representative of the local groundwater levels.
Geotechnical Assessment	Shallow strip/pad foundations placed in the natural superficial deposits at a minimum depth of approximately 1.00m bgl are considered appropriate for the current proposed development, dependent on allowable bearing pressures and tolerance of structures to settlement. Pavement Design - preliminary design value = 1% in Made Ground, 3 - 5% in clay. Design Sulphate Class = DS-1 ACEC Site Classification = AC-1s
Contamination Assessment	Risk from contamination to groundworkers during development - Low Risk from contamination to future commercial end users - Low No asbestos was identified in the samples analysed. No remediation of the site is required for the proposed development. Soil Waste Assessment: 12 samples tested, all classified as Non-Hazardous in accordance with WM3.1.
This sheet is intended to provide a summary only of the report. It does not provide a definitive engineering analysis for the purposes of costing or construction and is subject to the limitation of the agreed brief.	

2.0 INTRODUCTION

2.1 Background

A site investigation has been commissioned by SWF Consulting Ltd, on behalf of British Land (the Client), to examine ground conditions for a proposed new development at the land north of Broughton Shopping Park, Broughton, Chester.

2.2 Previous Investigations

2.2.1 Earth Environmental & Geotechnical Ltd, Phase I GeoEnvironmental Desk Study (A5552/23/FDS), dated September 2023.

Historically the site was occupied by vacant/ agricultural land and was crossed by a railway since the earliest historical mapping in 1869. The railway line was later dismantled in the 1970s. Sinks and a probable drainage ditch that ran adjacent to the railway line were shown on the mapping until the early 2000s. The site is then shown to be vacant to the modern-day.

The site is underlain by superficial deposits of Devensian Till comprising Diamicton, commonly known as Boulder Clay (Secondary Undifferentiated Aquifer), and solid geology of the Kinnerton Sandstone Formation (a Principal Aquifer).

The risk from soil contamination to construction workers and future commercial end users was considered to be **LOW**. The risk from ground gas to end users was considered to be **LOW** due to the anticipated extent and age of made ground deposits below the site.

The risk to controlled waters was concluded to be **LOW**.

An intrusive investigation was recommended to establish geotechnical parameters for the design of foundations, floor slabs and pavement construction. As part of the geotechnical investigation, it was recommended that samples are recovered for contamination testing.

2.3 Terms of Reference

Earth Environmental and Geotechnical Ltd (EEG) have been commissioned by the Client, to undertake a Site Investigation of the site in accordance with proposal A5552/23 dated 20th October 2023. The objectives of this investigation are as follows:

- *Provide factual information on the work undertaken including sampling location plan, borehole logs, geotechnical and chemical testing.*
- *Tier 1 (semi-quantitative) risk assessment will be undertaken. This will compare the concentrations of soil contaminants identified against current and appropriate published guidelines, in relation to identified receptors, e.g., existing/ future end users and site neighbours.*
- *Classification of soils for offsite disposal.*
- *Assessment of ground conditions for foundation design.*

2.4 Report Scope

This report presents full factual records of the site work carried out, the ground conditions encountered in the exploratory holes, the in situ and laboratory test results. All information collected has been used to provide an interpretation of the ground conditions, with recommendations on geotechnical design and potential ground contamination risks for the proposed development.

2.5 Limitations of the Study

The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices or changes in legislation may require a reinterpretation of the report in whole or in part. EEG reserve the right to amend either conclusions or recommendations in light of any further information that may become available. The report is provided for the sole use by the client and is confidential to them.

Recommendations within this report are also based on exploratory records and examination of samples and, where applicable, laboratory tests. No liability can be accepted for conditions not revealed by the boreholes and trial pits particularly at intervening locations. Whilst every effort is made to ensure accuracy of data supplied, all opinions expressed as to the spatial distribution of strata between sampling locations is for guidance only and no responsibility is accepted as to its accuracy.

3.0 SITE LOCATION & DESCRIPTION

The site is located north of Broughton Shopping Park in Bretton, approximately 1km northeast of Broughton village centre and approximately 6km southwest of Chester city centre.

The approximate National Grid Reference for the centre of the site is SJ 34950 64162 (X: 334950, Y: 364162) with the closest postcode being CH4 0DP.

The site is an irregular shaped parcel of land with no current access points. During this investigation, access to the site was attained via wire fence on the southern boundary of the site.

The maximum dimensions of the site are approximately 160m west to east and 120m north to south. The site occupies an area of approximately 1.38 hectares.

The site is currently a large disused plot of land, entirely covered by soft landscaping. A large cluster of trees and vegetation is present in the western half of the site. The site is bound by wooden and wire fences on all sides, with currently no access point.

The site is bordered by vacant land to the east of the site with roads on all other boundaries. Broughton Shopping Park is located to the south of the site with the Airbus UK East Factory complex located to the north.

The site location is shown in the aerial photograph presented as Figure 1, below.

Figure 1: Aerial Photograph Showing Site Location

General site photographs are presented in Figure 2 overleaf.

Figure 2: General Site Photographs

Photograph taken viewing across the south of the site, facing southwest

Photograph taken viewing across the north of the site, facing north

Photograph showing wire fence on southern boundary which was cut to provide access to the site.

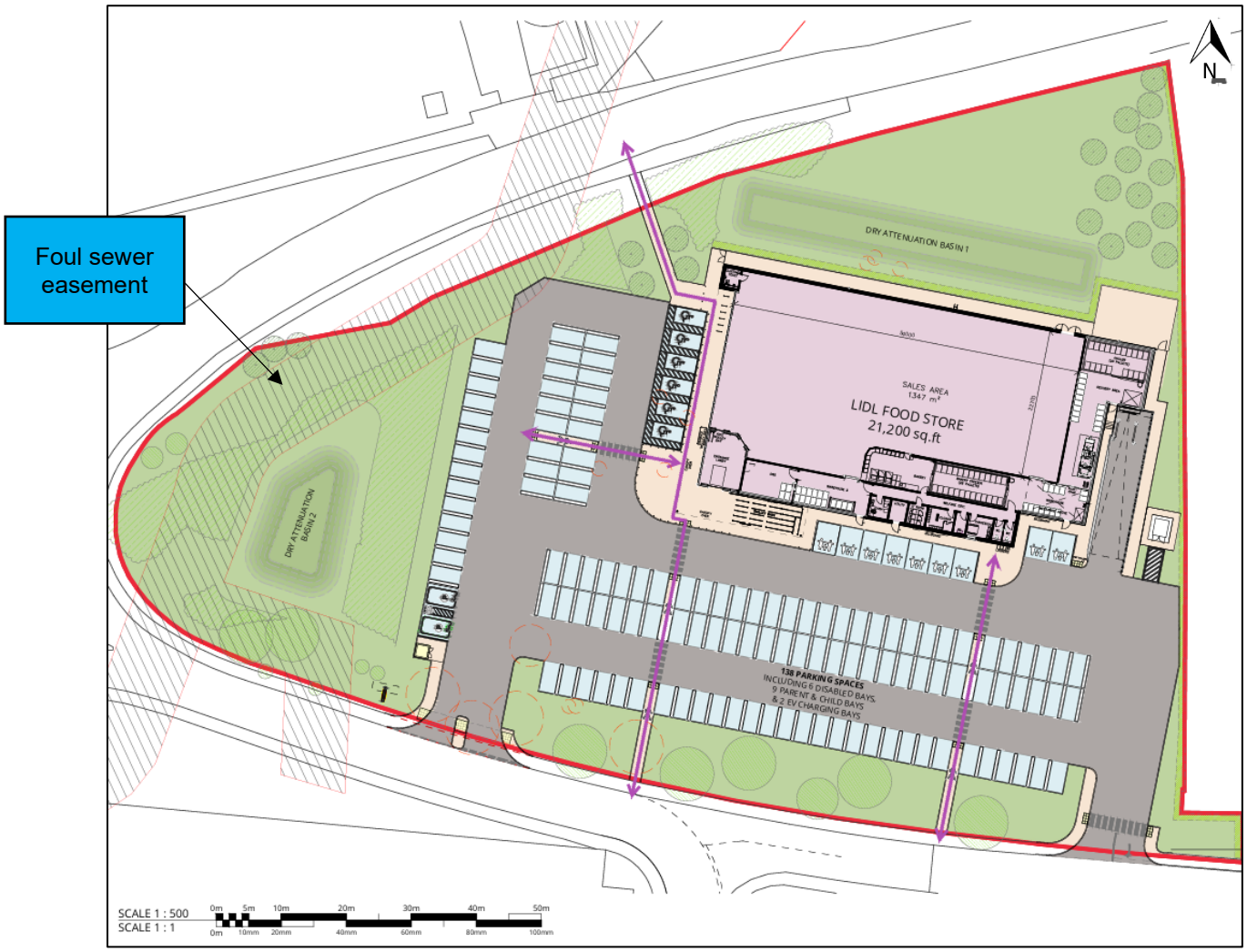
Photograph showing representative superficial soils (WS8)

3.1 Proposed Development

It is understood that the client wishes to develop a new Lidl Food Store, along with an associated car parking area. The development will also include 2no. dry attenuation basins, to the north and west of the new building.

The proposed development layout details are shown in Figure 3 below and this also highlights a foul sewer (in cross hatching) across the site.

Figure 3: Proposed Development Plan



4.0 SITE INVESTIGATION

4.1 Exploratory Fieldwork

The fieldwork was carried out by EEG on the 30th of October 2023 and comprised:

- Ten window sample boreholes (designated WS1 - WS10 inclusive) were each sunk to depths between 3.00m to 5.00m below existing ground level. The boreholes were drilled with the intention of reaching 5.00m bgl however were terminated early in multiple locations due to refusals in very stiff clay and very dense sand. Window sampler boring is carried out with a small, track-mounted rig, which uses a chain-driven trip hammer to drive sampling tubes or penetrometers into the ground. These tools are coupled to the anvil of the hammer by solid drill rods. Sampling tubes comprise “windowless samplers”, which are plain sampler tubes in which a continuous disturbed sample is recovered within a semi-rigid plastic liner. In order to reduce friction within the borehole, sampling tubes of progressively smaller diameter are used as the borehole depth increases. Sampler diameters generally range from between approximately 90mm to 50mm. Standard Penetration Tests (SPTs) were undertaken in the boreholes in accordance with BS EN ISO 22476-3. Groundwater observations were noted where possible. These observations relate to the time of the investigation only, and do not necessarily reflect seasonal fluctuations. Exploratory hole logs are included in Appendix 1.

Exploratory hole locations were selected prior to the site works by EEG Ltd based on the proposed development and avoiding known services.

Each exploratory location was scanned using a Cable Avoidance Tool (CAT) in order to locate unrecorded underground services, and the exploratory locations were repositioned if necessary.

On completion, samples recovered from the site were taken to specialist laboratories for chemical and geotechnical testing.

Soil samples were recovered in 250g glass amber jars and 1kg plastic tubs. If collection was not possible the same day, then samples were stored in the sample storage fridge at the EEG offices below 4˚C.

Samples were tracked using appropriate Chain of Custody forms provided by DETS.

It should be noted that hexavalent chromium soil is analysed using the USEPA recommended method of alkaline leach. This method limits chromium (VI) reduction to chromium (III).
All site investigation work was supervised full time by a representative of EEG. The logging of soils and rocks has been carried out in accordance with BS5930(2015+A1:2020) except where superseded by the soil and rock description methodology in BS EN14688-1(2002), BS EN 14688-2(2004) and BS EN 14689-1(2003).

All sampling locations were surveyed by use of a hand-held Trimble GeoXH GPS instrument that is capable of surveying to an accuracy of less than 10mm depending on satellite coverage, proximity to trees and building structures.

The descriptive terminologies such as firm, etc formerly used within older versions of BS5930 to describe strength now solely relate to consistency. Shear strength is now defined related to

results obtained in the field (using a hand vane for example) or in the laboratory (from triaxial tests), as detailed in Table 1 below.

Table 1: Shear Strength Definitions

Term based on measurement	Undrained Strength (c_u) definition in kN/m² (from BS EN ISO 14688-2: 2004, 5.3, Table 5)
Extremely Low Strength	<10
Very Low Strength	10 to 20
Low Strength	20 to 40
Medium Strength	40 to 75
High Strength	75 to 150
Very High Strength	150 to 300
Extremely High Strength	300 to 600

An Exploratory Hole Location Plan is presented as Figure 4, overleaf.

Figure 4: Exploratory Hole Location Plan

A summary of exploratory holes undertaken during the investigation are presented in Table 2 below.

Table 2: Summary of Exploratory Holes Undertaken

Hole	Type*	Depth (m)	Date Started	Date Finished	Easting (m)	Northing (m)	Backfill Details**
WS1	WS	4.00	30/10/2023	30/10/2023	334995	364113	A
WS2	WS	4.00	30/10/2023	30/10/2023	334991	364129	A
WS3	WS	4.00	30/10/2023	30/10/2023	334961	364146	A
WS4	WS	3.00	30/10/2023	30/10/2023	334923	364130	A
WS5	WS	3.00	30/10/2023	30/10/2023	334919	364143	A
WS6	WS	3.00	30/10/2023	30/10/2023	334919	364153	A
WS7	WS	3.00	30/10/2023	30/10/2023	334953	364171	A
WS8	WS	5.00	30/10/2023	30/10/2023	334967	364183	A
WS9	WS	3.00	30/10/2023	30/10/2023	334987	364167	A
WS10	WS	3.00	30/10/2023	30/10/2023	334977	364196	A
*WS = Window Sample Borehole **A = Arisings							

4.2 Laboratory Testing

4.2.1 *Geotechnical Testing*

A programme of laboratory testing was carried out on samples taken from the various strata to assist in classification and determine the engineering properties of the materials underlying the site. The tests were scheduled by EEG and carried out by Murray Rix. The test procedures used were generally in accordance with the methods described in BS1377:1990. Details of the specific tests used in each case are given in Table 3, below.

Table 3: Summary of Laboratory Geotechnical Tests Undertaken

TEST	STANDARD	No.
Moisture Content	BS1377:1990 Part 2, Clause 3.2	10
Liquid Limit, Plastic Limit, Plasticity Index	BS1377:1990 Part 2, Clause 4/5	10
Sulphate content of 2:1 soil: water extract	BS1377:1990 Part 3, Clause 5	10
pH value	BS1377:1990 Part 3, Clause 9	10

The results of the laboratory geotechnical tests are discussed in Section 6 and included in Appendix 2.

4.2.2 *Environmental Testing*

The environmental chemistry of the ground was investigated by specialist chemical analysis of selected samples, scheduled by EEG, and carried out by DETS, a UKAS and MCERTS accredited laboratory.

Chemical analyses were carried out on twelve soil samples and were submitted for the following suite of determinants:

Asbestos Screen, Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc, Cyanide, Phenol, Sulphate (SO_4), Sulphide, pH, Soil Organic Matter, Extractable Petroleum Hydrocarbons (EPH), Speciated Petroleum Hydrocarbons and Speciated Polyaromatic Hydrocarbons (PAH).

Full results of the laboratory contamination tests are discussed in Section 8 and included in Appendix 3.

5.0 GROUND CONDITIONS ENCOUNTERED

5.1 Soil Profile Encountered

BGS digital mapping shows the site is underlain by superficial deposits of Devensian Till. The solid geology beneath the site is recorded as the Kinnerton Sandstone Formation. The sequence of strata encountered beneath the site was as follows:

- **Topsoil** - was encountered in all exploratory hole locations, between ground level and to a maximum depth of 0.40m bgl, comprising:
    - CLAY, with varying quantities of sand and gravel of sandstone and mudstone. Frequent rootlets.

- **Superficial Deposits** - Variable superficial deposits were encountered in all exploratory hole locations below the topsoil, to a maximum depth of 5.00m bgl, comprising:
    - CLAY with varying quantities of sand and gravel of sandstone, mudstone, quartz, and coal.
    - SAND with varying quantities of silt, and gravel of sandstone and quartz.

The depths of the various materials encountered in the exploratory holes are summarised in Table 4, below.

5.2 Observable Indications of Contamination

No visual or olfactory indication of contamination were encountered during the site investigation

Table 4: Summary of Ground Conditions Encountered

Hole	Depth to Stratum (m bgl)			GROUNDWATER (m bgl)
	TOPSOIL	SUPERFICIAL DEPOSITS		
		CLAY	SAND	
WS1	GL - 0.20	0.20 - 4.00	4.00+	-
WS2	GL - 0.30	0.30 - 4.00+	-	-
WS3	GL - 0.35	0.35 - 4.00+	-	-
WS4	GL - 0.40	0.40 - 3.00+	-	-
WS5	GL - 0.30	0.30 - 3.00+	-	-
WS6	GL - 0.20	0.20 - 0.50 1.00 - 3.00+	0.50 - 1.00	0.60 (Perched)
WS7	GL - 0.20	0.20 - 3.00+	-	-
WS8	GL - 0.20	0.20 - 5.00+	-	3.50 (Perched)
WS9	GL - 0.30	0.30 - 3.00+	-	-
WS10	GL - 0.30	0.30 - 3.00+	-	-

5.3 Obstructions

No man-made obstructions were encountered in any of the exploratory hole locations.

5.4 Groundwater

Perched groundwater strikes were encountered during the fieldwork, exclusively in WS6 and WS8 at 0.60m bgl and 3.50m bgl respectively, however these values are not considered to be representative of the local groundwater levels.

6.0 ENGINEERING PROPERTIES OF SOILS ENCOUNTERED

6.1 General

The following sections discuss the engineering properties of the strata encountered, based on results of in situ testing and laboratory testing obtained during this investigation.

The results of laboratory geotechnical testing are summarised in the following table.

Table 5: Summary of Laboratory Geotechnical Test Results

Location	Depth (m)	Strata*	CLASSIFICATION									CHEMICAL	
			Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Modified Plasticity Index (%)	PSD Gravel (%)	PSD Sand (%)	PSD Silt (%)	PSD Clay (%)	pH Value	Water Soluble Sulphate SO_4 (mg/l)
WS1	2.50	CLAY	16.9	39	14	25	25	-	-	-	-	7.2	170
WS2	3.50	CLAY	17	37	13	24	23	-	-	-	-	7.1	100
WS3	3.75	CLAY	16.7	38	14	24	24	-	-	-	-	7.6	120
WS4	2.25	CLAY	16.5	39	13	26	25	-	-	-	-	7.2	40
WS5	1.75	CLAY	14.3	37	13	24	23	-	-	-	-	7.2	120
WS6	1.50	CLAY	15	39	12	27	27	-	-	-	-	7.4	130
WS7	2.70	CLAY	17.3	36	12	24	23.76	-	-	-	-	7.3	190
WS8	1.90	CLAY	15.7	37	13	24	23.76	-	-	-	-	7.3	180
WS9	1.40	CLAY	15.5	37	14	23	22.77	-	-	-	-	7.2	60
WS10	1.00	CLAY	23.3	49	15	34	33.66	-	-	-	-	7.0	40

6.2 Superficial Deposits

As discussed in Section 5, soils interpreted to represent the superficial deposits were encountered as firm to very stiff CLAY and loose to very dense SAND.

6.2.1 Clay

Clay was encountered in all exploratory hole locations at depths between 0.20m - 5.00m bgl.

SPT tests carried out in the clay resulted in **N values** of between 8 and 53, as shown on the SPT v Depth Plot in Figure 5 (overleaf). The results suggest the clay is soft to very stiff.

The **water-soluble sulphate** content of the six clay samples ranged between 40mg/l and 190mg/l SO_4, with **pH values** of between 7.0 and 7.6.

In-situ **hand penetrometer** (HP) tests have given results of shear strength in the range 48kN/m^2 to >215kN/m^2, suggesting the clay is of medium strength to very high strength at the depths tested, in accordance with Table 1.

Recommended N values and derived design values for the cohesive soils are summarised in Table 6, overleaf.

Table 6: Summary of Design Parameters (Clay)

Depth	SPT N Value Range	Design N Value*	Equivalent Shear Strength** (kN/m^2)	Coefficient of Volume Compressibility** (mv)
1.20 - 2.00	8 - 16	11.25	56 (Medium Strength)	0.18 (Medium Compressibility)
2.00 - 3.00	18 - 23	19	94 (High Strength)	0.11 (Medium Compressibility)
3.00 - 4.00	19 - 52	27	134 (High Strength)	0.07 (Low Compressibility)
4.00 - 5.00	21 - 50	35.5	176 (Very High Strength)	0.05 (Low Compressibility)
5.00 - 6.00	13	13	64 (Medium Strength)	0.15 (Medium Compressibility)
*Based on lower quartile N value and correlations by Peck Hanson and Thornburn (1974) **Based on correlation by Stroud & Butler (1975)				

It is recommended that for assessing ultimate bearing capacities, where the lower values are critical, the lower quartile value of N values is used. Based on the N Values in the above table, the equivalent shear strength values range between $56kN/m^2$ and $176kN/m^2$, suggesting the clay is of medium strength to very high strength at the depths tested, in accordance with Table 1.

Atterberg Limit tests were carried out on ten samples of the clay. Results of the tests reported **liquid limit** values in the range 36% to 49% and **plastic limit** values in the range of 12% to 15%, resulting in values of **plasticity index** values in the range of 23% to 34%. These results suggest the samples of clay tested are of **intermediate plasticity** as shown on the Plasticity Chart in Figure 6, overleaf.

For design purposes, a value of plasticity index = 26% is recommended, based on the upper quartile of the results.

The **coefficient of volume compressibility (mv)** has been estimated using the following correlation by Stroud and Butler (1975): for a clay with a plasticity index of 26%, mv = 1 / (0.496 x N value).

This correlation gives values of the coefficient of volume compressibility of between $0.18m^2/MN$ and $0.05m^2/MN$, as shown in Table 6, above. The results suggest the clay has a **medium to low compressibility.**

In accordance with NHBC Chapter 4.2 Building Near Trees (2003) soils can be classified in terms of volume change potential, using the relationship:

$$I_{p'} = I_p \times \frac{\%\ \text{less than } 425\mu m}{100\%}$$

$I_{p'}$ = modified plasticity index,
I_p = plasticity index.

Based on the laboratory test results, the above relationship and Table 1 of NHBC Chapter 4.2, the samples of clay are shown to have a **medium volume change potential**.

The **Natural Moisture Content** (NMC) and **Liquid Limit** (LL) of the soil can be used to give an indication of **soil desiccation**, i.e., where the NMC is less than 40% of the LL, the soil is inferred to be desiccated, as summarised in Table 7, overleaf.

Table 7: Soil Desiccation Indicators in Clay

Location	Depth (m)	Liquid Limit (%)	40% Liquid Limit (%)	Natural Moisture Content (%)	Desiccation
WS1	2.50	39	16	16.9	**No**
WS2	3.50	37	15	17	**No**
WS3	3.75	38	15	16.7	**No**
WS4	2.25	39	16	16.5	**No**
WS5	1.75	37	15	14.3	**Yes**
WS6	1.50	39	16	15	**Yes**
WS7	2.70	36	14	17.3	**No**
WS8	1.90	37	15	15.7	**No**
WS9	1.40	37	15	15.5	**No**
WS10	1.00	49	20	23.3	**No**

The results in the above table show that the samples taken at from WS5 (1.75m) and WS6 (1.50m) show evidence of desiccation.

6.3.2 Sand

Sand was encountered exclusively as a layer within the clay in WS6, between 0.50m - 1.00m, and at the base of WS1.

SPT tests carried out in the sand resulted in SPT N values of 50, as shown on the SPT v Depth Plot in Figure 5 (overleaf). This result suggests the sand at the depths tested is very dense.

For design purposes, a N value of 50 has been adopted. Based on the correlation by Peck, Hanson and Thornburn (1974), this gives an **angle of shearing resistance** of ϕ=41°.

Table 8: Summary of Design Parameters (Sand)

Depth	SPT N Value Range	Average N Value	Design N Value*	Equivalent Soil Density	Angle of Internal Friction (degrees°)**
4.00	50	50	50	Very Dense	41
*Based on lower quartile N value **Based on the correlation by Peck, Hanson and Thornburn (1974)					

Figure 5: SPT v Depth Plot

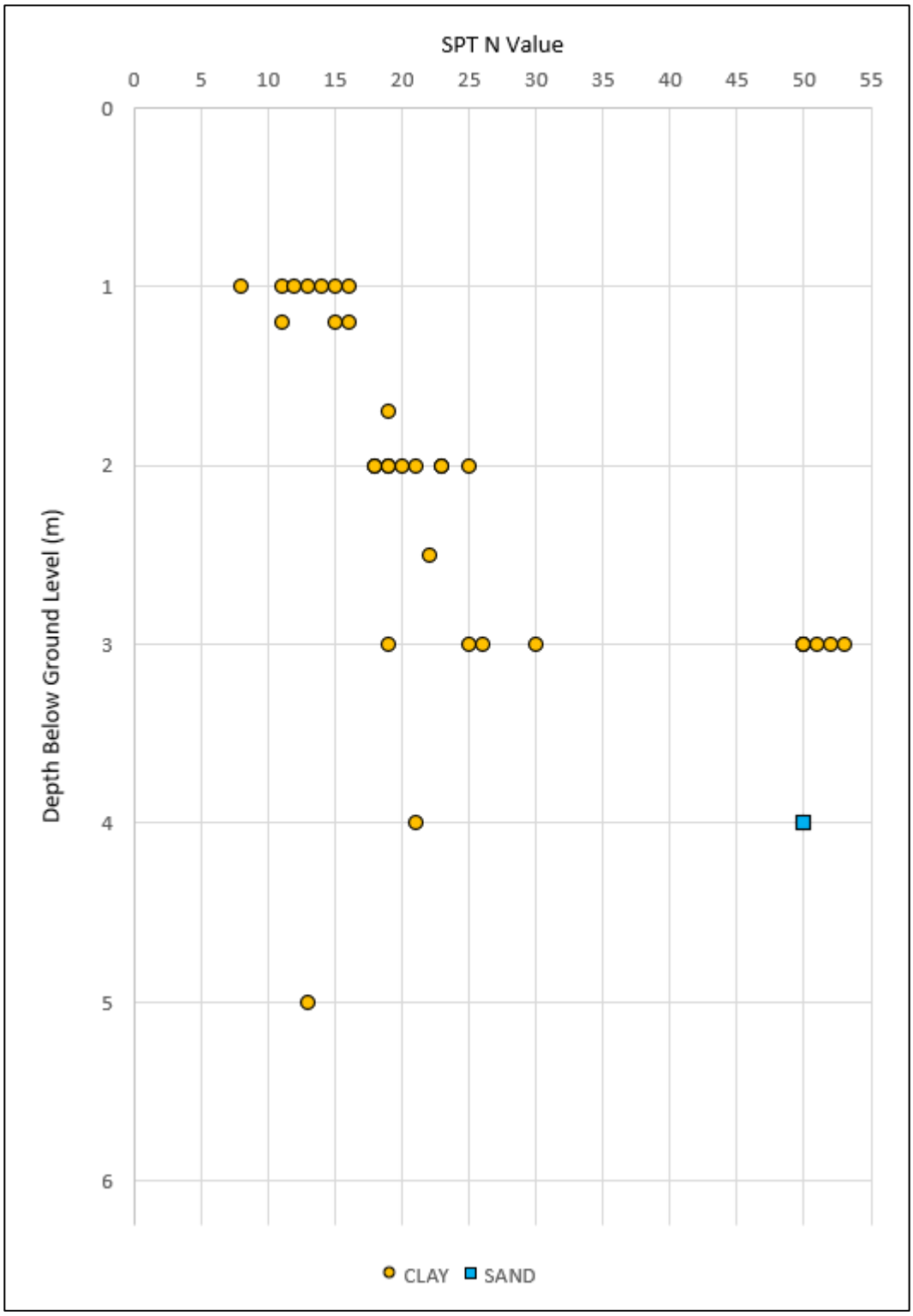
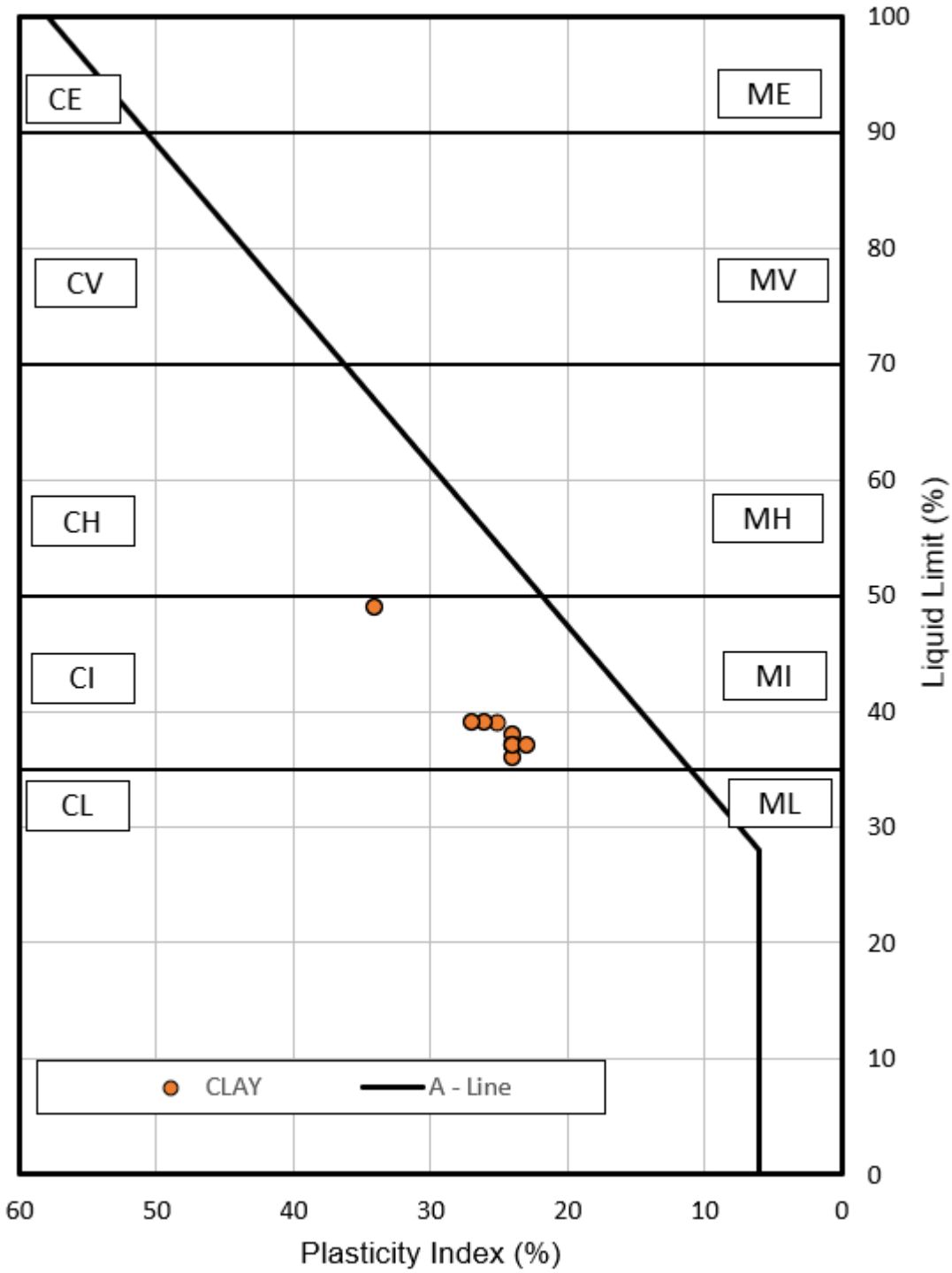


Figure 6: Plasticity Chart



7.0 GEOTECHNICAL ASSESSMENT

7.1 Proposed Development

It is understood that the client intends to construct a new Lidl Food Store, along with an associated car parking area. The development will also include 2no. dry attenuation basins, to the north and west of the new building.

Detailed information regarding structural loadings and proposed foundation type was not available at the time of authoring this report.

7.2 Ground Conditions Encountered

The exploratory holes generally encountered topsoil between ground level and a maximum depth of 0.40m bgl, underlain by variable superficial deposits, largely comprising Boulder Clay with rare sand layers, to a maximum depth of 5.00m bgl.

Perched groundwater was encountered during the fieldwork, exclusively in WS6 and WS8 at 0.60m bgl and 3.50m bgl respectively, however these values are not considered to be representative of the local groundwater levels.

7.3 Foundation Considerations

Based on the ground conditions encountered, conventional shallow depth foundations (strip/pad), placed in the superficial deposits, should be suitable at 1.00m below ground level, depending on allowable bearing pressures and tolerance of structures to settlement.

Should the allowable bearing pressure and settlement prove unfavourable, then alternative foundations options will need to be considered, such as ground improvement and piles.

7.3.1 *Conventional Shallow Depth Strip/Pad Foundations*

Strip/pad foundations should be taken down below any Topsoil or Made Ground and placed in the natural clay and/or sand. If any Made Ground, particularly loose or soft material, is encountered at foundation level this should be excavated and replaced with suitable granular fill or the foundation extended at least 150mm into suitable natural strata.

Foundations should be placed in materials of similar bearing and consolidation characteristics to avoid potential differential settlement occurring. Should foundations cross from cohesive to granular soils, nominal reinforcement should be incorporated to avoid the effects of differential settlement.

Table 9 overleaf summarises anticipated allowable bearing pressures for strip/pad foundations placed in the superficial deposits. The bearing capacities are calculated based on Hansen's (1978) method and assuming a factor of safety against bearing capacity failure of 3.

For the purpose of the calculation, groundwater has been assumed to be at the base of the deepest borehole (5.00m bgl), as the two encountered perched groundwater strikes are not considered representative of the local water table.

Table 9: Summary of Allowable Bearing Pressures

Foundation Strata	Design Value (Section 6)	Foundation Depth (m bgl)	Foundation Type	Foundation Size (m)	Allowable Bearing Pressure (kN/m²)
CLAY	c_u=56 kN/m²	1.0	Strip	0.4	148
				0.9	134
			Pad	1.0 x 1.0	157
				2.0 x 2.0	142
	c_u=56 kN/m²	1.5	Strip	0.4	155
				0.9	145
			Pad	1.0 x 1.0	169
				2.0 x 2.0	153
	c_u=94 kN/m²	2.0	Strip	0.4	262
				0.9	247
			Pad	1.0 x 1.0	290
				2.0 x 2.0	265
	c_u=94 kN/m²	2.5	Strip	0.4	267
				0.9	255
			Pad	1.0 x 1.0	299
				2.0 x 2.0	276

Table 10 below summarises anticipated settlements of the above foundations in the clay based on design values discussed in Section 6. Settlement in cohesive soils typically comprises a small amount of immediate settlement as loads are applied and a larger proportion of consolidation settlement, which will occur over a longer period.

As the proposed foundation loading is not known, for the purposes of these calculations a foundation loading of 75kN/m² has been used.

Table 10: Summary of Anticipated Settlement (Clay)

Foundation Strata	Foundation Depth (m bgl)	Foundation Type	Foundation Size (m)	Foundation Loading (kN/m²)	Settlement (mm)		
					At Centre	At Corner	Average
CLAY	1.0	Strip	0.4	75	-	-	**6**
			0.9	75	-	-	**10**
		Pad	1.0 x 1.0	75	13	3	**10**
			2.0 x 2.0	75	19	5	**15**
	1.5	Strip	0.4	75	-	-	**5**
			0.9	75	-	-	**9**
		Pad	1.0 x 1.0	75	11	3	**8**
			2.0 x 2.0	75	17	4	**12**
	2.0	Strip	0.4	75	-	-	**4**
			0.9	75	-	-	**7**
		Pad	1.0 x 1.0	75	9	2	**7**
			2.0 x 2.0	75	13	3	**10**
	2.5	Strip	0.4	75	-	-	**4**
			0.9	75	-	-	**6**
		Pad	1.0 x 1.0	75	8	2	**6**
			2.0 x 2.0	75	12	3	**9**

Floor slabs should be designed as suspended if Made Ground of 600mm thickness or greater is present. Made ground is not considered an appropriate bearing stratum due to its variable nature. Floor slabs may be designed as ground bearing where Made Ground is excavated and replaced with suitable granular fill.

Due to the presence of nearby trees and dense foliage in the western side of the site, a suspended slab may be necessary.

All foundation excavations should be inspected by a suitable qualified engineer to prove that the founding strata is suitable and uniform along the length of the foundation, and capable of taking the anticipated structural loadings. If foundations cross from granular to cohesive soils, nominal reinforcement should be incorporated.

7.4 Pavement Design

The ground investigation identified the soil type at the subgrade level to typically be topsoil underlain by clay. Based on the recommendations for design CBR values provided in Interim advice note 73/06, Revision 1 (2009), a conservative design CBR value of 1% should be adopted in areas where made ground or topsoil is encountered at subgrade level.

If pavement design is altered so that the subgrade comprises Natural Strata, a CBR value of 3 - 5% should be adopted for the clay.

Consideration should be given to the potential differing ground conditions near surface, which could cause pavements to be constructed on variable made ground. In this context a flexible pavement design may be required.

Consideration should also be given to the use of geotextiles to allow reduction of capping thickness. For examples biaxial geogrids such as Tensar SSLA20 and SSLA30 are often used to reduce capping thickness. The advice of a suitable contractor should be sought as to the most appropriate type of geotextile to use in the ground conditions encountered at this site. For guidance, the following table gives a comparison of granular layer thickness with and without the use of a geotextile, in accordance with the requirement of HA25/94 Part 2.

It should be noted the type of construction will depend on proposed finished pavement levels across the site and it is recommended the pavement design is reviewed once these levels are known. In this context, it is essential further in situ CBR testing is carried out once formation levels are known to confirm design CBR values.

Table 11: Comparison of Capping Thickness with and without Geotextile

CBR	Unreinforced			Reinforced with Tensar Geogrid				
	Sub-base	Capping	Total	Sub-base	Capping	No. of grids	Total	Thickness saving
0.5%	Design not suitable			200mm	400mm	2	600mm	-
1.0%	150mm	600mm	750mm	400mm	0	1	400mm	350mm
1.5%	150mm	600mm	750mm	310mm	0	1	310mm	440mm
2.0%	150mm	600mm	750mm	260mm	0	1	260mm	490mm
3.0%	150mm	350mm	500mm	210mm	0	1	210mm	290mm
4.0%	150mm	300mm	450mm	175mm	0	1	175mm	275mm
5.0%	150mm	250mm	400mm	160mm	0	1	160mm	240mm
These figures are suitable for light access roads and car parks, based on 1000 standard axles. For heavier loaded pavements, the advice of specialist contractor should be sought.								

All formation excavations should be examined by a suitably experienced engineer or inspector to check for soft or unsuitable material, which should be removed and replaced with compacted granular fill. Also, to ensure good compaction and remove unevenness, the formation should be compacted with equipment suitable for use in the ground conditions encountered. Careful inspection of this work will also help identify any soft spots at or just below formation level.

7.5 Chemical Attack on Buried Concrete

Chemical tests (see Appendices) show low levels of water-soluble sulphates and neutral conditions. Based on these conditions, it is recommended that for concrete placed in natural strata the Design Sulphate Class for the site, as defined in BRE Special Digest 1(2005), be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1s. The recommendations of BRE Special Digest 1 should be followed for concrete foundations and ground bearing floor slabs.

7.6 Suitability of Excavated Materials

Acceptability criteria and testing, and methods of compaction/placement will depend on the type of contract and specification used for the construction of the proposed development and it is recommended that earthworks specifications are reviewed by a suitably qualified engineer once these have been prepared by the relevant parties.

Granular made ground and natural sand could be suitable for re-use as structural fill, providing it is not contaminated and does not contain excessive amounts of clay and providing moisture contents are controlled during placement. The control of moisture contents will be important as the cohesive content of this stratum is likely to be sensitive to moisture content changes.

7.7 Temporary Works

Formations will be susceptible to damage both by weather and trafficking, and should be protected immediately on exposure, particularly in areas where construction plant will access the site.

Excavations in Made Ground are likely to be unstable and should be battered back to an angle of 1 in 2, or a system of close sheeting and shoring adopted to ensure stability, and in particular where personnel are required to enter excavations. All excavations should be adequately supported where personnel are required to enter.

Groundwater seepages could be encountered near surface within excavations, particularly during the wetter months of the year. Pumping of excavations from a suitable located sump is likely to be required to keep excavations dry.

All natural materials on site should be capable of being excavated using conventional excavating machinery.

8.0 SOIL CONTAMINATION RISK ASSESSMENT

8.1 Tier I Human Health Soil Risk Assessment – Groundworkers During Development

To assess the risk of soil contamination to construction and ground workers during development, guidelines from the HSE Document 'Protection of workers and the general public during development of contaminated land' (1991) are used. The document assesses soil contamination test results and classifies the site as being uncontaminated or contaminated with varying degrees of contamination from 'slight' to 'unusually heavy'. The guideline values and laboratory test results are summarised in the following table:

Table 12: Summary of Guideline Values for Protection of Workers and the General Public During Development of Contaminated Land

Contaminant	Typical Values* for:					Test Results	Class
	Uncontaminated Soils	Slight Contamination	Contaminated	Heavy Contamination	Unusually Heavy Contamination		
	Class A	Class B	Class C	Class D	Class E		
pH (acid)	6 - 7	5 - 6	4 - 5	2 - 4	<2	5.4 - 6.9	A - B
pH (alkaline)	7 - 8	8 - 9	9 - 10	10 - 12	12	7.4 - 7.7	A
Arsenic	0 - 30	30 - 50	50 - 100	100 - 500	500	4 - 13	A
Cadmium	0 - 1	1 - 3	3 - 10	10 - 50	50	< 0.2 - 0.6	A
Chromium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	8 - 48	A
Copper	0 - 100	100 - 200	200 - 500	500 - 2500	2500	9 - 70	A
Lead	0 - 500	500 - 1000	1000 - 2000	2000 – 1%	1.0%	4 - 95	A
Mercury	0 - 1	1 - 3	3 - 10	10 - 50	50	< 1	A
Nickel	0 - 20	20 - 50	50 - 200	200 - 1000	1000	4 - 35	A - B
Zinc	0 - 250	250 - 500	500 - 1000	1000 - 5000	5000	15 - 157	A
Boron	0 - 2	2 - 5	5 - 50	50 - 250	250	< 1 - 1.1	A
Selenium	0 - 1	1 - 3	3 - 10	10 - 50	50	< 2	A
Barium	0-500	500-1000	1000-2000	2000-1.0%	1.0%	7 - 151	A
Beryllium	0 - 5	5 - 10	10 - 20	20 - 50	50	< 0.5 - 1.5	A
Vanadium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	21 - 50	A
Sulphate	0 - 2000	2000 - 5000	5000 – 1%	1% - 5%	5.05%	225 - 992	A
Sulphide	0 - 10	10 - 20	20 - 100	100 - 500	500	< 5 - 9	A
Cyanide (free)	0 - 1	1 - 5	5 - 50	50 - 100	100	< 1	A
Phenol	0 - 2	2 - 5	5 - 50	50 - 250	250	< 2	A

Based on the above results, the soils range from uncontaminated to contaminated. Therefore, there is a **LOW** potential risk from soil contamination to construction workers, ground workers and members of the public during construction. Appropriate measures, such as PPE, site health plans, and appropriate disposal of material arisings will further mitigate this risk.

8.2 Tier I Human Health Soil Risk Assessment – Future Site Users

The following section provides a Human Health Soil Assessment for future site users. Based on the proposed development type, the following section compares the results of contamination analyses to residential types of end development as specified by Defra/LQM/CIEH. As part of the contamination assessment, the chemical results obtained by EEG have been screened against accepted compliance criteria, namely:

- Defra C4SL Health Criteria Values (March 2014), where available; and
- Tier 1 assessment values - based on LQM/CIEH Suitable 4 Use Levels (2015) (S4ULs).

The contaminated land guidance has recently changed the evaluation of risk from 'minimal' (SGVs) to 'low' (referred to as Lowest Level of Toxicological Concern (LLTCs)). The policy companion document and supporting letter by DEFRA, states that C4SLs 'could be used under the planning regime, as well as within Part 2A'.

Based on these comments EEG considers the justifications and assumptions used to generate 'low' risk are suitable for the planning regime.

Where no C4SLs have been generated EEG will use the LQM S4ULs. Similar assumptions and land use to C4SLs have been used. However, toxicological information has been based on 'minimal risk' as per previous guidelines and assumptions. If contaminants are not present as C4SLs or S4ULs then EEG will use CL:AIRE GACs. These follow the 'minimal' risk principal and more stringent exposure parameters and will be conservative.

EEG consider the main risk drivers for PAHs are benzo(a)pyrene (B(a)P) and naphthalene. This is due to B(a)P possibly being a carcinogen and most toxic of the PAHs and naphthalene the most volatile and soluble. The new C4SLs indicate B(a)P as a surrogate marker for carcinogenic PAHs, since the risk from other non-carcinogenic PAHs are considered negligible. Naphthalene will be treated separately using the LQM S4ULs.

As a preliminary screening assessment, all results have been compared to residential end use criteria.

The soil chemical testing results are summarised in Table 13, overleaf.

Table 13: Soil Results Comparison with C4SL/S4UL Values

Determinand	C4SL/S4UL Levels Resi w/ HP SOM 1% (mg/kg)	WS1 0.15m	WS2 0.20m	WS2 0.50m	WS3 0.40m	WS4 0.25m	WS5 0.10m	No of Exceedances
Metals								
Arsenic	37	11	13	4	11	11	10	0
Beryllium	1.7	1.3	1.1	0.6	1	1	0.9	0
Boron	290	1	1.1	< 1	< 1	< 1	< 1	0
Cadmium	22	0.6	0.6	< 0.2	0.4	0.3	0.4	0
Chromium	910	35	31	24	30	26	25	0
Chromium VI	21	< 2	< 2	< 2	< 2	< 2	< 2	0
Copper	2400	30	70	11	38	38	43	0
Lead	200	81	95	17	66	61	69	0
Inorganic Mercury	40	< 1	< 1	< 1	< 1	< 1	< 1	0
Nickel	130	28	25	14	24	20	19	0
Selenium	250	< 2	< 2	< 2	< 2	< 2	< 2	0
Vanadium	410	41	37	25	35	32	29	0
Zinc	3700	151	157	36	125	99	116	0
Petroleum Hydrocarbons								
Benzene	0.20	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Toluene	130	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0
Ethylbenzene	47	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
o-xylenes	60	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
m-xylenes	59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
p-xylenes	56	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Aliphatic EC >5-6	42	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aliphatic EC >6-8	100	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aliphatic EC >8-10	27	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >10-12	130	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >12-16	1100	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >16-21	65000	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >21-35	65000	< 10	< 10	< 10	< 10	< 10	< 10	0
Aromatic EC >5-7	70	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aromatic EC >7-8	130	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aromatic EC >8-10	34	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >10-12	74	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >12-16	140	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >16-21	260	< 3	< 3	< 3	< 3	< 3	< 3	0
Aromatic EC >21-35	1100	< 10	< 10	< 10	< 10	< 10	< 10	0
Polycyclic Aromatic Hydrocarbons								
Naphthalene	2.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Acenaphthylene	170	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Acenaphthene	210	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Fluorene	170	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Phenanthrene	95	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Anthracene	2400	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Fluoranthene	280	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Pyrene	620	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(a)anthracene	7.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Chrysene	15	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(a)pyrene	5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(b)fluoranthene	2.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(k)fluoranthene	77	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Indeno(1,2,3-cd)pyrene	27	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Dibenz(a,h)anthracene	0.24	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(ghi)perylene	320	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Phenols								
Phenol	120	< 2	< 2	< 2	< 2	< 2	< 2	0

Table 13: Soil Results Comparison with C4SL/S4UL Values, Continued

Determinand	C4SL/S4UL Levels Resi w/ HP SOM 1% (mg/kg)	WS6 0.30m	WS6 0.70m	WS7 0.40m	WS8 0.50m	WS9 0.20m	WS10 0.40m	No of Exceedances
Metals								
Arsenic	37	8	6	8	7	11	10	0
Beryllium	1.7	1	< 0.5	1.3	1.5	1.4	1.4	0
Boron	290	< 1	< 1	< 1	< 1	1.4	< 1	0
Cadmium	22	< 0.2	< 0.2	< 0.2	< 0.2	0.3	0.3	0
Chromium	910	32	8	43	48	38	39	0
Chromium VI	21	< 2	< 2	< 2	< 2	< 2	< 2	0
Copper	2400	27	9	25	23	37	38	0
Lead	200	34	4	23	21	60	54	0
Inorganic Mercury	40	< 1	< 1	< 1	< 1	< 1	< 1	0
Nickel	130	26	4	31	35	29	29	0
Selenium	250	< 2	< 2	< 2	< 2	< 2	< 2	0
Vanadium	410	35	21	47	50	44	44	0
Zinc	3700	71	15	75	77	113	101	0
Petroleum Hydrocarbons								
Benzene	0.20	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Toluene	130	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0
Ethylbenzene	47	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
o-xylenes	60	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
m-xylenes	59	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
p-xylenes	56	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Aliphatic EC >5-6	42	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aliphatic EC >6-8	100	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aliphatic EC >8-10	27	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >10-12	130	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >12-16	1100	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >16-21	65000	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >21-35	65000	< 10	< 10	< 10	< 10	< 10	< 10	0
Aromatic EC >5-7	70	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aromatic EC >7-8	130	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aromatic EC >8-10	34	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >10-12	74	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >12-16	140	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >16-21	260	< 3	< 3	< 3	< 3	< 3	< 3	0
Aromatic EC >21-35	1100	< 10	< 10	15	< 10	< 10	< 10	0
Polycyclic Aromatic Hydrocarbons								
Naphthalene	2.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Acenaphthylene	170	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Acenaphthene	210	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Fluorene	170	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Phenanthrene	95	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Anthracene	2400	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Fluoranthene	280	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Pyrene	620	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(a)anthracene	7.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Chrysene	15	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(a)pyrene	5	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(b)fluoranthene	2.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(k)fluoranthene	77	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Indeno(1,2,3-cd)pyrene	27	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Dibenz(a,h)anthracene	0.24	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Benzo(ghi)perylene	320	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0
Phenols								
Phenol	120	< 2	< 2	< 2	< 2	< 2	< 2	0

Based on the above table, no contaminant concentrations were found in exceedance of the screening criteria relevant to a residential end use.

No asbestos fibres and fragments were identified in the soil samples analysed.

8.3 Soil Waste Assessment

An assessment of the disposal characteristics of the soil in accordance with Environment Agency and Natural Resources Wales guidance WM3.1, edition of June 2018, "Guidance on the classification and assessment of waste" has been carried out on soils recovered from the site, using HazWasteOnline.

The results are summarised in Table 14 below and presented in full in Appendix 4.

Table 14: Waste Classification of Soils

Location	Depth (m bgl)	WM3.1 Classification	Comments
WS1	0.15	Non-Hazardous	-
WS2	0.20	Non-Hazardous	-
WS2	0.50	Non-Hazardous	-
WS3	0.40	Non-Hazardous	-
WS4	0.25	Non-Hazardous	-
WS5	0.10	Non-Hazardous	-
WS6	0.30	Non-Hazardous	-
WS6	0.70	Non-Hazardous	-
WS7	0.40	Non-Hazardous	-
WS8	0.50	Non-Hazardous	-
WS9	0.20	Non-Hazardous	-
WS10	0.40	Non-Hazardous	-

The above table shows that all the tested samples collected from the site have been classified as **Non-Hazardous** in accordance with WM3.1.

Further Waste Acceptance Criteria (WAC) testing on this material may prove it to be classified as inert waste.

9.0 CONCLUSIONS & RECOMMENDATIONS

9.1 Soil Contamination

There is a **LOW** potential risk from soil contamination to construction workers and ground workers during development, and appropriate measures such as PPE, site health plans, appropriate disposal of material arisings will be required to mitigate this risk.

Based on the results of the chemical testing, no contaminant concentrations were found in exceedance of the screening criteria relevant to a residential end use with plant uptake.

Therefore, the risk to future end users is **LOW** and no remediation of the soil is required for the proposed development.

9.2 Asbestos

No asbestos fibres or fragments were identified in the samples tested during this investigation.

9.3 Foundations

Shallow strip/pad foundations placed in the superficial deposits are considered appropriate for the current proposed development, dependent on allowable bearing pressures and tolerance of structures to settlement. Should the allowable bearing pressure and settlement prove unfavourable, then alternative foundations options will need to be considered, such as ground improvement and piles.

It recommended that for foundations and ground floor slabs in contact with the made ground, the Design Sulphate Class should be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1.

9.4 Soil Disposal

Soils should be disposed of at a suitable site, registered to take the levels of contamination encountered. All soil samples collected have been classified as Non-Hazardous for the purpose of off-site disposal in accordance with EA and NWR guidance WM3.1.

Further Waste Acceptance Criteria (WAC) testing conducted on this material may prove it to be classified as inert waste.

9.5 Pavement Design

Based on the findings of the site investigation, the soil type at subgrade level was typically topsoil underlain by clay. Based on the recommendations for design CBR values provided in Interim advice note 73/06, Revision 1 (2009), a conservative design CBR value of 1% should be adopted in areas where made ground/ topsoil is encountered at subgrade level.

If pavement design is altered so that the subgrade comprises natural strata, a CBR value of 3 to 5% should be adopted for the clay.

9.6 Risk to Buried (Water) Services

It is considered that, due to the absence of hydrocarbons in the tested soils, standard materials are likely to be suitable for new water pipes. Further advice should be sought from the local water company.

Previous guidance on buried water pipes was contained in Water Regulations Advisory Scheme (WRAS) Guidance Note No. 9-04-03(2002), however this has been superseded by the UK Water Industry Research Report 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' Ref 10/WM/03/21 (January 2011).

9.7 Site Personnel

As with all construction sites, personnel working on the site during the construction period should be encouraged to maintain a high standard of personal hygiene and on-site washing facilities should be available.

9.8 Other Matters

Due diligence is required during the construction period, and should any further evidence of contamination be found, appropriate investigation and / or action should be taken. The significance of any contamination not discovered by this investigation is outside the scope of this report.

APPENDIX 1

EXPLORATORY HOLE LOGS

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS1**
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334995.00 - 364113.00	Hole Type WS
Location: Broughton		Level: 7.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By BG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.15	ES		0.20	6.80		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone. Frequent rootlets. (TOPSOIL)
		1.00		N=16 (2,3/4,4,4,4)				Firm to stiff, brown slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone and quartz.
								HP at 1.50m of 96kN/m2
		2.00		N=18 (3,3/4,4,5,5)				
		2.50	D					*HP at 2.50m of 120kN/m2*
		3.00		N=25 (4,4/5,5,7,8)				
								HP at 3.50m of 156kN/m2
		4.00		N=50 (3,7/50 for 295mm)	4.00	3.00		*Refusal in very dense sand.* End of borehole at 4.00 m

Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS2**
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334991.00 - 364129.00	Hole Type WS
Location: Broughton		Level: 7.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By BG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	6.70		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone. Frequent rootlets. (TOPSOIL)
		0.50	ES					Firm to stiff, brown slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone and quartz.
		1.00		N=11 (2,3/2,3,3,3)				
								HP at 1.50m of 84kN/m2
		2.00		N=20 (4,4/4,4,5,7)				
								HP at 2.50m of 120kN/m2
		3.00		N=26 (5,6/6,7,6,7)				
		3.50	D					*HP at 3.50m of 132kN/m2*
		4.00		N=50 (5,8/50 for 290mm)	4.00	3.00		*Refusal in very stiff clay.* End of borehole at 4.00 m

Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No.
WS3
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334961.00 - 364146.00	Hole Type WS
Location: Broughton		Level: 7.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By BG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES		0.35	6.65		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone. Frequent rootlets. (TOPSOIL)
		1.20		N=15 (2,4/3,4,4,4)				Firm to stiff, brown slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone and quartz.
								HP at 1.50m of 120kN/m2
		2.00		N=23 (4,5/6,5,6,6)				
								HP at 2.50m of 144kN/m2
		3.00		N=30 (5,7/6,7,8,9)				
								HP at 3.50m of 168kN/m2
		3.75	D					
		4.00		N=50 (7,10/50 for 275mm)	4.00	3.00		*Refusal in very stiff clay.* End of borehole at 4.00 m

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Remarks
1) Location scanned with CAT. 2) Hand dug pit to 1.00m

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS4**
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334923.00 - 364130.00	Hole Type WS
Location: Broughton		Level: 6.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By BG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.25	ES		0.40	5.60		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone. Frequent rootlets. (TOPSOIL)
		1.00		N=14 (2,3/2,4,4,4)				Firm to stiff, brown slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone and quartz.
								HP at 1.50m of 120kN/m2
		2.00		N=18 (3,4/3,5,5,5)				
		2.25	D					*HP at 2.25m of 144kN/m2*
								HP at 2.75m of 156kN/m2
		3.00		N=50 (8,10/50 for 290mm)	3.00	3.00		*Refusal in very stiff clay.* End of borehole at 3.00 m

Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS5**

Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334919.00 - 364143.00	Hole Type WS
Location: Broughton		Level: 6.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By BG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.30	5.70		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone. Frequent rootlets. (TOPSOIL)
		1.20		N=16 (2,3/3,4,4,5)				Firm to stiff, brown slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone and quartz.
								HP at 1.50m of 120kN/m2
		1.75	D					
		2.00		N=25 (5,4/5,6,7,7)				
								HP at 2.50m of 168kN/m2
								HP at 2.75m of 180kN/m2
		3.00		N=50 (8,12/50 for 245mm)	3.00	3.00		*Refusal in very stiff clay.* End of borehole at 3.00 m

Remarks
1) Location scanned with CAT. 2) Hand dug pit to 1.00m

Earth Environmental & Geotechnical Ltd
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Houldsworth Street
Stockport
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Borehole Log

Borehole No.
WS6
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334919.00 - 364153.00	Hole Type WS
Location: Broughton		Level: 7.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By DS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.20	6.80		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone and mudstone. Frequent rootlets. (TOPSOIL)
	▼	0.60	ES		0.50	6.50		Firm, brownish grey, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded, fine to medium of sandstone, mudstone, quartzite and rare coal.
		1.00		N=8 (1,0/2,2,2,2)	1.00	6.00		Loose, light brown, slightly silty, gravelly SAND. Sand is fine to coarse. Gravel is rounded, fine to medium of sandstone and quartz.
		1.50	D					Stiff to very stiff, brown with light grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-angular, fine to medium of mudstone and coal.
		1.70		N=19 (5,3/4,5,5,5)				*HP at 1.20m of 168kN/m2*
		2.50		N=22 (3,3/4,5,6,7)				*HP at 1.50m of 168kN/m2*
		3.00		N=50 (8,8/12,13,11,14)	3.00	4.00		*HP at 2.30m of 120kN/m2*
								HP at 2.40m of >215kN/m2
								HP at 2.70m of 168kN/m2
								HP at 2.90m of >215kN/m2
								Refusal in very stiff clay.
								End of borehole at 3.00 m

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Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
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SK5 6DA

Borehole Log

Borehole No. **WS7**
Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334953.00 - 364171.00	Hole Type WS
Location: Broughton		Level: 6.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By DS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	5.80		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone and mudstone. Frequent rootlets. (TOPSOIL)
		0.40	ES					Stiff to very stiff, brown with light grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-angular, fine to medium of mudstone and coal.
		1.00		N=15 (2,2/3,3,4,5)				
		2.00		N=19 (3,3/4,4,5,6)				
								HP at 2.50m of >215kN/m2
		2.70	D					*HP at 2.70m of 120kN/m2*
								HP at 2.90m of 144kN/m2
		3.00		N=53 (5,6/10,13,14,16)	3.00	3.00		*Refusal in very stiff clay.* End of borehole at 3.00 m

Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS8**

Sheet 1 of 1

Project Name:	Broughton Shopping Park	Project No. A5552	Co-ords:	334967.00 - 364183.00	Hole Type WS
Location:	Broughton		Level:	6.00	Scale 1:25
Client:	SWF Consulting Ltd		Dates:	30/10/2023 - 30/10/2023	Logged By DS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	5.80		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone and mudstone. Frequent rootlets. (TOPSOIL)
		0.50	ES					Firm to stiff, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded, fine to medium of sandstone, mudstone and coal.
								HP at 0.40m of 144kN/m2
								HP at 0.60m of 120kN/m2
		1.00		N=13 (2,2/4,3,3,3)				1
								HP at 1.50m of 203kN/m2
								HP at 1.70m of 192kN/m2
		1.90	D					*HP at 1.90m of >215kN/m2*
		2.00		N=19 (3,3/4,4,5,6)				2
								HP at 2.50m of 168kN/m2
								HP at 2.70m of 144kN/m2
								HP at 2.90m of >215kN/m2
		3.00		N=19 (2,3/4,3,5,7)	3.00	3.00		3 Stiff, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone, mudstone and coal.
▼								*HP at 3.50m of 96kN/m2*
								HP at 3.70m of 168kN/m2
								HP at 3.90m of 96kN/m2
		4.00		N=21 (3,3/4,5,5,7)				4
					4.15	1.85		NO RECOVERY.
					4.50	1.50		Firm, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone, mudstone and coal.
								HP at 4.50m of 72kN/m2
								HP at 4.70m of 48kN/m2
								HP at 4.90m of 72kN/m2
		5.00		N=13 (2,3/3,3,3,4)	5.00	1.00		End of borehole at 5.00 m 5

Remarks
1) Location scanned with CAT.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS9**

Sheet 1 of 1

Project Name: Broughton Shopping Park	Project No. A5552	Co-ords: 334987.00 - 364167.00	Hole Type WS
Location: Broughton		Level: 7.00	Scale 1:25
Client: SWF Consulting Ltd		Dates: 30/10/2023 - 30/10/2023	Logged By DS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	6.70		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone and mudstone. Frequent rootlets. (TOPSOIL)
					1.00	6.00		Firm, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone, mudstone and coal.
		1.20		N=11 (1,2/3,2,3,3)				Very stiff, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone, mudstone and coal.
		1.40	D					*HP at 1.50m of >215kN/m2*
								HP at 1.70m of >215kN/m2
								HP at 1.90m of >215kN/m2
		2.00		N=21 (2,3/4,4,6,7)				
								HP at 2.50m of >215kN/m2
								HP at 2.70m of >215kN/m2
								HP at 2.90m of >215kN/m2
		3.00		N=51 (5,6/11,14,12,14)	3.00	4.00		*Refusal in very stiff clay.*
								End of borehole at 3.00 m

Remarks
1) Location scanned with CAT. 2) Hand dug pit to 1.00m

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS10**
Sheet 1 of 1

Project Name:	Broughton Shopping Park	Project No. A5552	Co-ords:	334977.00 - 364196.00	Hole Type WS
Location:	Broughton		Level:	7.00	Scale 1:25
Client:	SWF Consulting Ltd		Dates:	30/10/2023 - 30/10/2023	Logged By DS

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES		0.30	6.70		Grass over, dark greyish brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone and mudstone. Frequent rootlets. (TOPSOIL)
		1.00 1.00	D	N=12 (1,1/2,3,3,4)	1.00	6.00		Soft to firm, brown with grey mottling, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded to sub-angular, fine to medium of sandstone, mudstone and rare coal.
		2.00		N=23 (3,4/4,5,7,7)				Very stiff, brown, slightly sandy, slightly gravelly CLAY. Sand is fine to medium. Gravel is sub-rounded, fine to medium of sandstone, mudstone and coal.
		3.00		N=52 (5,8/12,13,12,15)	3.00	4.00		End of borehole at 3.00 m

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Remarks
1) Location scanned with CAT.

APPENDIX 2

GEOTECHNICAL TESTING RESULTS

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client Earth Environmental & Geotechnical Ltd

Address Houldsworth Mill Business & Arts Centre
Houldsworth Mill
Reddish
Stockport
SK5 6DA

Contract A5552 -
Broughton Shopping Park

Job Number MRN 4589/106
Date of Issue 23 November 2023

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

UKAS TESTING 1580

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

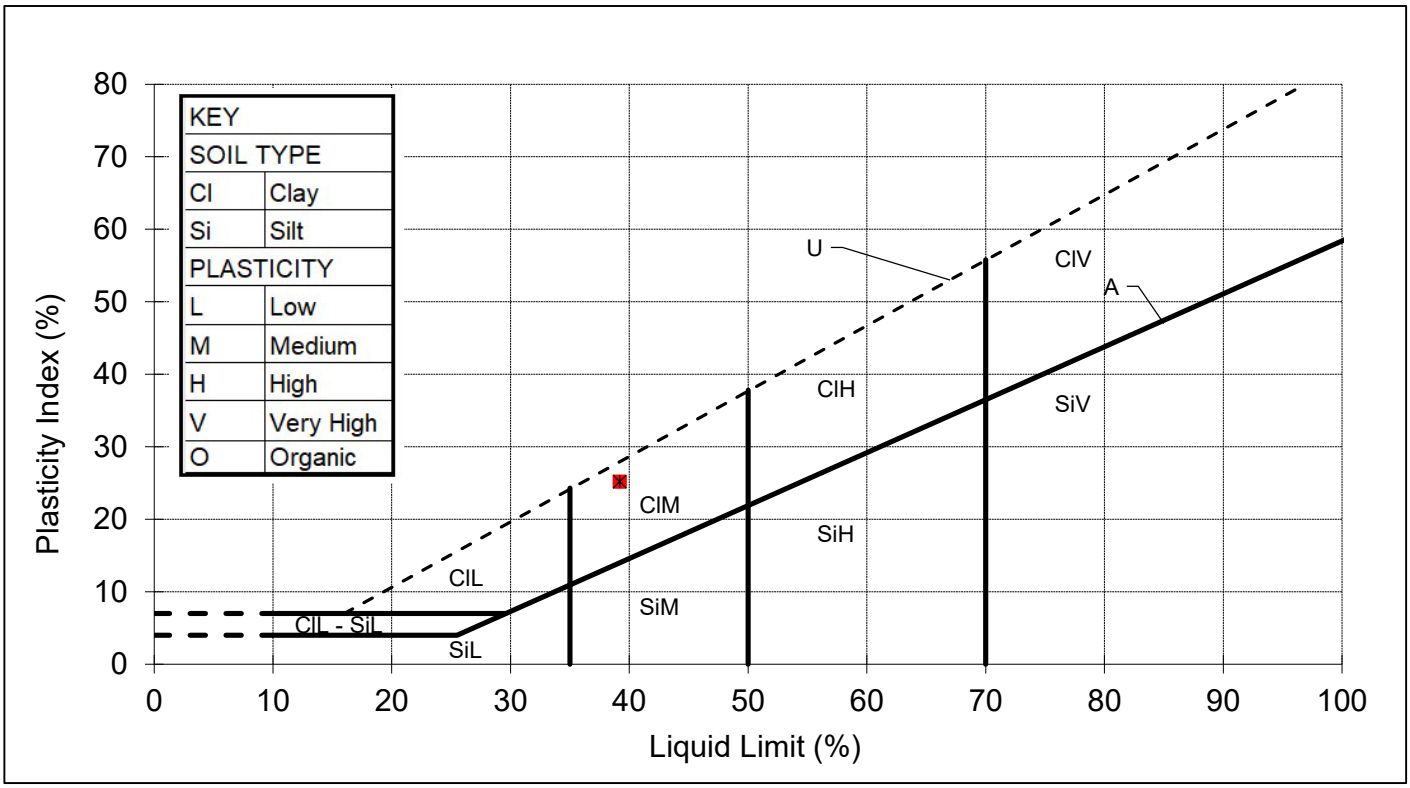
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS1 (2.50m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133376	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.8	39.0	1.002	
Determination 2 (avg)	20.0	39.2		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.9	39	14	25	98



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

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

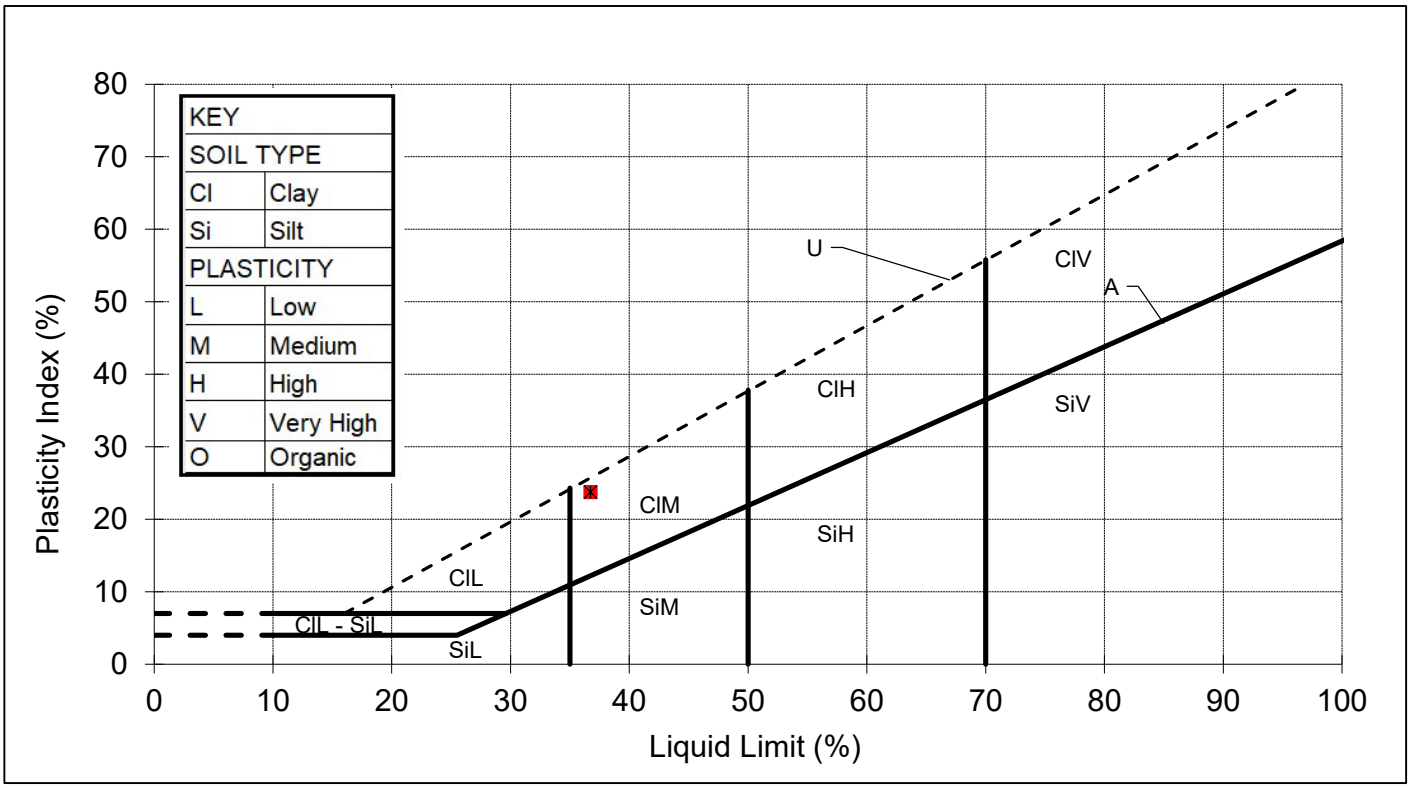
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS2 (3.50m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133377	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	35.6	1.023	
Determination 2 (avg)	18.7	36.2		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
17.0	37	13	24	97



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
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UKAS TESTING 1580

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

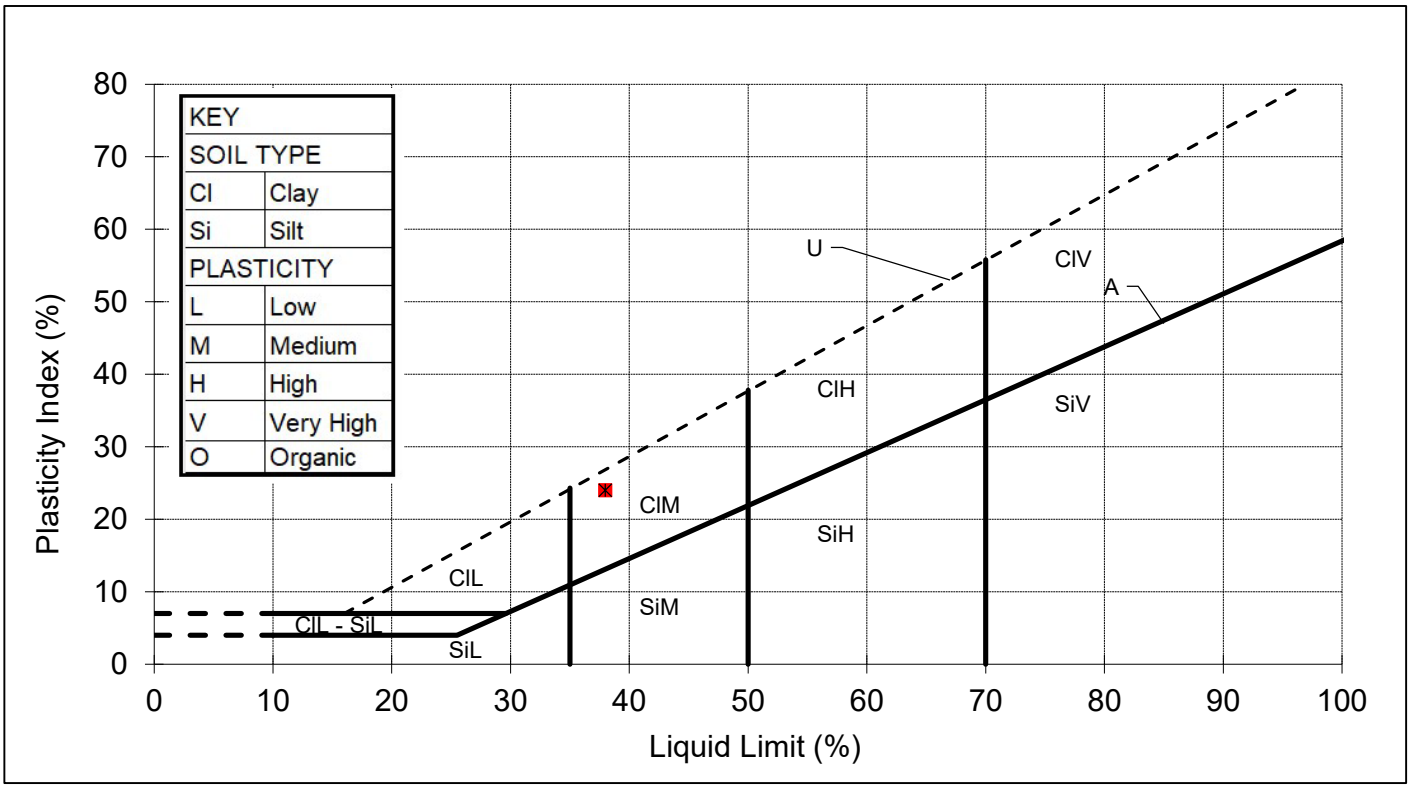
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS3 (3.75m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133378	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	21.3	39.0	0.980	
Determination 2 (avg)	21.3	38.5		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.7	38	14	24	98



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

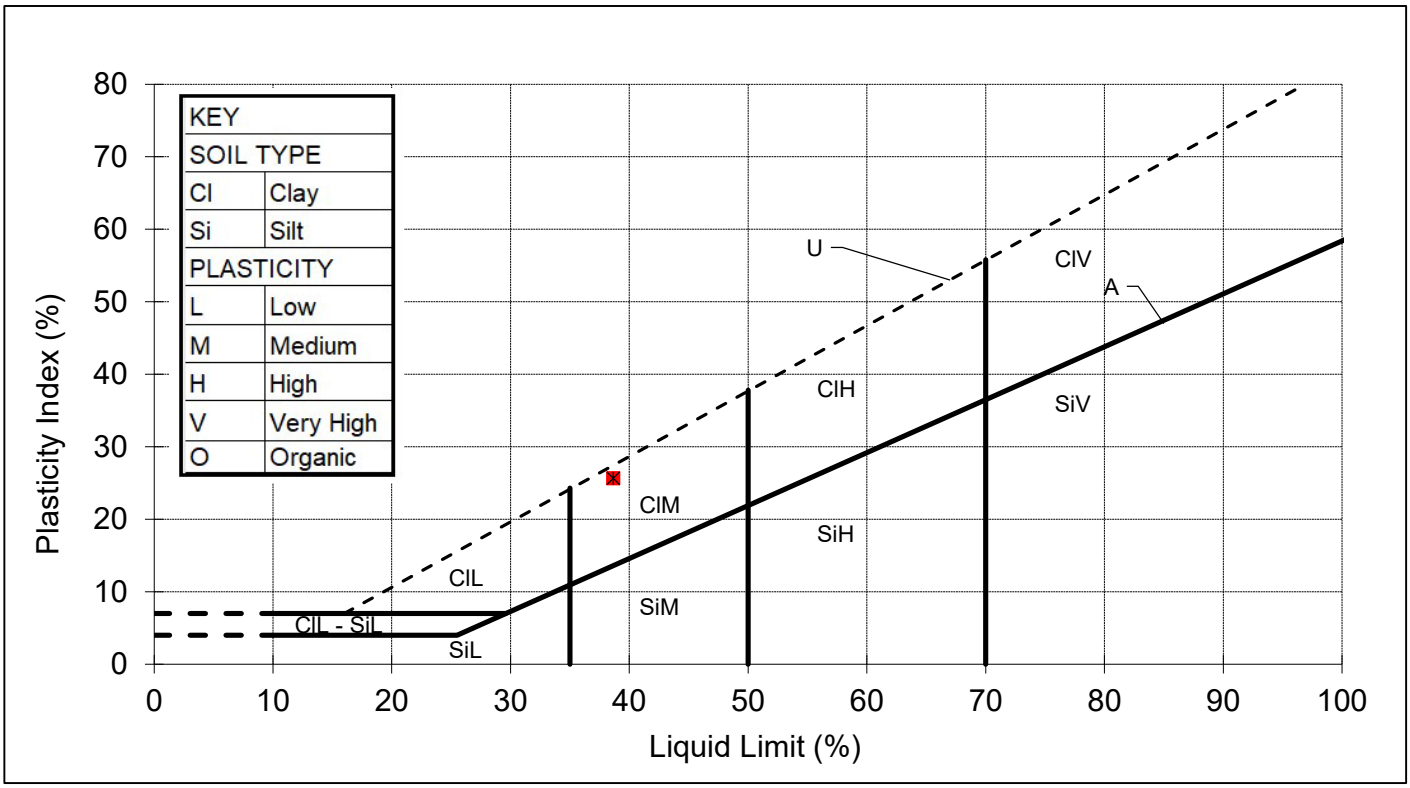
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS4 (2.25m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133379	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.5	38.2	1.013	
Determination 2 (avg)	19.2	38.1		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
16.5	39	13	26	96



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

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

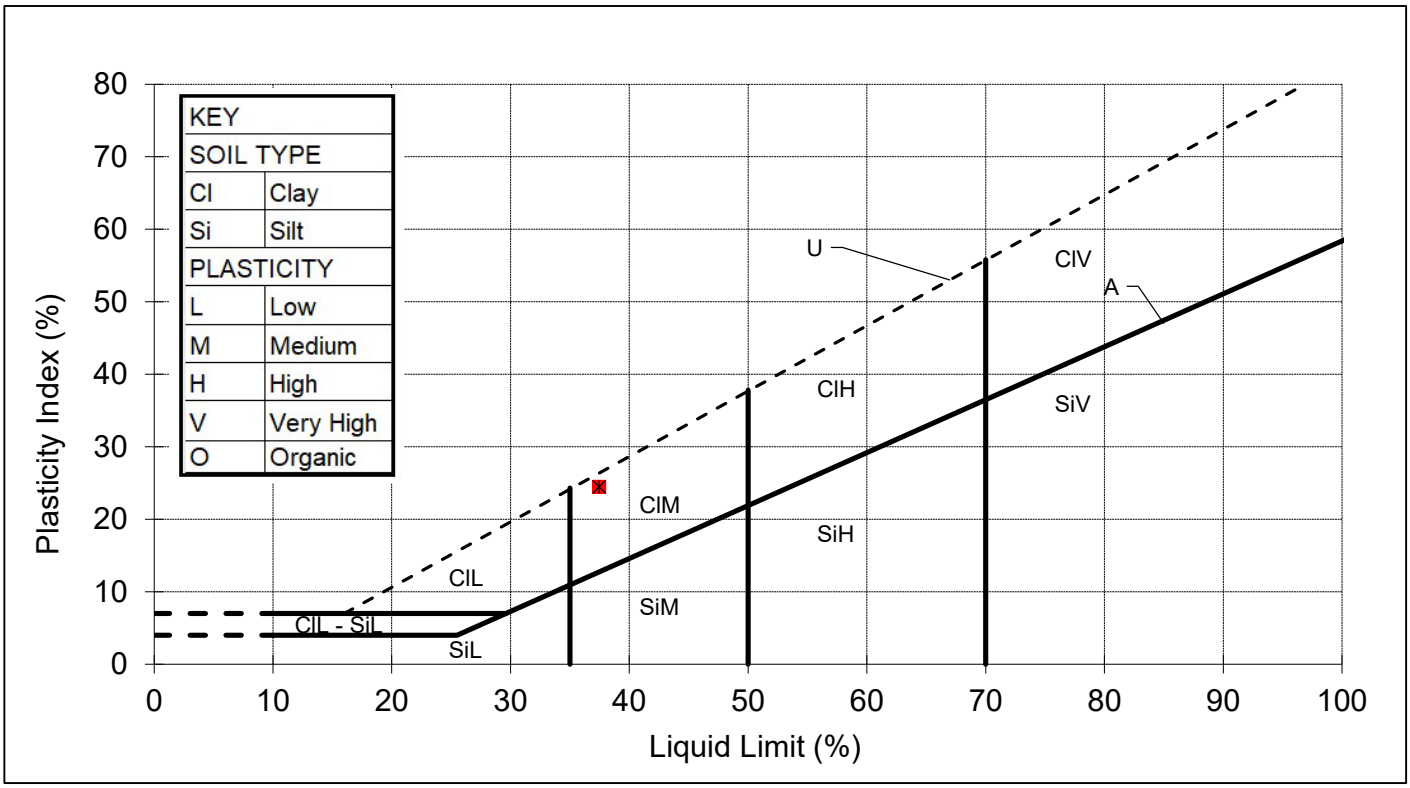
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS5 (1.75m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133380	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown silty slightly sandy slightly gravelly CLAY		
ADVISED SOURCE	Site Investigation Sample	WATER CONTENT	Increasing
SAMPLE HISTORY	Natural State	% RET. 425um BY	Wet Sieved

Test Readings mm (average)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.4	36.5	1.031	
Determination 2 (avg)	18.3	36.2		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
14.3	37	13	24	95



REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 23-Nov-23

MURRAY RIX

ANDREW HOUSE, HADFIELD STREET,
DUKINFIELD, CHESHIRE SK16 4QX
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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

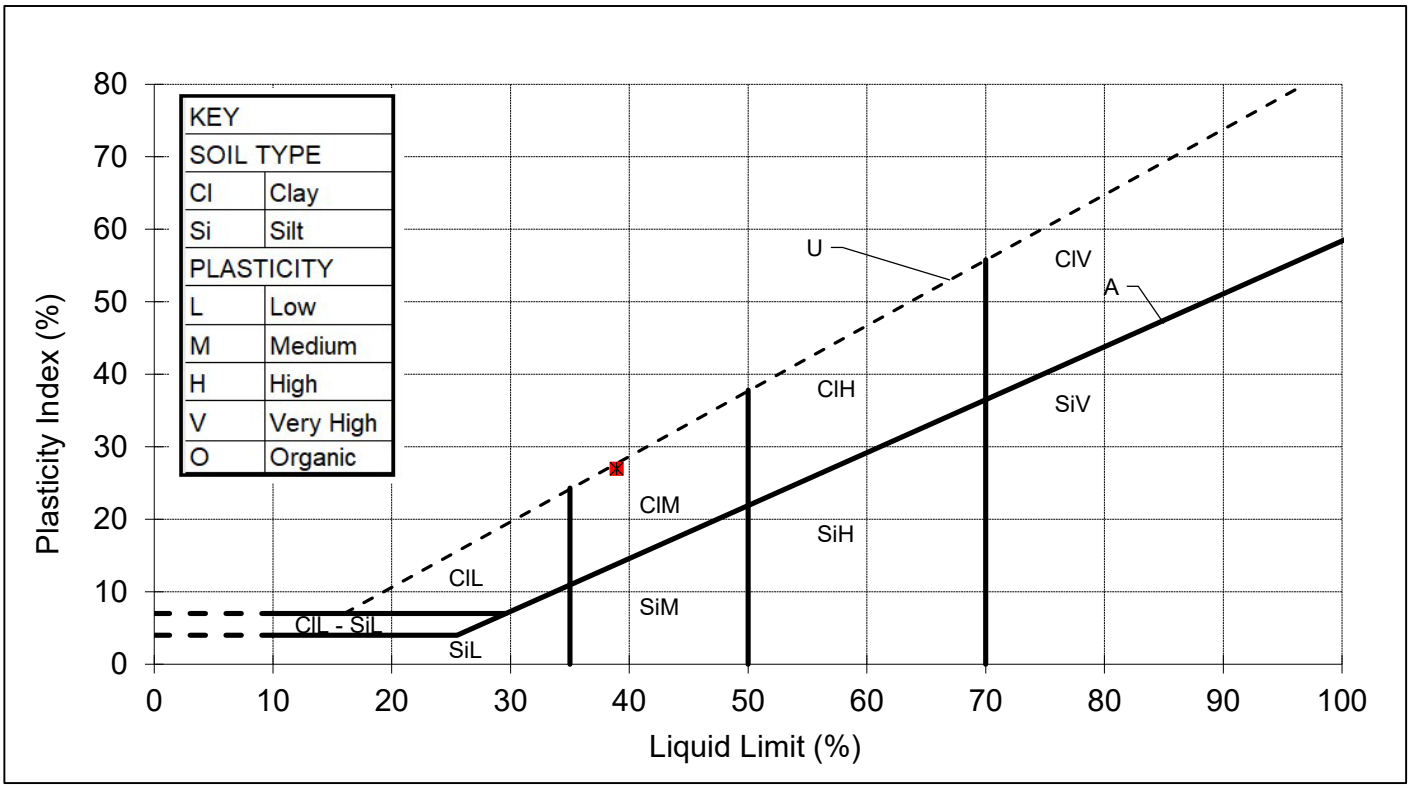
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS6 (1.50m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133381	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown 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)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	17.5	37.3	1.041	
Determination 2 (avg)	17.7	37.5		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.0	39	12	27	99



REMARKS

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NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
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UKAS TESTING 1580

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

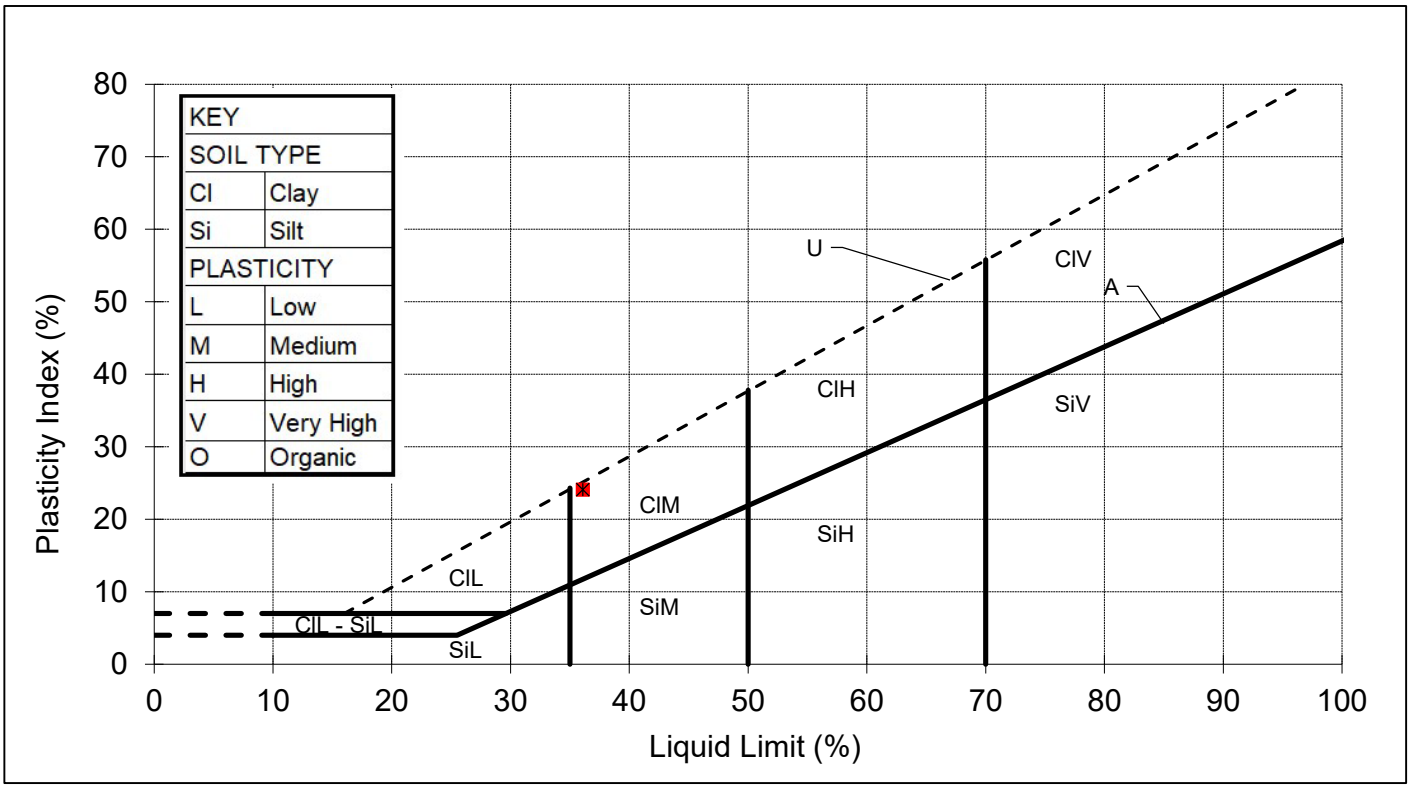
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS7 (2.70m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133382	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown 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)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.6	35.1	1.023	
Determination 2 (avg)	18.7	35.4		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
17.3	36	12	24	99



REMARKS

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NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

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TEST CERTIFICATE

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

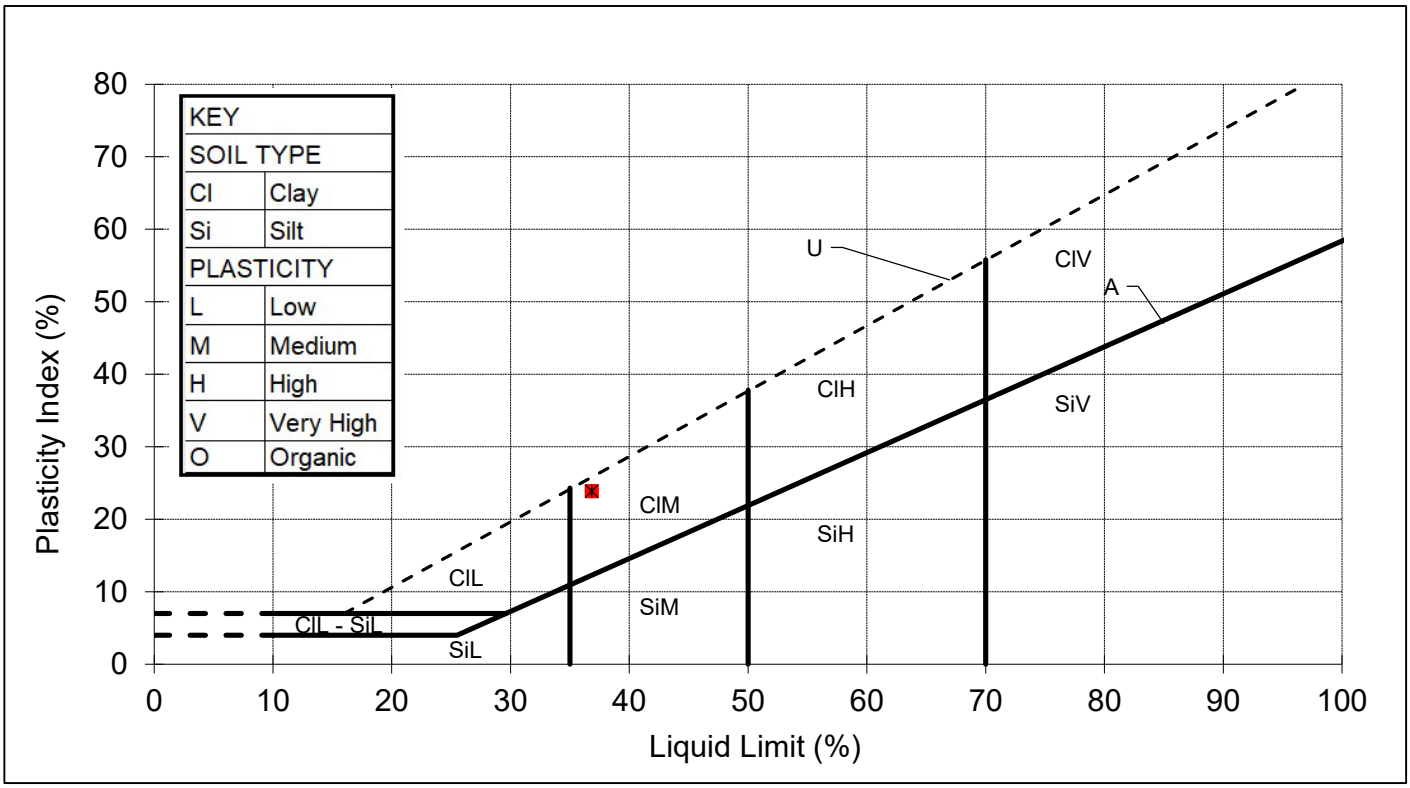
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS8 (1.90m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133383	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown 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)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	19.5	36.5	1.008	
Determination 2 (avg)	19.7	36.6		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.7	37	13	24	99



REMARKS

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NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

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DUKINFIELD, CHESHIRE SK16 4QX
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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

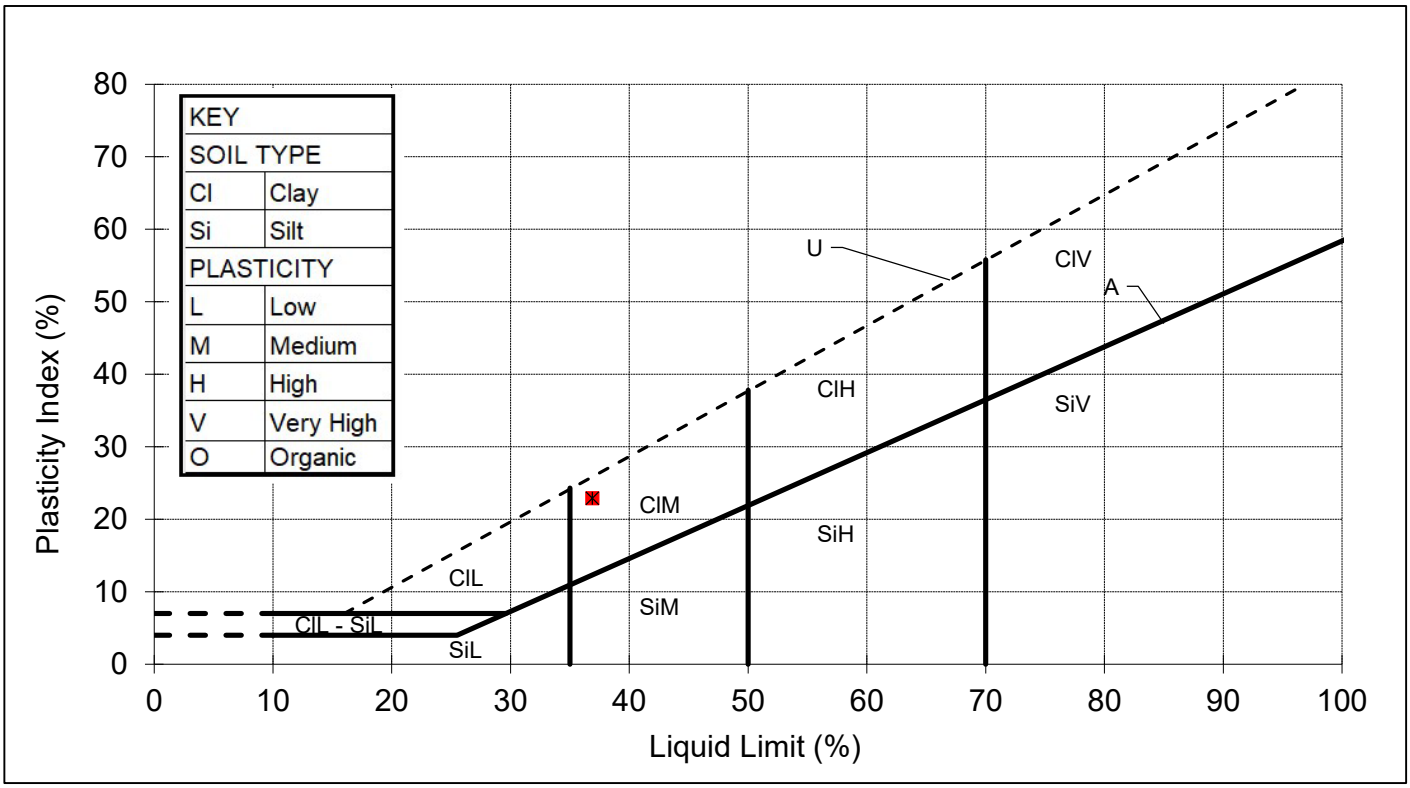
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS9 (1.40m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133384	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Brown 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)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	18.8	36.1	1.023	
Determination 2 (avg)	18.5	36.0		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15.5	37	14	23	99



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

MURRAY RIX

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DUKINFIELD, CHESHIRE SK16 4QX
TEL 0161 475 0870

UKAS TESTING 1580

TEST CERTIFICATE

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PLASTIC LIMIT BS EN ISO 17892-12:2018+A2:2022 Clause 5.5
WATER CONTENT METHOD BS EN ISO 17892-1:2014+A1:2022

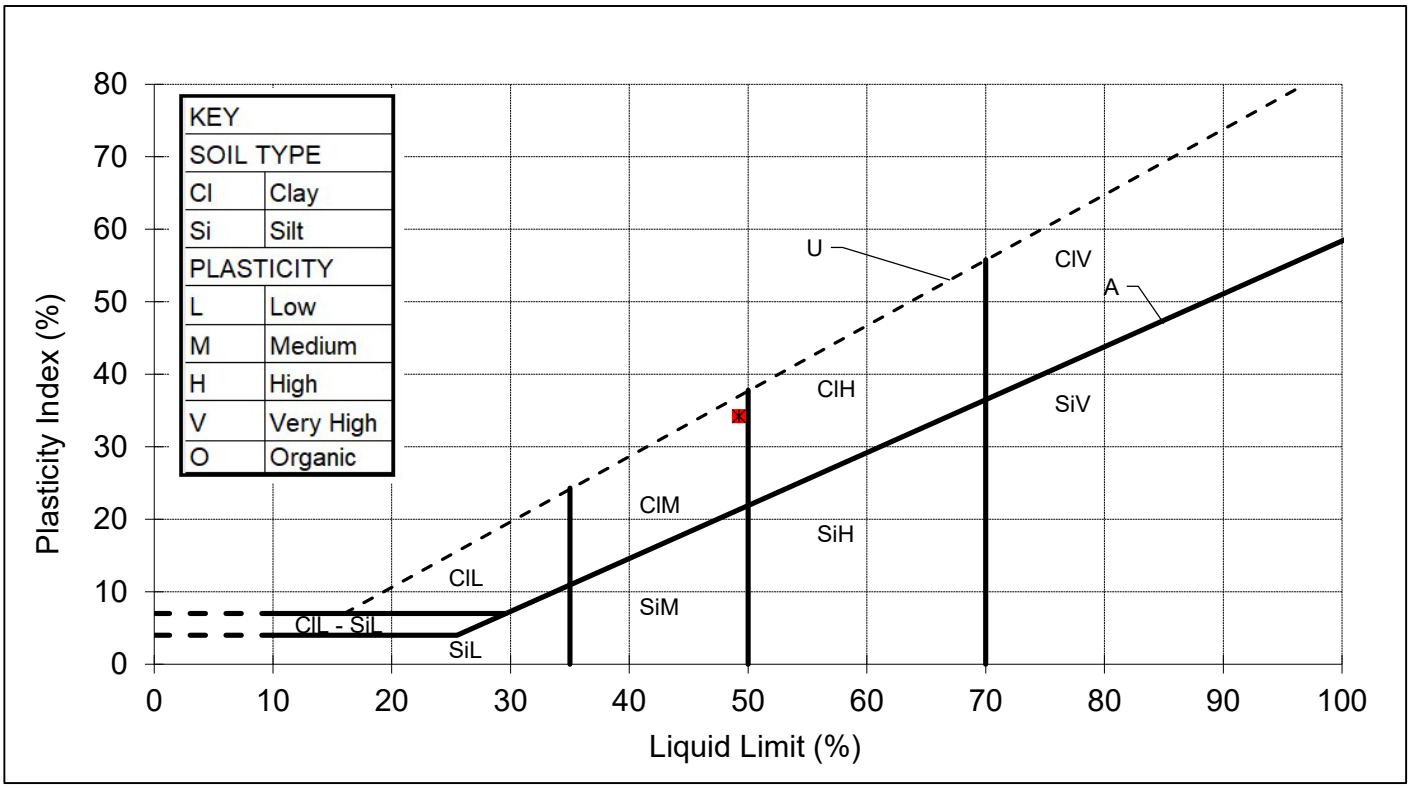
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

SAMPLE LABEL	WS10 (1.00m)	DATE SAMPLED	30-Oct-23
SAMPLE No.	133385	DATE RECEIVED	31-Oct-23
DATE TESTED	01-Nov-23	SAMPLED BY	Client

MATERIAL	Grey brown 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)		Moisture Content %	Correction Factor	Correction factor from Clayton and Jukes 1978
Determination 1 (avg)	17.7	47.4	1.038	
Determination 2 (avg)	17.7	47.4		

Natural Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
23.3	49	15	34	99



REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

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 WATER-SOLUBLE SULPHATE IN SOIL
& DETERMINATION OF THE pH VALUE
BS 1377-3:2018+A1:2021, Cl. 7.3 & Cl. 12

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A5552 - Broughton Shopping Park
JOB NUMBER	MRN 4589/106

DATE TESTED	02-Nov-23	DATE SAMPLED	26+27-Oct-23
SAMPLED BY	Client	DATE RECEIVED	27-Oct-23
PRE-TREATMENT	Air Dried	ADVISED SOURCE	Site Investigation Samples

Sample Number	Sample Label	Material	% Ret. 2mm	pH Value	Water Soluble Sulphate as SO_4 (mg/l)
133376	WS1 (2.50m)	Brown silty slightly sandy slightly gravelly CLAY	1	7.2	170
133377	WS2 (3.50m)	Brown silty slightly sandy slightly gravelly CLAY	2	7.1	100
133378	WS3 (3.75m)	Brown silty slightly sandy slightly gravelly CLAY	1	7.6	120
133379	WS4 (2.5m)	Brown silty slightly sandy slightly gravelly CLAY	1	7.2	40
133380	WS5 (1.75m)	Brown silty slightly sandy slightly gravelly CLAY	3	7.2	120
133381	WS6 (1.50m)	Brown silty slightly sandy CLAY	0	7.4	130
133382	WS7 (2.70m)	Brown silty slightly sandy CLAY	0	7.3	190
133383	WS8 (1.90m)	Brown silty slightly sandy CLAY	0	7.3	180
133384	WS9 (1.40m)	Brown silty slightly sandy CLAY	0	7.2	60
133385	WS10 (1.00m)	Grey brown silty slightly sandy CLAY	0	7.0	40

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 23-Nov-23

APPENDIX 3

SOIL CHEMICAL TESTING RESULTS

Daniel Shanks
Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Reddish
Stockport
Cheshire
SK5 6DA

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 23-13503

Site Reference:	Broughton Shopping Park
Project / Job Ref:	A5552
Order No:	A5552/DS/03
Sample Receipt Date:	01/11/2023
Sample Scheduled Date:	01/11/2023
Report Issue Number:	1
Reporting Date:	08/11/2023

Authorised by:

Steve Knight
Customer Support Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS1	WS2	WS2	WS3	WS4
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.15	0.20	0.50	0.40	0.25
Reporting Date: 08/11/2023	**DETS Sample No**	683256	683257	683258	683259	683260

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.4	7.4	6.9	5.5	5.4
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	691	987	225	649	503
Total Sulphate as SO_4	%	< 0.02	MCERTS	0.07	0.10	0.02	0.06	0.05
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	12	19	13	< 10	< 10
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.01	0.02	0.01	< 0.01	< 0.01
Sulphide	mg/kg	< 5	NONE	6	9	< 5	9	< 5
Organic Matter (SOM)	%	< 0.1	MCERTS	5.5	9.4	1.5	5.7	4.9
Arsenic (As)	mg/kg	< 2	MCERTS	11	13	4	11	11
Barium (Ba)	mg/kg	< 2.5	MCERTS	126	113	65	104	96
Beryllium (Be)	mg/kg	< 0.5	MCERTS	1.3	1.1	0.6	1	1
W/S Boron	mg/kg	< 1	NONE	1	1.1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.6	0.6	< 0.2	0.4	0.3
Chromium (Cr)	mg/kg	< 2	MCERTS	35	31	24	30	26
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	30	70	11	38	38
Lead (Pb)	mg/kg	< 3	MCERTS	81	95	17	66	61
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	28	25	14	24	20
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	41	37	25	35	32
Zinc (Zn)	mg/kg	< 3	MCERTS	151	157	36	125	99
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40) : EH_1D_Total	mg/kg	< 6	MCERTS	< 6	< 6	< 6	< 6	9

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion

Subcontracted analysis (S)

(n) 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

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS5	WS6	WS6	WS7	WS8
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.10	0.30	0.70	0.40	0.50
Reporting Date: 08/11/2023	**DETS Sample No**	683261	683262	683263	683264	683265

Determinand	Unit	RL	Accreditation					(n)
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	5.6	6.9	7.7	6.9	6.4
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Complex Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	486	327	992	422	406
Total Sulphate as SO_4	%	< 0.02	MCERTS	0.05	0.03	0.10	0.04	0.04
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	< 10	< 10	12	< 10	10
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	< 0.01	< 0.01	0.01	< 0.01	0.01
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter (SOM)	%	< 0.1	MCERTS	5.1	2.6	4.4	2.3	2.4
Arsenic (As)	mg/kg	< 2	MCERTS	10	8	6	8	7
Barium (Ba)	mg/kg	< 2.5	MCERTS	89	102	7	138	151
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.9	1	< 0.5	1.3	1.5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	25	32	8	43	48
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	43	27	9	25	23
Lead (Pb)	mg/kg	< 3	MCERTS	69	34	4	23	21
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	19	26	4	31	35
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Vanadium (V)	mg/kg	< 1	MCERTS	29	35	21	47	50
Zinc (Zn)	mg/kg	< 3	MCERTS	116	71	15	75	77
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40) : EH_1D_Total	mg/kg	< 6	MCERTS	< 6	< 6	< 6	17	< 6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Broughton Shopping Park	**TP / BH No**	WS9	WS10			
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied			
Order No: A5552/DS/03	**Depth (m)**	0.20	0.40			
Reporting Date: 08/11/2023	**DETS Sample No**	683266	683267			

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	5.8	6.0			
Total Cyanide	mg/kg	< 1	NONE	< 1	< 1			
Complex Cyanide	mg/kg	< 1	NONE	< 1	< 1			
Free Cyanide	mg/kg	< 1	NONE	< 1	< 1			
Total Sulphate as SO_4	mg/kg	< 200	MCERTS	697	651			
Total Sulphate as SO_4	%	< 0.02	MCERTS	0.07	0.07			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	12	< 10			
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.01	< 0.01			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter (SOM)	%	< 0.1	MCERTS	5.4	5.6			
Arsenic (As)	mg/kg	< 2	MCERTS	11	10			
Barium (Ba)	mg/kg	< 2.5	MCERTS	137	138			
Beryllium (Be)	mg/kg	< 0.5	MCERTS	1.4	1.4			
W/S Boron	mg/kg	< 1	NONE	1.4	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.3	0.3			
Chromium (Cr)	mg/kg	< 2	MCERTS	38	39			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	37	38			
Lead (Pb)	mg/kg	< 3	MCERTS	60	54			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	29	29			
Selenium (Se)	mg/kg	< 2	MCERTS	< 2	< 2			
Vanadium (V)	mg/kg	< 1	MCERTS	44	44			
Zinc (Zn)	mg/kg	< 3	MCERTS	113	101			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40) : EH_1D_Total	mg/kg	< 6	MCERTS	< 6	< 6			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS1	WS2	WS2	WS3	WS4
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.15	0.20	0.50	0.40	0.25
Reporting Date: 08/11/2023	**DETS Sample No**	683256	683257	683258	683259	683260

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

(n) 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

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS5	WS6	WS6	WS7	WS8
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.10	0.30	0.70	0.40	0.50
Reporting Date: 08/11/2023	**DETS Sample No**	683261	683262	683263	683264	683265

Determinand	Unit	RL	Accreditation					(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Broughton Shopping Park	**TP / BH No**	WS9	WS10			
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied			
Order No: A5552/DS/03	**Depth (m)**	0.20	0.40			
Reporting Date: 08/11/2023	**DETS Sample No**	683266	683267			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6			

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS1	WS2	WS2	WS3	WS4
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.15	0.20	0.50	0.40	0.25
Reporting Date: 08/11/2023	**DETS Sample No**	683256	683257	683258	683259	683260

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

(n) 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

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS5	WS6	WS6	WS7	WS8
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.10	0.30	0.70	0.40	0.50
Reporting Date: 08/11/2023	**DETS Sample No**	683261	683262	683263	683264	683265

Determinand	Unit	RL	Accreditation	(n)				(n)
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10	< 10	15	< 10
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Broughton Shopping Park	**TP / BH No**	WS9	WS10			
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied			
Order No: A5552/DS/03	**Depth (m)**	0.20	0.40			
Reporting Date: 08/11/2023	**DETS Sample No**	683266	683267			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6 : HS_1D_MS_AL	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aliphatic >C6 - C8 : HS_1D_MS_AL	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aliphatic >C8 - C10 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C10 - C12 : EH_CU_1D_AL	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C12 - C16 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3			
Aliphatic >C16 - C21 : EH_CU_1D_AL	mg/kg	< 3	MCERTS	< 3	< 3			
Aliphatic >C21 - C34 : EH_CU_1D_AL	mg/kg	< 10	MCERTS	< 10	< 10			
Aliphatic (C5 - C34) : HS_1D_MS+EH_CU_1D_AL	mg/kg	< 21	NONE	< 21	< 21			
Aromatic >C5 - C7 : HS_1D_MS_AR	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aromatic >C7 - C8 : HS_1D_MS_AR	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aromatic >C8 - C10 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C10 - C12 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C12 - C16 : EH_CU_1D_AR	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C16 - C21 : EH_CU_1D_AR	mg/kg	< 3	MCERTS	< 3	< 3			
Aromatic >C21 - C35 : EH_CU_1D_AR	mg/kg	< 10	MCERTS	< 10	< 10			
Aromatic (C5 - C35) : HS_1D_MS+EH_CU_1D_AR	mg/kg	< 21	NONE	< 21	< 21			
Total >C5 - C35 : HS_1D_MS+EH_CU_1D_Total	mg/kg	< 42	NONE	< 42	< 42			

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS1	WS2	WS2	WS3	WS4
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.15	0.20	0.50	0.40	0.25
Reporting Date: 08/11/2023	**DETS Sample No**	683256	683257	683258	683259	683260

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

(n) 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

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23	30/10/23	30/10/23	30/10/23
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Broughton Shopping Park	**TP / BH No**	WS5	WS6	WS6	WS7	WS8
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A5552/DS/03	**Depth (m)**	0.10	0.30	0.70	0.40	0.50
Reporting Date: 08/11/2023	**DETS Sample No**	683261	683262	683263	683264	683265

Determinand	Unit	RL	Accreditation					(n)
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 23-13503	**Date Sampled**	30/10/23	30/10/23			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Broughton Shopping Park	**TP / BH No**	WS9	WS10			
Project / Job Ref: A5552	**Additional Refs**	None Supplied	None Supplied			
Order No: A5552/DS/03	**Depth (m)**	0.20	0.40			
Reporting Date: 08/11/2023	**DETS Sample No**	683266	683267			

Determinand	Unit	RL	Accreditation					
Benzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2			
Toluene : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5			
Ethylbenzene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2			
p & m-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2			
o-xylene : HS_1D_MS	ug/kg	< 2	MCERTS	< 2	< 2			
MTBE : HS_1D_MS	ug/kg	< 5	MCERTS	< 5	< 5			

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 23-13503	
Earth Environmental & Geotechnical Ltd	
Site Reference: Broughton Shopping Park	
Project / Job Ref: A5552	
Order No: A5552/DS/03	
Reporting Date: 08/11/2023	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
683256	WS1	None Supplied	0.15	27	Brown clay
683257	WS2	None Supplied	0.20	37	Brown loamy clay with vegetation
683258	WS2	None Supplied	0.50	15.1	Brown clay
683259	WS3	None Supplied	0.40	25.1	Brown sandy clay with vegetation
683260	WS4	None Supplied	0.25	23.7	Brown sandy clay with vegetation
683261	WS5	None Supplied	0.10	26.2	Brown sandy clay with stones and vegetation
683262	WS6	None Supplied	0.30	17.8	Brown clay with vegetation
683263	WS6	None Supplied	0.70	7.3	Brown gravelly sand with stones
683264	WS7	None Supplied	0.40	25	Brown clay
683265	WS8	None Supplied	0.50	23.7	Brown clay with vegetation
683266	WS9	None Supplied	0.20	31.1	Brown sandy clay with vegetation
683267	WS10	None Supplied	0.40	29.2	Brown sandy clay with vegetation

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 23-13503
Earth Environmental & Geotechnical Ltd
Site Reference: Broughton Shopping Park
Project / Job Ref: A5552
Order No: A5552/DS/03
Reporting Date: 08/11/2023

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
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Tel : 01622 850410

List of HWOL Acronyms and Operators
DETS Report No: 23-13503
Earth Environmental & Geotechnical Ltd
Site Reference: Broughton Shopping Park
Project / Job Ref: A5552
Order No: A5552/DS/03
Reporting Date: 08/11/2023

Acronym	**Description**
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
2D	GC-GC - Double coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative eg. EH+HS_Total or EH_CU+HS_Total

Det - Acronym
Benzene - HS_1D_MS
EPH (C10 - C40) - EH_1D_Total
Ethylbenzene - HS_1D_MS
MTBE - HS_1D_MS
TPH CWG - Aliphatic >C10 - C12 - EH_CU_1D_AL
TPH CWG - Aliphatic >C12 - C16 - EH_CU_1D_AL
TPH CWG - Aliphatic >C16 - C21 - EH_CU_1D_AL
TPH CWG - Aliphatic >C21 - C34 - EH_CU_1D_AL
TPH CWG - Aliphatic >C5 - C6 - HS_1D_MS_AL
TPH CWG - Aliphatic >C6 - C8 - HS_1D_MS_AL
TPH CWG - Aliphatic >C8 - C10 - EH_CU_1D_AL
TPH CWG - Aliphatic C5 - C34 - HS_1D_MS+EH_CU_1D_AL
TPH CWG - Aromatic >C10 - C12 - EH_CU_1D_AR
TPH CWG - Aromatic >C12 - C16 - EH_CU_1D_AR
TPH CWG - Aromatic >C16 - C21 - EH_CU_1D_AR
TPH CWG - Aromatic >C21 - C35 - EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C35 - HS_1D_MS+EH_CU_1D_AR
TPH CWG - Aromatic >C5 - C7 - HS_1D_MS_AR
TPH CWG - Aromatic >C7 - C8 - HS_1D_MS_AR
TPH CWG - Aromatic >C8 - C10 - EH_CU_1D_AR
TPH CWG - Total >C5 - C35 - HS_1D_MS+EH_CU_1D_Total
Toluene - HS_1D_MS
m & p-xylene - HS_1D_MS
o-Xylene - HS_1D_MS

APPENDIX 4

SOIL WASTE ASSESSMENT

Waste Classification Report

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

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

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

A2QH9-GUAZS-YC4PB

Job name

A5552 Broughton Shopping Park

Description/Comments

Project

A5552

Site

Broughton Shopping Park

Classified by

Name:
Luke Glover
Date:
08 Dec 2023 09:10 GMT
Telephone:

Company:
Earth Environmental & Geotechnical Ltd

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

HazWasteOnline™ Certification: -

Course	Date
Hazardous Waste Classification	-

Purpose of classification

2 - Material Characterisation

Address of the waste

Land north of Broughton Shopping Park, Broughton, Chester **Post Code** CH4 0DP

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Existing material on site.

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

Preliminary assessment only.

Description of the waste

Topsoil and natural clay.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS1	0.15	Non Hazardous		3
2	WS2	0.20	Non Hazardous		5
3	WS2[2]	0.50	Non Hazardous		7
4	WS3	0.40	Non Hazardous		9
5	WS4	0.25	Non Hazardous		11
6	WS5	0.10	Non Hazardous		13
7	WS6	0.30	Non Hazardous		15
8	WS6[2]	0.70	Non Hazardous		17
9	WS7	0.40	Non Hazardous		19
10	WS8	0.50	Non Hazardous		21
11	WS9	0.20	Non Hazardous		23
12	WS10	0.40	Non Hazardous		25

Related documents

#	Name	Description
1	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Luke Glover

Created date: 08 Dec 2023 09:10 GMT

Classification of sample: WS1

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

Sample details

Sample name:
WS1
Sample Depth:
0.15 m
Moisture content:
27%
(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: 27% 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		11 mg/kg	1.32	11.436 mg/kg	0.00114 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.3 mg/kg	2.775	2.841 mg/kg	0.000284 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1 mg/kg	3.22	2.535 mg/kg	0.000254 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.6 mg/kg	1.142	0.54 mg/kg	0.000054 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35 mg/kg	1.462	40.279 mg/kg	0.00403 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		30 mg/kg	1.126	26.596 mg/kg	0.00266 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	81 mg/kg	1.56	99.484 mg/kg	0.00638 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28 mg/kg	2.976	65.618 mg/kg	0.00656 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		151 mg/kg	2.774	329.839 mg/kg	0.033 %	✓	
13	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
14	benzene	601-020-00-8	200-753-7	71-43-2		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
15	toluene	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<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		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
17		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
18		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
19		pH				7.4	pH		7.4	pH	7.4 pH		
				PH									
20		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
21		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
22		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
23		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
24		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
25		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
26		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
27		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
28		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
29		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
30		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
31		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
32		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
33		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
34		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
35		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
36		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.056 %		

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: WS2

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

Sample details

Sample name:
WS2
Sample Depth:
0.20 m
Moisture content:
37%
(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: 37% 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 mg/kg	1.32	12.529 mg/kg	0.00125 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.1 mg/kg	2.775	2.228 mg/kg	0.000223 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.1 mg/kg	3.22	2.585 mg/kg	0.000259 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.6 mg/kg	1.142	0.5 mg/kg	0.00005 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31 mg/kg	1.462	33.072 mg/kg	0.00331 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		70 mg/kg	1.126	57.527 mg/kg	0.00575 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	95 mg/kg	1.56	108.162 mg/kg	0.00693 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25 mg/kg	2.976	54.311 mg/kg	0.00543 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		157 mg/kg	2.774	317.913 mg/kg	0.0318 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				7.4	pH		7.4	pH	7.4 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0609 %		

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: WS2[2]

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

Sample details

Sample name:
WS2[2]
Sample Depth:
0.50 m
Moisture content:
15.1%
(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: 15.1% 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		4	mg/kg	1.32	4.588	mg/kg	0.000459 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.6	mg/kg	2.775	1.447	mg/kg	0.000145 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24	mg/kg	1.462	30.476	mg/kg	0.00305 %	✓	
6	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				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		11	mg/kg	1.126	10.76	mg/kg	0.00108 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	17	mg/kg	1.56	23.038	mg/kg	0.00148 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		14	mg/kg	2.976	36.201	mg/kg	0.00362 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		36	mg/kg	2.774	86.767	mg/kg	0.00868 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				6.9	pH		6.9	pH	6.9 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0247 %		

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: WS3

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

Sample details

Sample name:
WS3
Sample Depth:
0.40 m
Moisture content:
25.1%
(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: 25.1% 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		11	mg/kg	1.32	11.61	mg/kg	0.00116 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1	mg/kg	2.775	2.219	mg/kg	0.000222 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.365	mg/kg	0.0000365 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30	mg/kg	1.462	35.049	mg/kg	0.0035 %	✓	
6	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				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38	mg/kg	1.126	34.2	mg/kg	0.00342 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	66	mg/kg	1.56	82.292	mg/kg	0.00528 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24	mg/kg	2.976	57.099	mg/kg	0.00571 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		125	mg/kg	2.774	277.193	mg/kg	0.0277 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				5.5	pH		5.5	pH	5.5 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0532 %		

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: WS4

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

Sample details

Sample name:
WS4
Sample Depth:
0.25 m
Moisture content:
23.7%
(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: 23.7% 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		11	mg/kg	1.32	11.741	mg/kg	0.00117 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1	mg/kg	2.775	2.244	mg/kg	0.000224 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.277	mg/kg	0.0000277 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26	mg/kg	1.462	30.72	mg/kg	0.00307 %	✓	
6	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				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38	mg/kg	1.126	34.587	mg/kg	0.00346 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	61	mg/kg	1.56	76.919	mg/kg	0.00493 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		20	mg/kg	2.976	48.121	mg/kg	0.00481 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		99	mg/kg	2.774	222.021	mg/kg	0.0222 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				5.4	pH		5.4	pH	5.4 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0461 %		

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: WS5

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

Sample details

Sample name:
WS5
Sample Depth:
0.10 m
Moisture content:
26.2%
(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: 26.2% 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		10	mg/kg	1.32	10.462	mg/kg	0.00105 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.9	mg/kg	2.775	1.979	mg/kg	0.000198 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.362	mg/kg	0.0000362 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25	mg/kg	1.462	28.953	mg/kg	0.0029 %	✓	
6	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				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		43	mg/kg	1.126	38.362	mg/kg	0.00384 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	69	mg/kg	1.56	85.283	mg/kg	0.00547 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19	mg/kg	2.976	44.809	mg/kg	0.00448 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2	mg/kg	2.554	<5.108	mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		116	mg/kg	2.774	254.993	mg/kg	0.0255 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				5.6	pH		5.6	pH	5.6 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0496 %		

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: WS6

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

Sample details

Sample name:
WS6
Sample Depth:
0.30 m
Moisture content:
17.8%
(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: 17.8% 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 mg/kg	1.32	8.967 mg/kg	0.000897 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1 mg/kg	2.775	2.356 mg/kg	0.000236 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32 mg/kg	1.462	39.703 mg/kg	0.00397 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		27 mg/kg	1.126	25.806 mg/kg	0.00258 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	34 mg/kg	1.56	45.02 mg/kg	0.00289 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		26 mg/kg	2.976	65.69 mg/kg	0.00657 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		71 mg/kg	2.774	167.202 mg/kg	0.0167 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17	•	ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { • salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20	•	pH				6.9	pH		6.9	pH	6.9 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22	•	acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23	•	acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24	•	fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25	•	phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26	•	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27	•	fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28	•	pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34	•	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36	•	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0401 %		

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: WS6[2]

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

Sample details

Sample name:
WS6[2]
Sample Depth:
0.70 m
Moisture content:
7.3%
(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: 7.3% 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		6 mg/kg	1.32	7.383 mg/kg	0.000738 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		8 mg/kg	1.462	10.897 mg/kg	0.00109 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9 mg/kg	1.126	9.444 mg/kg	0.000944 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	4 mg/kg	1.56	5.815 mg/kg	0.000373 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4 mg/kg	2.976	11.095 mg/kg	0.00111 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		15 mg/kg	2.774	38.781 mg/kg	0.00388 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				7.7	pH		7.7	pH	7.7 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0145 %		

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: WS7

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

Sample details

Sample name:
WS7
Sample Depth:
0.40 m
Moisture content:
25%
(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: 25% 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 mg/kg	1.32	8.45 mg/kg	0.000845 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.3 mg/kg	2.775	2.886 mg/kg	0.000289 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		43 mg/kg	1.462	50.278 mg/kg	0.00503 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25 mg/kg	1.126	22.518 mg/kg	0.00225 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23 mg/kg	1.56	28.701 mg/kg	0.00184 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		31 mg/kg	2.976	73.811 mg/kg	0.00738 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		75 mg/kg	2.774	166.449 mg/kg	0.0166 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				6.9	pH		6.9	pH	6.9 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0405 %		

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: WS8

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

Sample details

Sample name:
WS8
Sample Depth:
0.50 m
Moisture content:
23.7%
(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: 23.7% 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		7 mg/kg	1.32	7.472 mg/kg	0.000747 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.5 mg/kg	2.775	3.365 mg/kg	0.000337 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		48 mg/kg	1.462	56.714 mg/kg	0.00567 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23 mg/kg	1.126	20.934 mg/kg	0.00209 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21 mg/kg	1.56	26.48 mg/kg	0.0017 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35 mg/kg	2.976	84.211 mg/kg	0.00842 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		77 mg/kg	2.774	172.683 mg/kg	0.0173 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				6.4	pH		6.4	pH	6.4 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0424 %		

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: WS9

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

Sample details

Sample name:
WS9
Sample Depth:
0.20 m
Moisture content:
31.1%
(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: 31.1% 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		11 mg/kg	1.32	11.078 mg/kg	0.00111 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.4 mg/kg	2.775	2.964 mg/kg	0.000296 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		1.4 mg/kg	3.22	3.438 mg/kg	0.000344 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.261 mg/kg	0.0000261 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38 mg/kg	1.462	42.364 mg/kg	0.00424 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		37 mg/kg	1.126	31.776 mg/kg	0.00318 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	60 mg/kg	1.56	71.387 mg/kg	0.00458 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		29 mg/kg	2.976	65.837 mg/kg	0.00658 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		113 mg/kg	2.774	239.114 mg/kg	0.0239 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				5.8	pH		5.8	pH	5.8 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0501 %		

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: WS10

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

Sample details

Sample name:
WS10
Sample Depth:
0.40 m
Moisture content:
29.2%
(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: 29.2% 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		10 mg/kg	1.32	10.219 mg/kg	0.00102 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.4 mg/kg	2.775	3.007 mg/kg	0.000301 %	✓	
3	boron { diboron trioxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.265 mg/kg	0.0000265 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		39 mg/kg	1.462	44.118 mg/kg	0.00441 %	✓	
6	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				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		38 mg/kg	1.126	33.114 mg/kg	0.00331 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	54 mg/kg	1.56	65.194 mg/kg	0.00418 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		29 mg/kg	2.976	66.805 mg/kg	0.00668 %	✓	
11	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<2 mg/kg	2.554	<5.108 mg/kg	<0.000511 %		<LOD
12	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		101 mg/kg	2.774	216.864 mg/kg	0.0217 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
14	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
15	benzene	601-020-00-8	200-753-7	71-43-2		<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									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<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]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
20		pH				6	pH		6	pH	6pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0478 %		

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

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

Description/Comments: Data from C&L Inventory Database
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H332 , Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Resp. Sens. 1; H334 , Skin Sens. 1; H317 , Repr. 1B; H360FD , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

- **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

- **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

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)

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

boron {diboron trioxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (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(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (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: 2023.341.5847.10836 (07 Dec 2023)
HazWasteOnline Database: 2023.341.5847.10836 (07 Dec 2023)

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

APPENDIX 5

REPORT LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget, and staff resources allocated to the project.

Other than that, expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2023 and should be read in light of any subsequent changes in legislation, statutory requirements, and industry best practices. Ground conditions can also change over time and further investigations, or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site.