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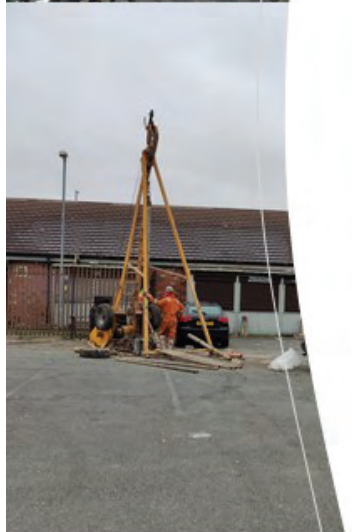
GeoEnvironmental Investigation

Victoria Avenue East

Moston

April 2022

On behalf of



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SITE INVESTIGATION
ALDI VICTORIA AVENUE EAST
MOSTON

Report Ref: A3469/21/SI

APRIL 2022

Prepared on Behalf of:

ALDI STORES UK LTD

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1 electronic copy SWF Consulting Ltd

SITE INVESTIGATION

ALDI VICTORIA AVENUE EAST, MOSTON

Report Reference: A3469/21/SI

Version B.0

Date: 18th April 2022

Prepared for: ALDI Stores UK Ltd

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Definition of Version Code:

- D. Applied during initial drafting of the report before it has been reviewed.
- C. Applied after the report has been reviewed but before it has been approved by the Project Manager.
- B. Applied after the Project Manager has approved the report ready for issue to the client.
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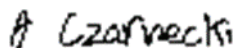
The version number starts at "0" and is raised by "1" at each re-type.

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1.0 EXECUTIVE SUMMARY

Appointment	A site investigation has been commissioned by SWF Consulting Ltd, on behalf of ALDI Stores UK (the 'Client') to examine ground conditions for the proposed commercial development at Victoria Avenue East, Moston.
The Investigation	The site investigation comprised 2no. cable percussive boreholes, 10no. window sample boreholes, in situ testing, laboratory geotechnical and contamination testing. Groundwater sampling and gas monitoring have not been completed at the time of writing this report.
The Site	The site is located approximately 1.6km to the north of the centre of Moston, Manchester, at approximate National Grid Reference SD 88213 03383. The site is underlain by superficial deposits of Devensian Till (boulder clay) and Peat. The solid geology is shown to be the Pennine Middle Coal Measures Formation, comprising mudstone, coal seams, siltstone and sandstone.
Site History	Historically, a road was located through the centre of the site in 1948. The site was then occupied by a sports field in 1932. Restaurants were constructed on site in 2001, followed by a car park to the north in 2001. Currently, the restaurants are derelict, and there is a small area of soft landscaping to the north-western corner of the site adjacent the car park.
Ground Conditions Encountered	The exploratory holes generally encountered Made Ground (to a maximum depth of 1.3m bgl), beneath the Made Ground was superficial deposits of Devensian Till comprising low to high strength CLAY (to a maximum depth of 10.0m bgl). Superficial deposits of Peat (to a maximum depth of 5.0m bgl) and loose to very dense SAND (to a maximum depth of 15.00m bgl) was also encountered at most locations. Small horizons of SILT were encountered in WS02 and WS03 (to a maximum depth of 4.60m bgl). SAND & GRAVEL was also encountered in CP01 and CP02 (to a maximum depth of 10.50m bgl). Groundwater was encountered during the field work between 1.50m and 6.20m bgl (WS04, WS07, WS08, CP01 and CP02).
Geotechnical Assessment	Foundation options for the proposed commercial development are anticipated to be pile foundations, bearing into the high strength boulder clay or very dense sand & gravel encountered beneath. Shallow foundations are not considered suitable for the site due to the peat deposits and low strength clay encountered. Pavement Design – preliminary design value = 1% Made Ground, 3-5% natural clay. Design Sulphate Class = DS-1 ACEC Site Classification = AC-1s
Ground Gases	Ground Gas protection measures are required on site. Radon protection measures are not required.
Contamination Assessment	Risk from contamination to groundworkers during development – Moderate to Low No soil chemical exceedance when compared to a commercial end use. Risk from soil contamination to commercial end users – Low Asbestos was encountered in 1no. soil sample – Bundles of Chrysotile fibres (0.001%) Soil Waste Assessment: 13no. samples tested – All Non-Hazardous. WAC testing - 3no. samples classified as Inert, 1no. sample Stable Non-Reactive Hazardous, and 1no. sample exceeds Hazardous. Marginal groundwater exceedances in 4no. samples when compared to EQS and DWQ values.
<i>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.</i>	

2.0 INTRODUCTION

2.1 Background

A site investigation has been commissioned by SWF Consulting Ltd, on behalf of ALDI Stores UK (the 'Client') to examine ground conditions for the proposed commercial development at Victoria Avenue East, Moston.

2.2 Previous Investigations

2.2.1 Earth Environmental & Geotechnical Ltd *Phase I GeoEnvironmental Desk Study Report, Victoria Avenue, Moston reference: A3469/21, dated March 2020.*

The desk study highlighted that historically the site was undeveloped, apart from a road through the centre of the site dating to 1848. The site became part of a large sports field in 1932 and restaurants developed on the south of the site in 2001, followed by a car park to the north in 2003. The two restaurants are currently derelict and there is a small area of soft cover with trees on the north-western corner of the site adjacent the car park.

Potential on-site sources of contamination include Made Ground from various phases of development, infilled features along the boundary and land associated with the M60 motorway. Asbestos containing materials (ACM) may be present in existing structures. Finally, ground gas associated with deposits of peat, a nearby historical landfill, deep Made Ground and nearby infilled features.

The overall risk from soil contamination to commercial end users and construction workers was concluded to be **LOW**.

The risk to controlled waters was concluded to be **LOW** based on the underlying cohesive geology and absence of a nearby abstraction.

Given the anticipated extent and age of the made ground the risk from ground gas to end users was considered to be **MODERATE to LOW**.

An intrusive site investigation was recommended to examine the ground conditions for the design of foundations, floor slabs, and pavement construction for the proposed development. As part of the geotechnical investigation, it was recommended that soil 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 A3469/21 dated 15th December 2021. The objectives of this investigation are as follows:

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

- *Classification of surplus 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 considering 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 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 1.6km north of the centre of Moston. The approximate National Grid Reference for the centre of the site is SD 88213 03383 (X: 388213, Y: 403383) with the closest postcode being M9 7GH.

The site is an irregular shaped parcel of land with maximum dimensions of approximately 127m northeast to southwest and 124m northwest to southeast. The area of the site is 0.68hectares with a flat and level topography.

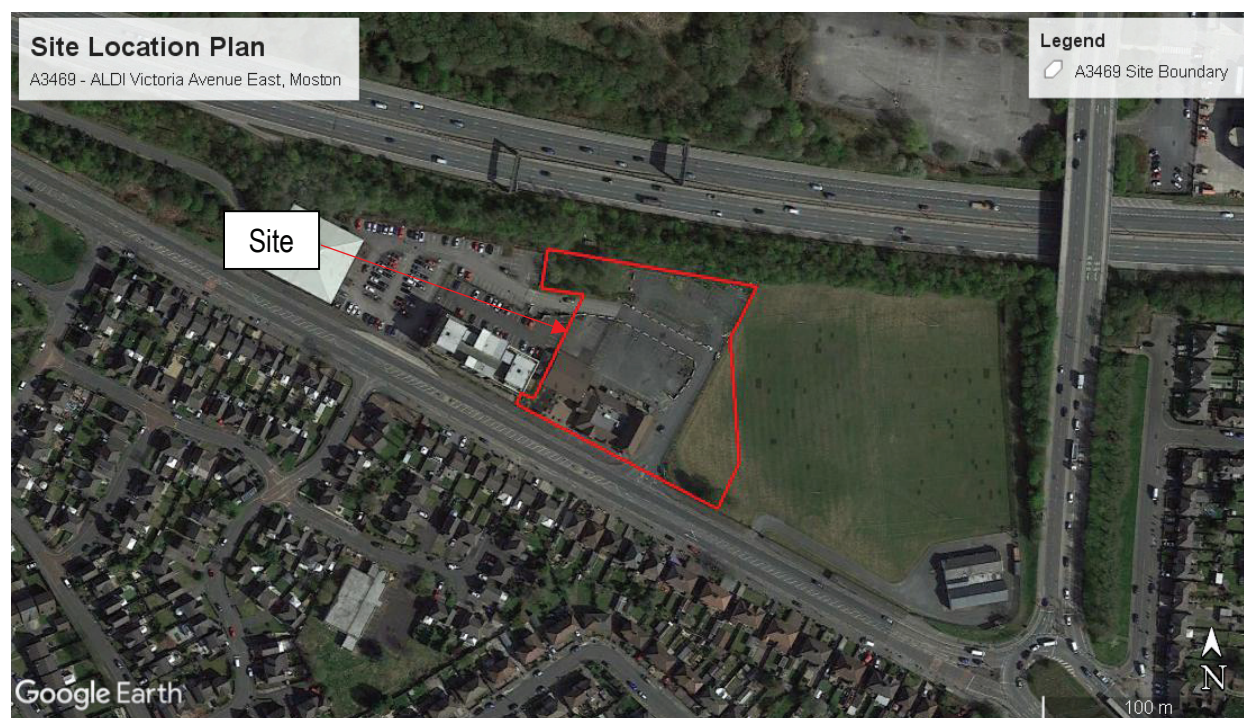
Currently on site are 2no. restaurant style businesses in the southwestern section. There is an outdoor seating area associated with these businesses. The north eastern area is a large macadam car park. There is an oblong shaped area in the northern most part of the site covered with grass and trees.

The boundaries to the north and east are made of metal fencing. The southern boundary is made up by the building. The western most boundary is partially open and partially made up of a restaurant building on site.

Immediately north of the site is a wooded area containing an unspecified concrete block housing manhole covers and vents. Beyond that is the M60. To the east is a sports field. South of the site is Victoria Avenue East. Directly west of the site is an apartment block, just north of which are the associated macadam parking facilities. Past that to the west is a gym with parking.

The site location is shown in Figure 1, below.

Figure 1: Site Location Plan



Site photographs are presented in Figures 2 to 5, overleaf.

Figure 2 View Facing Southeast Showing the Former Pub Garden



Figure 3 View Facing South Showing the Cable Percussive Borehole Rig Setup



Figure 4 Topsoil and Peat Deposits Encountered in WS09



Figure 5 Peat Deposits and Devensian Till Deposits Encountered in WS08



4.0 SITE INVESTIGATION

4.1 Exploratory Fieldwork

The fieldwork was carried out by EEG on Wednesday 5th and Thursday 6th January 2022. The fieldwork comprised:

- Two cable percussive boreholes (designated CP1 and CP2) were drilled to a maximum depth of 15.00m below existing ground level. The rig consists essentially of a mechanised drop-weight that repeatedly falls onto an anvil, driving attached sample tubes or probe rods into the ground. The method can therefore be classified as a form of drive sampling, in which a tube or split tube sampler having a short cutting edge at its lower end is forced into the ground by dynamic impact (BS 5930:1999). Although the rig operates primarily as a soil sampling tool, the rig is also capable of conducting Standard Penetration Tests to BS 1377: Part 9: 1990. The rig has the facility to drive casing into the ground, simultaneously with a soil sample tube. Using this system means that any overburden/loose ground can be sampled without hole collapse, ensuring that successive samples are accurate from the depth taken and consequently minimising cross-contamination of both in situ strata & samples. Groundwater observations were noted where possible. These observations relate to the time of the investigation only, and do not necessarily reflect seasonal fluctuations. Cable percussive borehole logs are included in Appendix 1.
- Ten window sample boreholes (designated WS01 to WS10 inclusive) were each sunk to a maximum depth of 6.0m below existing ground level). 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. 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. Window sample borehole logs are included in Appendix 1.
- 50mm diameter standpipes were installed in all ten window sample boreholes (WS01 to WS10) up to a depth of 6.00m below ground level. Installation and backfill details are shown with the appropriate borehole log sheet. EEG carried out groundwater/ground gas monitoring in standpipes after the fieldwork period, the results are included in Appendix 2. Prior to groundwater sampling all boreholes will be purged (three well volumes) by use of a water bailer.

Exploratory hole locations were chosen based on the proposed development and located on-site by an EEG engineer avoiding known services and an exclusion zone within proximity of underground aqueduct.

Table 1 overleaf indicates appropriate features targeted.

Table 1: Sampling Location Justification

Exploratory Hole	Sampling Location
WS01	Proposed ALDI building footprint
WS02	Proposed ALDI building footprint
WS03	Existing soft landscaped area and proposed car park
WS04	Proposed loading bay route
WS05	Proposed car parking area
WS06	Internal road in proposed car park
WS07	Internal road in proposed car park
WS08	Main access road into car park
WS09	Main access road into car park
WS10	Existing car park to be transferred to rugby club
CP01	Proposed ALDI building footprint
CP02	Proposed ALDI building footprint

Each exploratory location was scanned using a Cable Avoidance Tool (CAT) 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. All the samples were labelled and stored in cool boxes prior to being collected by courier at the end of the day for delivery to the DETS laboratory.

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 Ltd.

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 handheld 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 2 below.

Table 2: Shear Strength Definitions

Term based on measurement	Undrained Strength (c_u) definition in kN/m ² (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	130 to 300
Extremely High Strength	300 to 600

An Exploratory Hole Location Plan is presented as Figure 7, below.

Figure 7: Exploratory Hole Location Plan


A summary of exploratory holes undertaken during the investigation are presented in Table 3, below and overleaf.

Table 3: Summary of Exploratory Holes Undertaken

Hole	Type*	Depth (m)	Date Started	Date Finished	Easting (m)	Northing (m)	Backfill Details**
WS01	WS	6.00	05/01/2022	05/01/2022	388167	403360	SP
WS02	WS	6.00	05/01/2022	05/01/2022	388196	403378	SP
WS03	WS	6.00	05/01/2022	05/01/2022	388176	403422	SP
WS04	WS	6.00	05/01/2022	05/01/2022	388188	403403	SP
WS05	WS	6.00	05/01/2022	05/01/2022	388209	403419	SP
WS06	WS	6.00	05/01/2022	05/01/2022	388238	403396	SP
WS07	WS	6.00	05/01/2022	05/01/2022	388235	403330	SP

Hole	Type*	Depth (m)	Date Started	Date Finished	Easting (m)	Northing (m)	Backfill Details**
WS08	WS	6.00	05/01/2022	05/01/2022	388253	403349	SP
WS09	WS	6.00	05/01/2022	05/01/2022	388254	403373	SP
WS10	WS	6.00	05/01/2022	05/01/2022	388260	403413	SP
CP01	CP	15.00	05/01/2022	05/01/2022	388181	403390	A
CP02	CP	13.50	06/01/2022	06/01/2022	388207	403372	A
* WS=Window Sample Borehole, CP=Cable Percussive Borehole							
**A=Arisings, SP=Standpipe							

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 4, below:

Table 4: Summary of Laboratory Geotechnical Tests Undertaken

TEST	STANDARD	No.
Moisture Content	BS1377:1990 Part 2, Clause 3.2	8
Liquid Limit, Plastic Limit, Plasticity Index	BS1377:1990 Part 2, Clause 4/5	8
Sulphate content of 2:1 soil: water extract	BS1377:1990 Part 3, Clause 5	8
pH value	BS1377:1990 Part 3, Clause 9	8
Triaxial tests	BS1377:1990 Part 7, Clause 9	
“Quick” undrained with multistage loading		3
“Quick” undrained with single stage loading		2

The results of the laboratory geotechnical tests are discussed in Section 6 and included in Appendix 3.

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 Ltd a UKAS and MCERTS accredited laboratory.

Chemical analyses were carried out on thirteen 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 (SO₄), Sulphide, pH, Soil Organic Matter, Speciated Polycyclic Aromatic Hydrocarbons (PAH) and Speciated Petroleum Hydrocarbons.

In addition, four of the soil samples were also submitted for Waste Acceptance Criteria testing (WAC).

Chemical analyses were also carried out on four groundwater samples which were submitted for the following suite of determinants:

Arsenic, Barium, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc, Cyanide, Phenol, Sulphate (SO₄), Sulphide, pH, Total Organic Carbon (TOC), Extractable Petroleum Hydrocarbons (EPH), Speciated Petroleum Hydrocarbon (TPH) and Speciated Polyaromatic Hydrocarbons (PAH).

The results of the laboratory contamination tests are discussed in Sections 8 to 9 and included in Appendix 4.

5.0 GROUND CONDITIONS ENCOUNTERED

5.1 Soil Profile Encountered

BGS digital mapping shows the site is not underlain by artificial deposits, however made ground is found 3m to the north of the site. The site is underlain by superficial deposits of Devensian Till (boulder clay) and Peat. The solid geology beneath the site is shown to be the Pennine Middle Coal Measures Formation, comprising mudstone, coal seams, siltstone and sandstone. The sequence of strata encountered beneath the site was as follows:

- **Made Ground** – Variable Made Ground was encountered in all exploratory hole locations to a maximum depth of 1.30m bgl, comprising:
 - A covering of TARMAC is present across the site
 - Clayey sandy gravelly TOPSOIL containing sandstone, mudstone and red brick
 - SAND & GRAVEL containing limestone and concrete
 - Sandy clayey GRAVEL containing red brick, concrete, clinker and ash
 - Sandy GRAVEL containing sandstone
 - Gravelly SAND containing concrete, sandstone, red brick and clinker occasional cobbles of red brick
 - Silty gravelly SAND containing sandstone, red brick clinker and timber
 - Sandy gravelly CLAY containing concrete, red brick, sandstone rare wire and glass
- **Superficial Deposits** - were encountered in all the exploratory holes, to the base of the boreholes at a maximum depth of 15.0m bgl, comprising:
 - Very soft to soft amorphous/fibrous/pseudo-fibrous PEAT
 - Sandy gravelly peaty CLAY containing mudstone
 - Soft to firm silty CLAY
 - Soft to stiff sandy CLAY
 - Stiff silty sandy CLAY
 - Soft to stiff sandy gravelly CLAY containing mudstone and sandstone with occasional sand bands
 - Firm to stiff gravelly CLAY containing occasional cobbles of mudstone
 - Soft to stiff sandy SILT
 - Loose to very dense silty SAND with occasional clay bands
 - Loose silty gravelly SAND containing mudstone
 - Medium dense gravelly SAND containing sandstone
 - Very dense SAND & GRAVEL containing sandstone and quartz

The depths of the various materials encountered in the exploratory holes are summarised in Table 5, overleaf

Table 5: Summary of Ground Conditions Encountered

Hole	Depth to Stratum (m)										Ground water (m bgl)
	MADE GROUND			SUPERFICIAL DEPOSITS							
	TOPSOIL	TARMAC	GRANULAR	COHESIVE	CLAY	SILT	PEAT	SAND	SAND & GRAVEL		
WS01	-	GL-0.08	0.08-0.70	0.70-1.00	1.00-1.45 2.60-6.00	-	1.45-2.15	2.15-2.60	-	-	-
WS02	-	GL-0.20	0.20-0.80	-	2.80-6.00	1.70-2.80	0.80-1.70	-	-	-	-
WS03	GL-0.20	-	0.20-1.10	-	1.10-2.40 2.65-3.00 3.80-4.00 4.60-6.00	3.00-3.60 4.50-4.60	-	2.40-2.65 3.60-3.80 4.00-4.50	-	-	-
WS04	-	GL-0.20	0.20-0.80	-	0.80-1.30 1.50-1.75 2.65-3.00 3.35-4.00 4.90-5.00 5.70-6.00	-	-	1.30-1.50 1.75-2.65 3.00-3.35 4.80-4.90 5.60-5.70	-	-	3.00
WS05	GL-0.25		0.25-1.30	-	1.30-6.00	-	-	-	-	-	-
WS06	-	GL-0.15	0.15-0.60	0.60-1.15	1.40-4.50 5.70-6.00	-	1.15-1.40	4.50-5.70	-	-	-
WS07	GL-0.40	-	0.40-0.80	-	0.80-1.50 3.85-4.00 5.50-6.00	-	1.50-3.85 4.90-5.00	-	-	-	1.50
WS08	GL-0.15	-	0.15-0.55	-	0.55-0.90 3.40-6.00	-	0.90-3.40	-	-	-	4.00
WS09	GL-0.20	-		-	2.00-6.00	-	0.20-2.00	-	-	-	-
WS10	-	GL-0.10	0.10-0.90	0.90-1.10	1.10-4.15 4.40-5.00 5.80-6.00	-	-	4.15-4.40 5.00-5.80	-	-	-
CP01	-	GL-0.20	0.20-0.60	0.60-1.20	1.20-1.60 1.70-9.00	-	-	1.60-1.70 10.20-15.00	9.00-10.20	-	1.50 6.20
CP02	-	GL-0.30	0.30-1.30		2.00-10.00	-	1.30-2.00	10.50-13.50*	10.00-10.50	-	5.80
*Refusal											

5.2 Observable Indications of Contamination

During the ground investigation, variable Made Ground containing gravel of concrete, red brick and clinker were observed in the exploratory holes. Ash was also encountered within the Made Ground at location WS08. Rare glass and wire were encountered within the Made Ground at locations WS06 and WS10.

No olfactory signs of contamination were observed.

5.3 Obstructions

No man-made obstructions were encountered in the exploratory hole locations. However, cobbles of red brick were encountered in the hand pits at locations WS01, WS04, CP01 and CP02.

5.4 Groundwater

Groundwater was encountered in exploratory hole locations WS04, WS07, WS08, CP01 and CP02 at depths between 1.50m and 6.20m bgl.

Subsequent monitoring in the standpipes encountered groundwater at depths between 0.40m bgl (WS9) and 5.10m bgl (WS6).

5.5 Land Gas

Ground gas monitoring was undertaken using a Geotechnical Instruments G5000 Plus in accordance with the monitoring protocol outlined in CIRIA C665.

Results obtained during the initial monitoring visit on 8th February 2022 indicated Methane (CH₄) levels ranging from 0.0% to 4.2% by volume, Carbon Dioxide (CO₂) levels ranging from 0.3% to 18.9% by volume, and Oxygen (O₂) levels ranging from 4.5% to 21.7% by volume. A peak gas flow of 1.9l/hr was recorded, together with atmospheric pressure of 999mb.

Results obtained during subsequent monitoring visits between the 17th and 30th March 2022 indicated Methane levels ranging from 0.0% to 0.1% by volume, Carbon Dioxide levels ranging from 0.0% to 7.0% by volume, and Oxygen levels ranging from 10.0% to 21.9% by volume. A peak gas flow of 0.0l/hr was recorded, together with atmospheric pressure of 1008mb.

It should be noted that the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore be representative of the conditions only at the time of sampling.

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 the laboratory geotechnical testing are summarised in Table 6, below.

Table 6: Summary of Laboratory Geotechnical Test Results

Location	Depth (m)	Strata	CLASSIFICATION					STRENGTH	CHEMICAL	
			Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Modified Plasticity Index (%)		pH Value	Water Soluble Sulphate SO ₄ (mg/l)
WS01	2.70	CLAY	23	35	14	21	21	-	6.9	180
WS01	3.60-4.00	CLAY	14	-	-	-	-	54	-	-
WS01	4.80	CLAY	17	38	14	24	24	-	7.0	150
WS01	5.60-6.00	CLAY	18	-	-	-	-	204	-	-
WS02	2.80	CLAY	24	36	13	23	23	-	7.0	170
WS02	3.70	CLAY	21	37	16	21	20	-	7.0	130
CP101	1.50-1.95	CLAY	20	36	17	19	19	-	7.0	111
CP101	3.00-3.45	CLAY	15	37	13	24	24	-	7.1	140
CP101	4.50-4.95	CLAY	19	-	-	-	-	71-76	-	-
CP102	4.50-4.95	CLAY	11	35	13	22	22	-	6.9	100
CP102	6.00-6.45	CLAY	18	-	-	-	-	81-89	-	-
CP102	7.50-7.95	CLAY	15	36	13	23	23	-	6.9	90
CP102	9.00-9.45	CLAY	15	-	-	-	-	106-117	-	-

6.2 Made Ground

Made Ground was encountered in all exploratory hole locations between ground level and a maximum depth of 1.30m below ground level (WS05 and CP02) and varied between exploratory hole locations.

SPT tests carried out in the Made Ground resulted in **SPT N values** of between 3 and 10, as shown on the SPT v Depth Plot, in Figure 8 (overleaf).

Made Ground is not typically considered to be a suitable founding material, and as such, no further geotechnical testing was carried out on the material.

6.3 Superficial Deposits

As discussed in Section 5, superficial soils were encountered across the site predominantly as Peat Deposits and Devensian Till Deposits (Boulder Clay).

6.3.1 PEAT

Peat was encountered in WS01, WS02, WS06-WS09 and CP02 beneath the Made Ground or clay at depths between 0.20m and 5.00m below ground level.

SPT tests carried out in the peat resulted in **SPT N values** of between 3 and 8, as shown on the SPT v Depth Plot, in Figure 8 (overleaf).

Peat is not typically considered to be a suitable founding material, and as such, no further geotechnical testing was carried out on the material.

6.3.2 CLAY

Clay was encountered in all exploratory hole locations beneath the Made Ground at depths between 0.55m and 10.00m below ground level.

The **water-soluble sulphate** content of eight clay samples ranged from 90mg/l to 180mg/l SO₄, with a **pH value** of between 6.9 and 7.1.

SPT tests carried out in the clay resulted in **SPT N values** of between 3 and 28, as shown on the SPT v Depth Plot, in Figure 8 (overleaf). The results suggest the clay is very soft to stiff.

The **undrained shear strength** in triaxial compression (U100) was carried out on five samples of the clay. Results of the test showed shear strength values in the range 54kN/m² to 117kN/m² at depths of between 3.6m and 9.45m, suggesting the clay tested is medium to high strength.

In-situ **hand penetrometer** (HP) tests were carried out on the recovered soils, the results of which generally ranged between 12kPa (kN/m²) to 215kPa, suggesting the clay tested is very low to very high strength.

For design purposes, the more conservative SPT N values were used, as the gravel content of the clay can affect the hand penetrometer readings. Recommended N values and derived design values for cohesive soils are summarised in Table 7, below.

Table 7: Summary of Design Parameters (Clay)

Depth	SPT N Value Range	Average N Value	Design N Value*	Measured Undrained Triaxial Shear Strength (kN/m ²)	Equivalent Shear Strength** (kN/m ²)	Coefficient of Volume Compressibility** (mv)
1.2	5-9	7	7	-	36 (Low Strength)	0.28
2.0	3-17	10	9	-	46 (Medium Strength)	0.22
3.0-4.0	9-28	15	9	54	46 (Medium Strength)	0.22
4.0-4.95	14-24	19	17	71-76	87 (High Strength)	0.12
5.0-6.0	15-25	21	19	204	38 (Low Strength)	0.10
6.0-6.45	13-24	20	18	81-89	89 (High Strength)	0.11
7.5	17-18	18	17	-	88 (High Strength)	0.12
*Based on lower quartile N value and correlations by Peck Hanson and Thornburn (1974)						
**Based on correlation by Stroud & Butler (1975)						

Figure 8 SPT v Depth Plot (Clay)

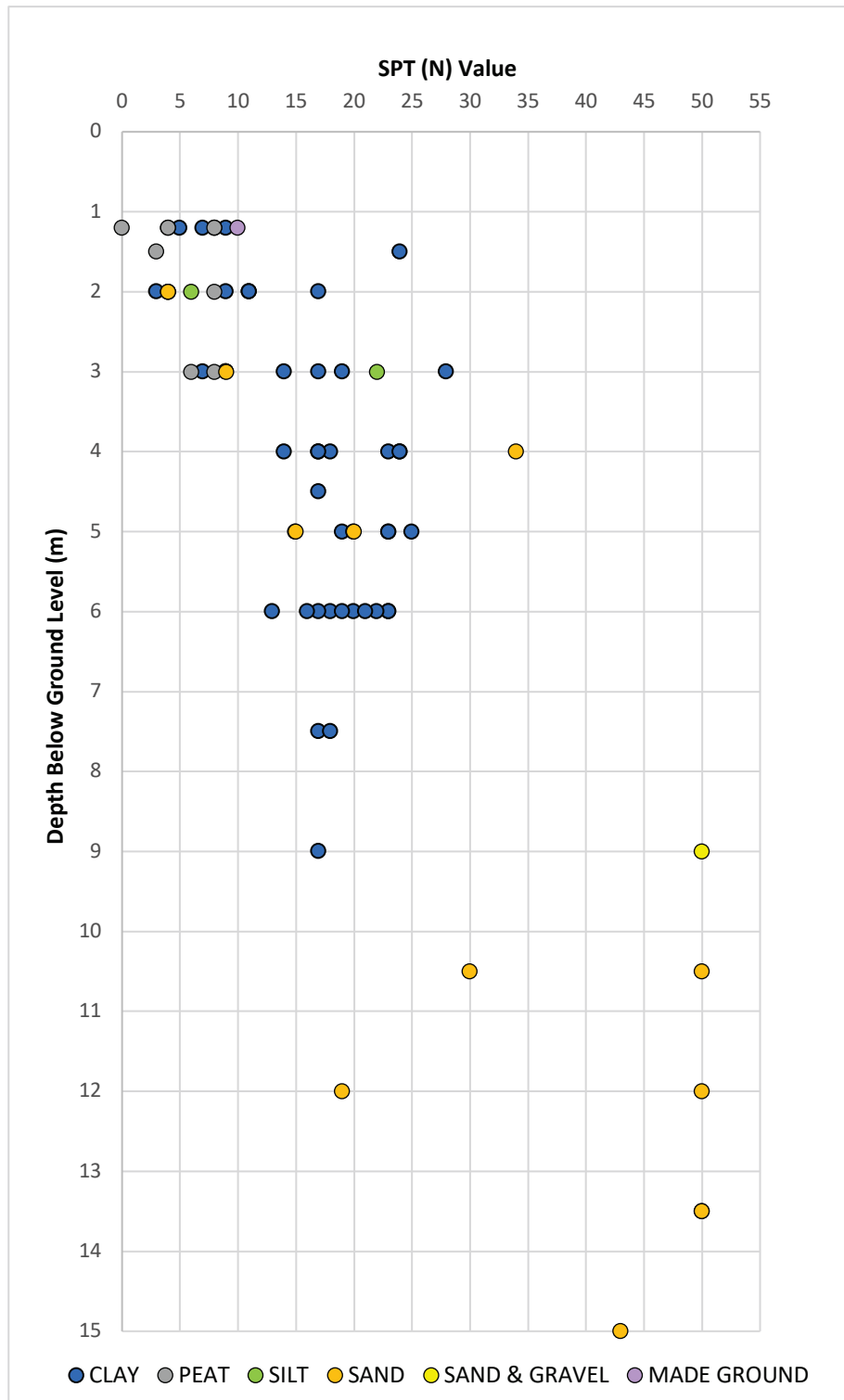
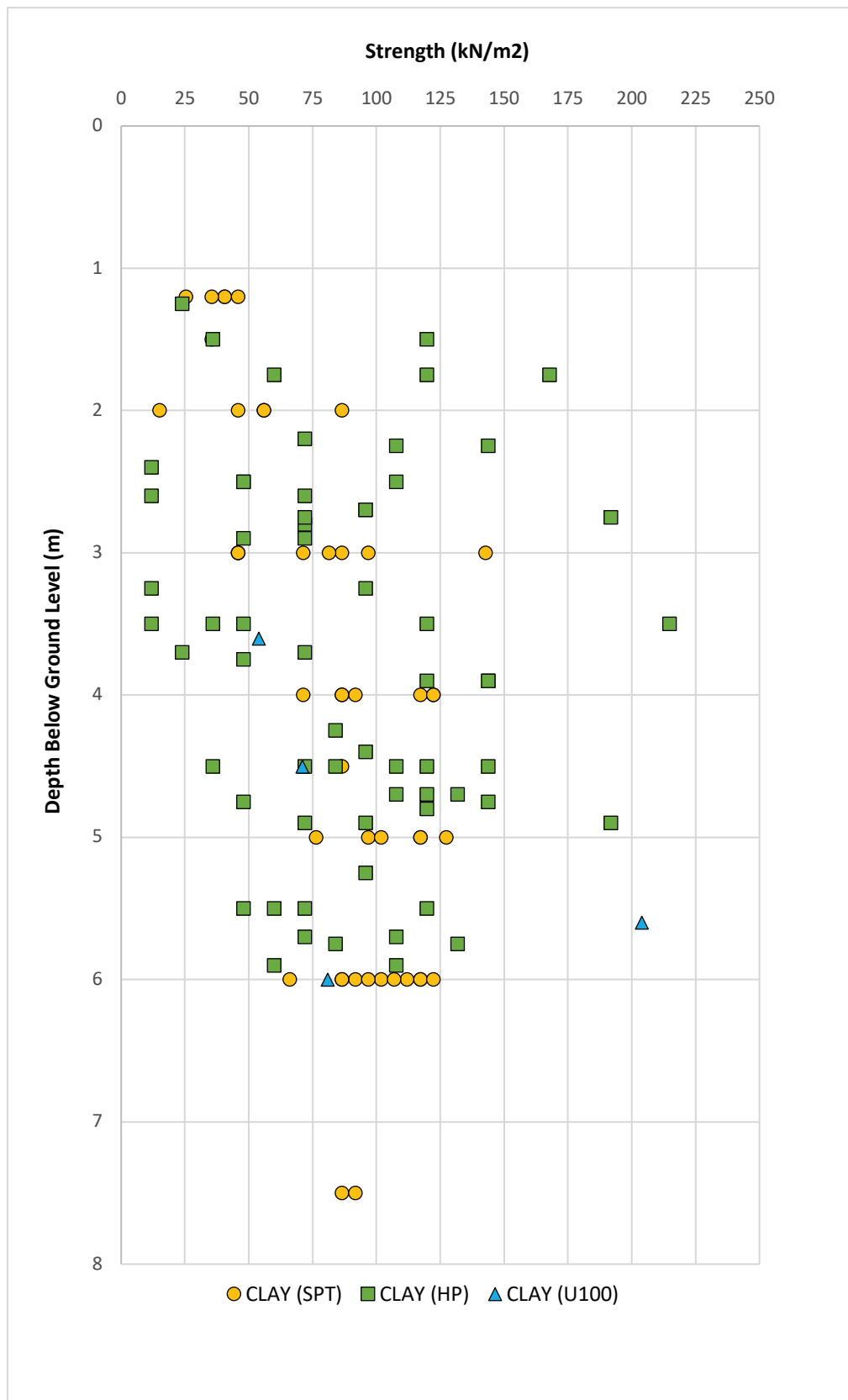


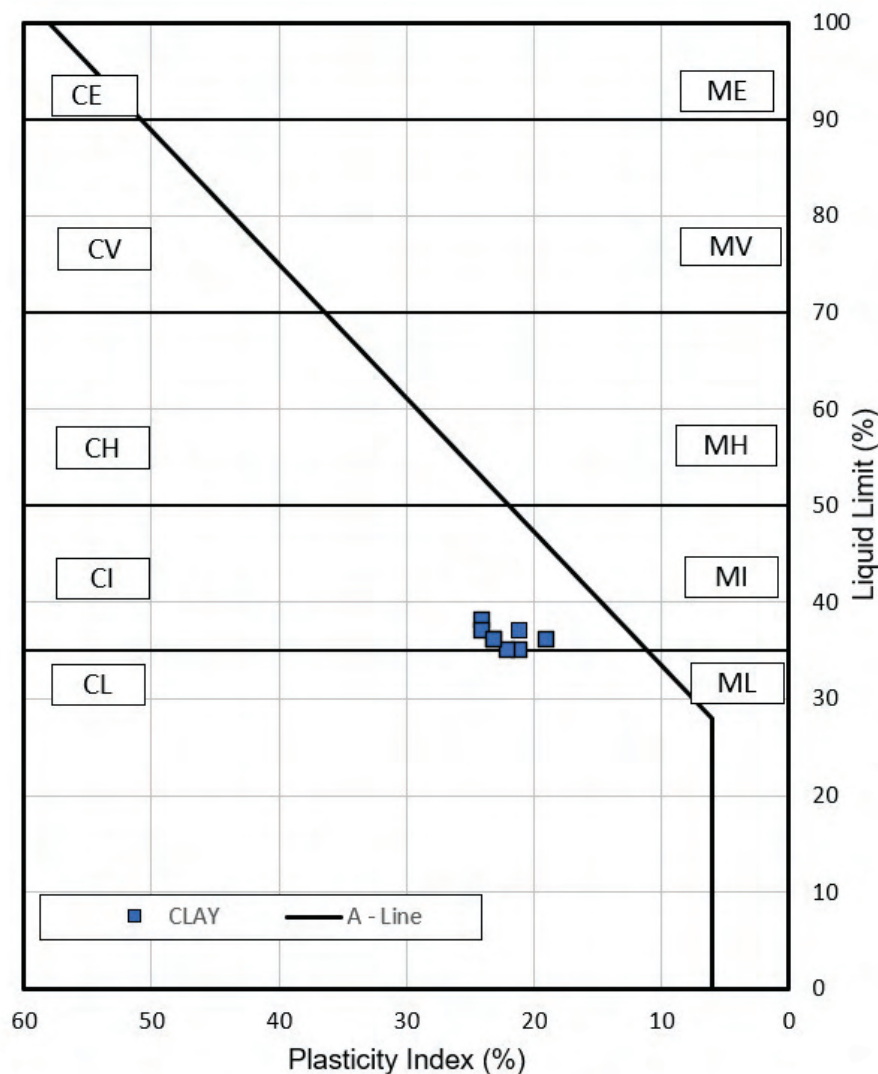
Figure 9 Strength v Depth Plot (Clay)



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 Table 7, the equivalent **shear strength** values are in the range of 36kN/m² to 89kN/m² suggesting the clay is low to high strength.

Atterberg Limit tests were carried out on eight samples of the clay. Results of the test reported **liquid limit** values in the range of 35% to 38% and **plastic limit** values in the range of 13% to 17%, resulting in values of **plasticity index** in the range of 19% to 24%. These results suggest the clay to be **low to intermediate plasticity**. Results are shown on the Plasticity Chart in Figure 10, below.

Figure 10 Plasticity Chart



For design purposes, a value of plasticity index = 23% is recommended, based on the upper quartile value 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 23%, $mv = 1 / (0.51 \times N \text{ value})$. This correlation gives values of coefficient of volume compressibility in the range of

0.10m²/MN to 0.22m²/MN as shown in Table 7. The results suggest the clay has a **low to medium 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:

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

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 **low to 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 8, below.

Table 8: Soil Desiccation Indicators in the Clay

Location	Depth (m)	Liquid Limit (%)	40% Liquid Limit (%)	Natural Moisture Content (%)	Desiccation
WS01	2.70	35	14	23	No
WS01	4.80	38	15	17	No
WS02	2.80	36	14	24	No
WS02	3.70	37	15	21	No
CP101	1.50-1.95	36	14	20	No
CP101	3.00-3.45	37	15	15	No
CP102	4.50-4.95	35	14	11	Yes
CP102	7.50-7.95	36	14	15	No

The results in the above table show one clay sample collected between 4.50-4.95m bgl showed evidence of desiccation.

6.3.3 SILT

Silt was encountered in exploratory hole locations WS02 and WS03 beneath the peat, clay and sand at depths between 1.70m and 4.60m below ground level.

SPT tests carried out in the silt resulted in **SPT N values** of between 6 and 22, as shown on the SPT v Depth Plot, in Figure 8 (above). The results suggest the silt is soft to stiff.

6.3.4 SAND

Sand was encountered in exploratory hole locations WS01, WS03, WS04, WS06, WS10, CP01 and CP02, below the clay and peat at depths between 1.30 and 15.00m below ground level.

SPT tests carried out in the sand resulted in **SPT N values** of between 4 and 50, as shown on the SPT v Depth Plot, in Figure 8 (above). The results suggest the sand is very loose to very dense.

Recommended N values and derived design values for the granular soils are summarised in Table 9, below.

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 correlation by Peck, Hanson and Thornburn⁽¹⁹⁷⁴⁾, this gives an **angle of shearing resistance** of $\phi=27.9$ at 2.0m bgl.

Table 9: Summary of Design Parameters (Sand)

Depth	SPT N Value Range	Average N Value	Design N Value*	Equivalent Soil Density	Angle of Internal Friction (degrees°)**
2.0	4	4	4	Very loose to loose	27.9
3.0	9	9	9	Loose	29.6
4.0	34	34	34	Dense	37.1
5.0	15	15	15	Medium dense	31.6
10.5	30-50	40	35	Dense	37.4
12.0	19-50	35	27	Medium dense	35.2
13.5	50	50	50	Very dense	35.2
15.0	43	43	43	Dense	39.4
*Based on lower quartile N value					
**Based on the correlation by Peck, Hanson and Thornburn ⁽¹⁹⁷⁴⁾					

For assessing settlements average ground conditions will give a more realistic value of settlements, and the Average of N values should be used.

6.3.5 SAND & GRAVEL

Sand & gravel was encountered in exploratory hole locations CP01 and CP02, directly below the clay at depths between 9.00 and 10.50m below ground level.

SPT tests carried out in the sand & gravel resulted in a **SPT N value** of 50, as shown on the SPT v Depth Plot, in Figure 8 (above). The results suggest the sand & gravel is very dense.

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 correlation by Peck, Hanson and Thornburn⁽¹⁹⁷⁴⁾, this gives an **angle of shearing resistance** of $\phi=41$ at 9.0m bgl.

7.0 GEOTECHNICAL ASSESSMENT

7.1 Proposed Development

It is understood that the Client intends to erect a food store with associated vehicle parking facilities. The store will cover a total area of 1974m² and there will be 119 parking spaces. Access will be provided via Victoria Avenue East.

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

7.2 Ground Conditions Encountered

The exploratory holes generally encountered Made Ground to a maximum depth of 1.30m bgl (WS05 and CP02).

Underlying the Made Ground in all exploratory hole locations was superficial deposits of Devensian Till comprising low to high strength CLAY at depths between 0.55m and 10.0m bgl.

Deposits of PEAT were encountered in most exploratory hole locations at depths between 0.20m and 5.00m bgl. Loose to very dense SAND was also encountered between 1.30m bgl and 15.00m bgl.

Small horizons of SILT were encountered in WS02 and WS03 at depths between 1.70m and 4.60m bgl. SAND & GRAVEL was also encountered in CP01 and CP02 at depths between 9.00m and 10.50m bgl.

Groundwater was encountered in exploratory hole locations WS04, WS07, WS08, CP01 and CP02 at depths between 1.50m and 6.20m bgl. Subsequent monitoring in the standpipes encountered groundwater at depths between 0.40m bgl (WS9) and 5.10m bgl (WS6).

7.3 Foundation Considerations

Based on the ground conditions encountered, conventional shallow strip/pad foundations are not considered suitable for the proposed development. The main consideration is the significant thickness of Peat encountered across the site (up to 2.50m thickness in places). Low strength cohesive soils were also encountered at shallow foundation depths.

Therefore, alternative methods such as pile foundations are considered more suitable for the development. Pile foundations are discussed below in section 7.3.1.

7.3.1 Piled Foundations

The proposed building may be founded on piles taken down to depth to a suitable founding stratum such as the high strength clay or very dense sand & gravel encountered beneath.

A variety of pile types may be used, including bored and continuous flight auger (CFA) piles. Driven piles may be suitable, subject to environmental constraints. Friction piles would be the best choice and the pile length can be increased so as to bring settlement within limit.

Because of the various advantages and limitations of each pile type, and the cost implications, advice should be sought from specialist piling contractors to determine the most suitable and

cost-effective type. They should also be able to give recommended pile diameters and depths and likely pile capacities, with guaranteed performance. It is recommended a pile test be carried out to confirm pile capacities. In assessing the pile capacities, contractors should make an allowance for the effects of negative skin friction, particularly in the made ground and clays.

There may be differential settlement between piled structures and the surrounding ground level. Provision should, therefore, be made to make up ground levels at threshold positions. Alternatively, these materials should be removed and replaced in a controlled manner by suitable existing materials or imported engineered fill.

Careful consideration should be given to piling directly above any services. Service plans show buried water, gas and electricity services across areas of the site. An aqueduct is present beneath the site in close proximity to the proposed building footprint.

It is essential the advice of a specialist piling contractor is sought and that positive assurances are provided by the piling contractor that their proprietary system is capable of providing the required working loads in the ground conditions encountered.

7.4 Pavement Design

The ground investigation identified the soil type at subgrade level to typically be Made Ground or peat 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 is encountered at subgrade level.

If pavement design is altered so that the subgrade comprises Natural Strata (typically at depths in the region of 1.20m bgl), 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. Table 10 below 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 10: 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 Appendix 3) showed low concentrations of water-soluble sulphates and near 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.

Any cohesive Made Ground is unlikely to be suitable as structural fill and should be used for landscaping purposes only, providing it is not contaminated.

Granular Made Ground 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 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 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 11: 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	5.7-6.6	A-B
pH (alkaline)	7 - 8	8 - 9	9 - 10	10 - 12	12	7.1-10.2	A-D
Arsenic	0 - 30	30 - 50	50 - 100	100 - 500	500	< 2-46	A-B
Cadmium	0 - 1	1 - 3	3 - 10	10 - 50	50	< 0.2-0.7	A
Chromium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	< 2-54	A
Copper	0 - 100	100 - 200	200 - 500	500 - 2500	2500	< 4-136	A-B
Lead	0 - 500	500 - 1000	1000 - 2000	2000 - 1%	1.0%	< 5-558	A-B
Mercury	0 - 1	1 - 3	3 - 10	10 - 50	50	<1-1.3	A-B
Nickel	0 - 20	20 - 50	50 - 200	200 - 1000	1000	< 3-59	A-C
Zinc	0 - 250	250 - 500	500 - 1000	1000 - 5000	5000	20-144	A
Boron	0 - 2	2 - 5	5 - 50	50 - 250	250	< 1-1.6	A
Selenium	0 - 1	1 - 3	3 - 10	10 - 50	50	< 3	A
Barium	0 - 500	500 - 1000	1000 - 2000	2000 - 1.0%	1.0%	73-389	A
Beryllium	0 - 5	5 - 10	10 - 20	20 - 50	50	< 0.5-4.8	A
Vanadium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	1-90	A
Sulphate	0 - 2000	2000 - 5000	5000 - 1%	1% - 5%	5.05%	<200-6114	A-C
Sulphide	0 - 10	10 - 20	20 - 100	100 - 500	500	< 5-7	A
Cyanide (free)	0 - 1	1 - 5	5 - 50	50 - 100	100	< 2-17	A-C
Phenol	0 - 2	2 - 5	5 - 50	50 - 250	250	< 2	A

Based on the above results the soils concentrations range from uncontaminated to heavy contamination values. Therefore, there is a **MODERATE to 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 arising will be required to 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 commercial 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 commercial land use 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 LEEG 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.

The soil chemical testing results are summarised in Table 12, overleaf.

Table 12: Soil Results Comparison with C4SL/S4UL Values

Determinand	C4SL/S4UL Levels (mg/kg)	WS01 0.35m MG	WS01 0.50m MG	WS02 0.30m MG	WS02 1.20m MG	WS03 0.70m MG	WS04 0.60m MG	WS05 0.55m MG	WS06 1.10m MG	WS07 0.45m MG	WS07 2.20 MG	WS08 0.40m MG	WS09 1.30m PEAT	WS10 0.80m MG	No of Exceedances
Metals															
Arsenic	640	< 2	6	< 2	< 2	13	13	11	15	46	4	27	11	< 2	0
Beryllium	12	< 0.5	< 0.5	< 0.5	< 0.5	0.7	0.6	0.6	0.8	4.8	1.2	1.4	0.8	< 0.5	0
Boron	240000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.5	< 1	1.6	< 1	0
Cadmium	410	0.7	0.4	0.4	< 0.2	0.3	0.7	0.3	< 0.2	< 0.2	< 0.2	0.4	< 0.2	< 0.2	0
Chromium	8600	< 2	11	6	12	20	46	15	21	24	54	18	42	9	0
Chromium VI	49	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Copper	68000	< 4	25	5	58	35	41	36	33	136	42	79	48	5	0
Lead	2300	5	94	8	12	64	104	135	558	116	18	70	31	16	0
Mercury	1100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	1.3	< 1	< 1	< 1	< 1	< 1	0
Nickel	980	< 3	7	6	13	19	38	13	13	59	37	25	32	10	0
Selenium	12000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0
Vanadium	9000	1	17	14	12	28	21	28	30	90	18	60	29	10	0
Zinc	730000	71	144	20	31	93	105	162	64	91	32	89	41	30	0
Petroleum Hydrocarbons															
Benzene	27	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Toluene	56000	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0
Ethylbenzene	5700	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
o-xylenes	6600	< 0.002	0.006	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
m-xylenes	62000	< 0.002	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
p-xylenes	5900	< 0.002	0.008	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0
Aliphatic EC >5-6	3200	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aliphatic EC >6-8	7800	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aliphatic EC >8-10	2000	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >10-12	9700	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Aliphatic EC >12-16	59000	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >16-21	1600000	< 3	< 3	< 3	< 3	3	4	< 3	< 3	< 3	< 3	< 3	< 3	< 3	0
Aliphatic EC >21-35	1600000	< 10	< 10	274	< 10	16	94	< 10	< 10	< 10	< 10	< 10	< 10	15	0
Aromatic EC >5-7	26000	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Aromatic EC >7-8	56000	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	0
Aromatic EC >8-10	3500	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >10-12	16000	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >12-16	26000	< 2	9	< 2	< 2	< 2	7	< 2	< 2	< 2	< 2	< 2	< 2	< 2	0
Aromatic EC >16-21	28000	< 3	23	< 3	< 3	7	38	10	< 3	< 3	< 3	4	< 3	< 3	0
Aromatic EC >21-35	28000	< 10	26	427	< 10	22	212	19	< 10	< 10	< 10	< 10	< 10	< 10	0

Polycyclic Aromatic Hydrocarbons																
Naphthalene	190	<0.1	1.66	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.41	0.28	<0.1	<0.1	<0.1	<0.1
Acenaphthylene	83000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0
Acenaphthene	84000	<0.1	0.61	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.68	0.22	<0.1	<0.1	<0.1	0
Fluorene	63000	<0.1	1.07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.5	0.14	<0.1	<0.1	<0.1	0
Phenanthrene	22000	<0.1	4.69	<0.1	0.11	<0.1	<0.1	0.8	<0.1	<0.1	4.63	1.57	<0.1	0.19	<0.1	0
Anthracene	520000	<0.1	1.17	<0.1	<0.1	<0.1	<0.1	0.17	<0.1	<0.1	0.97	0.31	<0.1	<0.1	<0.1	0
Fluoranthene	23000	<0.1	4.12	<0.1	<0.1	0.2	1.21	1.14	<0.1	<0.1	5.52	1.83	<0.1	0.58	<0.1	0
Pyrene	54000	<0.1	4.31	<0.1	<0.1	<0.1	<0.1	1.14	<0.1	<0.1	4.9	1.52	<0.1	0.54	<0.1	0
Benzo(a)anthracene	170	<0.1	1.45	<0.1	<0.1	<0.1	<0.1	0.47	<0.1	<0.1	2.28	0.63	<0.1	0.28	<0.1	0
Chrysene	350	<0.1	1.94	<0.1	<0.1	<0.1	<0.1	0.58	<0.1	<0.1	2.42	0.73	<0.1	0.35	<0.1	0
Benzo(a)pyrene	76	<0.1	1.27	<0.1	<0.1	<0.1	<0.1	0.44	<0.1	<0.1	2.22	0.54	<0.1	0.32	<0.1	0
Benzo(b)fluoranthene	44	<0.1	1.52	<0.1	<0.1	<0.1	<0.1	0.57	<0.1	<0.1	2.56	0.73	<0.1	0.44	<0.1	0
Benzo(k)fluoranthene	1200	<0.1	0.7	<0.1	<0.1	<0.1	<0.1	0.15	<0.1	<0.1	0.82	0.2	<0.1	0.15	<0.1	0
Indeno(1,2,3-cd)pyrene	500	<0.1	0.66	<0.1	<0.1	<0.1	<0.1	0.24	<0.1	<0.1	0.95	0.27	<0.1	0.2	<0.1	0
Dibenzo(a,h)anthracene	3.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.29	<0.1	<0.1	<0.1	<0.1	0
Benzo(ghi)perylene	3900	<0.1	0.64	<0.1	<0.1	<0.1	<0.1	0.24	<0.1	<0.1	0.96	0.28	<0.1	0.19	<0.1	0
Phenols																
Phenol	760	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	0
MG = Made Ground																

Based on the results shown in Table 12 above, no soil samples tested contained concentrations of contaminants in exceedance of the screening criteria relevant to a Commercial End Use.

Asbestos was however identified in one sample, the details of which are summarised in Table 13, below.

Table 13: Summary of Asbestos Encountered

Location	Depth	Sample Matrix	Asbestos Type	Asbestos Quantification
WS05	0.55m	Fibre bundles	Chrysotile	0.001

However, 2no. soil samples have elevated levels of **Total Petroleum Hydrocarbons (TPH)** in the range of 355mg/kg to 701mg/kg.

Hydrocarbons tend to be a mixture of various organic compounds and are characterised by the length of their carbon chain, the 'C' value. For the purposes of this report, a speciated TPH analysis has been carried out using the GC-FID method. This method allows the characterisation of different 'C' values within each soil sample. Typical 'C' values are summarised as follows:

<u>Analytical Request</u>	<u>Carbon Range</u>	<u>Products</u>
Petroleum/gasoline range organics	C ₅ - C ₁₀	Petrol
Diesel range organics	C ₁₀ - ca. C ₂₀	Diesel, paraffin, and heating oils
Mineral range organics	ca. C ₂₀ - C ₄₀	Lubricating oil, higher boiling fuel oils

Based on the laboratory results, the TPH encountered would appear to be predominantly in the C20-C40 range suggesting the elevated hydrocarbons are likely to be due to the presence of lubricating oils and fuel oils (C20-C40).

8.3 Soil Waste Assessment

An assessment of the disposal characteristics of the soil in accordance with Environment Agency 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 5.

Table 14: Waste Classification of Soils

Location	Depth (m bgl)	WM3.1 Classification	WAC Testing
WS01	0.35	Non-Hazardous	Inert
WS01	0.50	Non-Hazardous	-
WS02	0.30	Non-Hazardous	Stable Non-Reactive Hazardous
WS02	1.20	Non-Hazardous	-
WS03	0.70	Non-Hazardous	-
WS04	0.60	Non-Hazardous	-
WS05	0.55	Non-Hazardous	Inert
WS06	1.10	Non-Hazardous	-
WS07	0.45	Non-Hazardous	-
WS07	2.20	Non-Hazardous	-
WS08	0.40	Non-Hazardous	Exceeds Hazardous
WS09	1.30	Non-Hazardous	-
WS10	0.80	Non-Hazardous	Inert

Table 14 above shows the 13no. soil samples collected from WS01 to WS10 were classified as Non-Hazardous in accordance with WM3.1.

For Waste Acceptance Criteria (WAC) testing, EEGL have compared solid waste and leachate values with guideline values in Landfill Regulations. The following table summarises the results of the solid waste analysis and leachate testing, together with limit values for Non-Hazardous waste and Hazardous waste as described in the Landfill Regulations.

Table 15: Summary of WAC Test Results

Determinand	Landfill Regulations Limits (mg/kg unless otherwise indicated)			WS01 0.35m (mg/kg)	WS02 0.30m (mg/kg)	WS05 0.55m (mg/kg)	WS08 0.40m (mg/kg)	WS10 0.80m (mg/kg)
	Inert Waste	Stable Non-Reactive non-hazardous waste	Hazardous Waste					
TOC (%)	3%	5%	6%	2.9	4	3	13.5	0.4
Loss on ignition (%)	-	-	10%	0.36	4.40	5.50	19.10	1.70
BTEX (mg/kg)	6	-	-	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sum of PCBs (mg/kg)	1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mineral Oil (mg/kg)	500	-	-	< 10	436	< 10	< 10	17
Total PAH (mg/kg)	100	-	-	< 1.7	< 1.7	9.5	2.9	< 1.7
pH (units)	-	>6	-	8.6	8.4	8.3	7.1	8.1
Acid Neutralisation Capacity (mol/kg)	-	To be evaluated		6.3	1.6	1.1	< 1	< 1
Arsenic	0.5	2	25	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Barium	20	100	300	0.8	< 0.2	0.2	0.2	< 0.2
Cadmium	0.04	1	5	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Chromium	0.5	10	70	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Copper	2	50	100	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Mercury	0.01	0.2	2	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Molybdenum	0.5	10	30	< 0.01	0.02	0.02	0.02	0.01
Nickel	0.4	10	40	< 0.07	< 0.07	< 0.07	< 0.07	< 0.07
Lead	0.5	10	50	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Antimony	0.06	0.7	5	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Selenium	0.1	0.5	7	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Zinc	4	50	200	0.11	0.05	< 0.05	0.08	< 0.05
Chloride	800	15000	25000	30	30	39	25	15
Fluoride	10	150	500	< 5	< 5	< 5	< 5	< 5
Sulphate	1000	20000	50000	15	20	63	25	13
Total Dissolved Solids	4000	60000	100000	610	510	680	580	470
Phenol Index	1	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
DOC	500	800	1000	85.3	141	205	162	89.3

The results summarised in Table 15, above show that the soil sample retrieved from WS02 at 0.30m bgl had concentrations of contaminants above the recommended level for Inert Waste. The elevated contaminant was Total Organic Carbon (TOC). Therefore, the soils from this area of the site will be accepted at a **Stable Non-Reactive Hazardous Waste Facility**.

The soil sample retrieved from WS08 at 0.40m bgl had concentrations of contaminants above the recommended level for **Hazardous Waste**. The elevated contaminants were Total Organic Carbon (TOC) and Loss on Ignition. It should be noted that clinker and ash were observed in these samples.

The remaining 3no. samples had concentrations of contaminants within the recommended levels for Inert Waste.

Asbestos can affect the waste classification of soil, if the concentration is greater than 0.1%, the soil will automatically be classified as Hazardous waste. The asbestos concentration in WS05 at 0.55m was 0.001% therefore the soils are still classified as Inert Waste.

9.0 GROUNDWATER CONTAMINATION RISK ASSESSMENT

In the absence of specific UK guidelines regarding groundwater quality in the UK, chemical results obtained by EEG have been compared with the following statutory and non-statutory standards:

- Environmental Quality Standards (EQS); and
- UK Drinking Water standards ⁽²⁰⁰⁰⁾.

EQS values have been derived to protect surface water. For the purposes of this report, it is considered the most appropriate EQS data are those established for freshwater. Many of the EQS values lie just above the method detection limit for parameters and as such, are extremely conservative.

In the absence of EQS values, Drinking Water Standards have been used for comparison of results. Again, these standards are highly conservative, especially in this site context.

It should be noted, there are no surface water features identified within 250m of the site and there are no groundwater abstraction licenses within 2km of the site.

Groundwater samples were retrieved from four monitoring wells installed in window sample boreholes WS02, WS06, WS08 and WS10. No groundwater could be obtained from the remaining boreholes due to low water levels.

A direct comparison was made between the groundwater analyses results and the EQS and Drinking Water Standards, and the results are summarised in Table 16, overleaf.

In general, the laboratory analyses encountered levels of contamination more than the EQS and Drinking Water Standards in a total of 3no. samples, as summarised below.

- WS6 has slightly elevated levels of **lead** (27µg/l) above the associated recommended EQS and DWQ values. Also, **Zinc** (26µg/l) above the associated recommended EQS value.
- WS8 has slightly elevated levels of **copper** (21µg/l) and **lead** (28µg/l) above the associated recommended EQS and DWQ values. Also, **Zinc** (122µg/l) above the associated recommended EQS value and **TPH Aromatic C16-C21** (103µg/l) above the WHO value.
- WS9 has slightly elevated levels of **lead** (21µg/l) above the associated recommended EQS and DWQ values. Also, **Zinc** (28µg/l) above the associated recommended EQS value.

However, these groundwater contaminants were not elevated in the Made Ground soils located on site. Given these guidelines are particularly stringent, it is considered, based on the type of proposed development and end use, these levels are considered acceptable and low risk.

The results also show WS8 to have significantly elevated level of **Extractable Petroleum Hydrocarbons** (EPH) = 848µg/l.

There are methods of remediation for hydrocarbons in groundwater including, removal of source (i.e., removal of hydrocarbon affected soils) and bio-remediation. However, based on the

type of end development it is considered remediation of the groundwater will not be required, particularly due to the absence of nearby surface water features and groundwater abstractions.

Table 16 Groundwater and Surface Water Results Comparisons with EQS/Drinking Water Quality Values

Determinand	EQS Value (1)	Drinking Water Quality (DWQ) Value (2)	WS02	WS06	WS08	WS09	No. of Exceedances
Arsenic	50	10	< 5	7	6	< 5	0
Cadmium	0.9	5	< 0.4	< 0.4	0.5	< 0.4	0
Chromium	4.7	50	< 5	< 5	< 5	< 5	0
Copper	10	2000	< 5	< 5	21	7	1 (1)
Lead	1.2 - 14	10	< 5	27	28	21	3 (1) + (2)
Inorganic Mercury	0.07	1	< 0.05	< 0.05	< 0.05	< 0.05	0
Selenium	-	10	< 5	< 5	< 5	< 5	0
Nickel	4-34	20	< 5	8	7	9	0
Zinc	10.9	-	8	26	122	28	3 (1)
Total Cyanide	1 - 5	50	< 5	< 5	< 5	< 5	0
Phenol	7.7 - 46	-	< 10	< 10	< 10	< 10	0
Sulphate	400000	250000	9	13	3	< 1	0
pH	6 - 9	-	6.8	7	6.7	6.4	0
Naphthalene	2 - 130	-	0.06	0.05	0.07	0.07	0
Anthracene	0.1	-	< 0.01	< 0.01	< 0.01	< 0.01	0
Benzo(a)pyrene	0.27	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0
Benzo(b)fluoranthene	0.017	-	< 0.01	< 0.01	< 0.01	< 0.01	0
Benzo(k)fluoranthene	0.017	-	< 0.01	< 0.01	< 0.01	< 0.01	0
Indeno(123cd) pyrene	-	0.10	< 0.01	< 0.01	< 0.01	< 0.01	0
Fluoranthene	0.0063 - 0.12	-	< 0.01	< 0.01	< 0.01	< 0.01	0
Benzene	10 - 50	1	< 1	< 1	< 1	< 1	0
Toluene	74 - 380	-	< 5	< 5	< 5	< 5	0
Ethylbenzene	-	300 (WHO)	< 5	< 5	< 5	< 5	0
Xylenes	30	-	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Aro C6-C8	-	10 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Aro C8-C10	-	700 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Aro C10-C12	-	300 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Aro C12-C16	-	90 (WHO)	< 10	14	60	< 10	0
Total Petroleum Hydrocarbons Aro C16-C21	-	90 (WHO)	< 10	25	103	< 10	1 (WHO)
Total Petroleum Hydrocarbons Aro C21-C35	-	90 (WHO)	< 10	< 10	28	< 10	0
Total Petroleum Hydrocarbons Ali C6-C8	-	15000 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Ali C8-C10	-	15000 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Ali C10-C12	-	300 (WHO)	< 10	< 10	< 10	< 10	0
Total Petroleum Hydrocarbons Ali C12-C16	-	300 (WHO)	< 10	< 10	64	< 10	0

*All values in µg/l unless otherwise stated, WHO=World Health Organization guide values.
Values in red are elevated above the recommended guidance value.

10.0 GROUND GAS AND RADON GAS CONTAMINATION RISK ASSESSMENT

10.1 Radon Gas

The site is not located within a Radon Affected Area as defined by the Health Protection Agency, as less than 1% of properties are above the Action Level of exposure and therefore radon protection measures are not necessary.

10.2 Analyses of Monitoring Results

The potential risk associated with gases being generated in the ground (whether from natural or man-made sources) depends on the concentrations of gas and its flow rate to the surface. These factors are assessed by monitoring of the gas installations in the boreholes. The variable nature of gas generation and the effect of barometric pressure on gas flow, means that the volume of gas potentially reaching the ground surface is normally inconsistent over time.

A total of four gas monitoring visits have been completed by Earth Environmental & Geotechnical Ltd. The monitoring visits were carried out between the 8th February and 30th March 2022. The results recorded methane (CH₄) levels of between 0.0% to 4.2% v/v and carbon dioxide (CO₂) levels of between 0.0% to 18.9% v/v. Oxygen concentrations of between 4.5% and 21.9% v/v were also recorded.

With regard to flow rates, for the purposes of the ground gas risk assessment BS8485 2015+A1 2019 states that *'steady state flow rates, rather than brief peak values on opening, should be used in screening risk assessment if these are considered to be representative of the conceptual site model'*.

Low flow rates were locally recorded at the site, with a maximum peak flow rate of 1.9litres/hour recorded in WS10 on the first monitoring visit only. However, steady values are more representative of the ground gas regime at the site.

For our initial assessment purposes, we have adopted a steady flow rate of 0.1litres/hour (i.e., the limit of detection of the monitoring device). It should be noted the steady flow rate was recorded as 0.0litres/hour on most monitoring visits. Atmospheric pressure was recorded to be between 990mb and 1015mb.

Full results of the monitoring are presented in Appendix 2.

Table 17 overleaf, adapted from Table 1 of the technical paper Risk and Reliability in Gas Protection Design by Card et al. 2019, shows a summary of the current UK practice with respect to appropriate gas protection measures based upon a Gas Screening Value (GSV).

A GSV for the site has been obtained by multiplying the maximum concentration of gas by the steady flow rate of 0.1l/h adopted for assessment purposes.

- Carbon dioxide: steady flow rate = 0.1l/hr, max concentration = 18.9%
- Methane: steady flow rate = 0.1l/hr, max concentration = 4.2%.

Based on the above figures, the GSV is calculated as:

- **Carbon dioxide:** $GSV = 0.1 \times 18.9 / 100 = 0.0189 \text{ litres/hr}$
- **Methane:** $GSV = 0.1 \times 4.2 / 100 = 0.0042 \text{ litres/hr}$

Table 17: Characteristic Situation (Wilson et al 2006/2007 modified from Wilson and Card, 1999)

Characteristic Situation	Risk Classification	Gas Screening Value CH_4 or CO_2 (l/hr)	Additional Factors	Typical source of generation
1	Very Low	<0.07	Typically, < 1% methane Typically, < 5% carbon dioxide	Typical made ground
2	Low	<0.7	Borehole air flow rate to not exceed 70l/hr otherwise consider increase to Characteristic Situation 3	Typical made ground
3	Moderate	<3.5		Old landfill, inert waste, flooded mineworkings
4	Moderate to High	<15	Quantitative risk assessment	Mineworkings susceptible to flooding, completed landfill
5	High Risk	<70		Mineworking unflooded inactive with shallow workings near surface
6	Very High Risk	>70		Recent landfill site

The CIRIA guidance document notes that ‘...the GSV is a guideline value and not an absolute threshold’.

The above results suggest the site can be given a Characteristic Situation 2, i.e., ‘low risk’, in accordance with Table 18 above, as the methane concentration was >1% and the carbon dioxide concentration was >5%.

Protection Measures

Based on the foregoing preliminary assessment, ground gas protection measures are considered necessary at the site in accordance with BS8485:2015 + A1 2019. This should comprise a proprietary ground gas resistant membrane. The membrane should be installed to effectively prevent ground gases from entering the footprint of the proposed buildings. The membrane should be extended across wall cavities and any joints sealed (typically heat-welded) with appropriate overlapping. Any service penetrations should be appropriately sealed to the membrane.

In accordance with CIRIA C735, any gas protection membrane should be validated by a suitably qualified inspector. Any membrane installed without verification may be classified as not offering suitable protection to the proposed building.

Table 18 (below) extracted from BS8485:2015+A1:2019 (Code of Practice for the design of protective measures for methane and carbon-dioxide ground gases for new buildings) shows differing gas protection measures for different building types.

Table 18 Gas Protection Point Score Required (BS8485:2015 + A1 2019)

Characteristic Situation	Minimum gas protection score (points)			
	High Sensitivity		Medium	Low
	Type A building (private housing)	Type B building (multiple occupancy private or commercial)	Type C building (single occupancy commercial)	Type D building (large industrial)
1	0	0	0	0
2	3.5	3.5	2.5	1.5
3	4.5	4.0	3.0	2.5
4	6.5	5.5	4.5	3.5

The proposed development is for a Type C building (commercial), a medium sensitivity risk. The combined score for such a development must equal or exceed a **gas protection score of 2.5 for Characteristic Situation 2**.

The required 3.5 points must be achieved by installation of a suitable combination of measures. Reference should be made to BS8485:2015 + A1 2019 for details. These should include a combination of two or more of the following three types of protection measures, which should be used to achieve the required score:

- The structural barrier of the floor slab, or of the basement slab and walls if a basement is present;
- Ventilation measures; and
- Gas resistant membrane.

11.0 CONCLUSIONS & RECOMMENDATIONS

11.1 Soil Contamination

There is a moderate to 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.

The groundworks contractor must provide a soil management plan including methods of dealing with unanticipated soil contamination encountered during groundworks.

Based on the results of the chemical testing, no chemical exceedances were encountered when compared to the assessment criteria for a Commercial End Use. Therefore, the risk is considered low and remedial action should not be required at this site.

11.2 Asbestos

Asbestos was encountered in 1no. soil sample as bundles of chrysotile fibres which were quantified to be 0.001%.

Due to the low concentration, an asbestos management plan is not required for the site. However, the following rules should be adhered to within the vicinity of asbestos contamination:

- Site personnel have the risk communicated to them at the induction stage.
- Ensure personnel have suitable training and PPE.

11.3 Foundations

Conventional shallow strip/pad foundations are not considered suitable for the proposed development site due to the peat deposits and low strength cohesive soils encountered.

The proposed building may be founded on piles taken down to depth to a suitable founding stratum such as the high strength clays or dense sand and gravels encountered beneath.

11.4 Land Gas

Based on results of the gas monitoring, the site has been given a Characteristic Situation 2 and the risk of ground gas is low. Therefore, protection against the ingress of ground gas will be required at the site.

A remediation strategy is recommended which will outline the ground gas protection measures required.

Radon protection measures are not required at the site.

11.5 Soil Disposal

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

However, further Waste Acceptance Criteria (WAC) showed that WS08 at 0.40m contains concentrations of contaminants which exceed the level for Hazardous Waste. Sample WS02 at 0.30m will be accepted at a Stable Non-Reactive Hazardous Landfill site. The remaining samples will be accepted at an Inert Waste Facility.

11.6 Groundwater Contamination

Based on the results of the chemical testing, there were slight exceedances in copper, lead, zinc and TPH aromatic (C16-C21) in 4no. borehole locations.

Given these EQS and DWQ guidelines are particularly stringent, it is considered, based on the proposed commercial end use, these levels are considered acceptable and low risk.

There is an absence of nearby surface water features and groundwater abstractions and therefore remediation is not required.

11.7 Risk to Buried (Water) Services

It is considered that, due to the presence of elevated hydrocarbons, non-standard materials may be required 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).

11.8 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.

11.9 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

Borehole Log

Borehole No.

CP01

Sheet 1 of 1

Project Name: ALDI Moston

Project No.
A3469

Co-ords: 388181.00 - 403390.00

Hole Type
CP

Location: Moston

Level: 0.00

Scale
1:85

Client: ALDI Stores UK

Dates: 05/01/2022 - 05/01/2022

Logged By
DS

[illegible]

Remarks

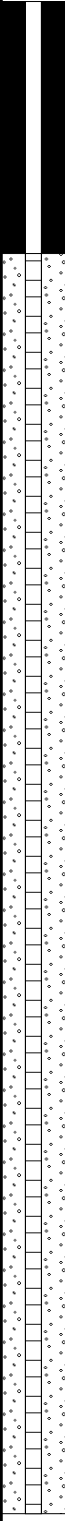
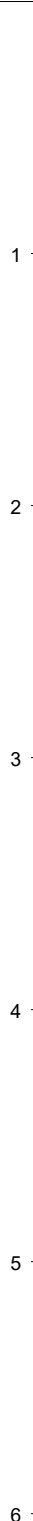
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m.

 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. CP02 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388207.00 - 403372.00		Hole Type CP		
Location: Moston					Level: 0.00		Scale 1:75		Logged By DS		
Client: ALDI Stores UK					Dates: 06/01/2022 - 06/01/2022						
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
		Depth (m)	Type	Results							
					0.30	-0.30		TARMAC			
					1.30	-1.30		MADE GROUND: Brown, very gravelly SAND. Sand is fine to coarse. Gravel is angular, fine to coarse of concrete, sandstone, red brick and clinker. Occasional cobbles of red brick.	1		
		1.50		N=3 (1,0/1,0,1,1)	2.00	-2.00		Black, pseudo-fibrous PEAT, with organic fragments.	2		
					2.50	-2.50		Firm, grey and brown, silty CLAY.			
		3.00		N=14 (2,2/3,3,4,4)				Firm, brown, sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is rounded, fine to coarse of sandstone. Occasional sand bands.	3		
									4		
		4.50 4.50 - 4.95	D	N=17 (2,4/4,4,4,5)					5		
		6.00 - 6.45	U						6		
									7		
		7.50 7.50 - 7.95	D	N=18 (2,4/4,4,5,5)					8		
		9.00 - 9.45	U						9		
					10.00	-10.00			10		
		10.50		N=50 (4,7/50 for 260mm)	10.50	-10.50		Very dense, brown SAND & GRAVEL. Sand is fine to coarse. Gravel is sub-rounded, fine to coarse of sandstone and quartz.	11		
		12.00		N=50 (4,10/50 for 250mm)				Very dense, brown, slightly silty SAND. Sand is fine to medium. Occasional clay bands.	12		
		13.50		N=50 (7,10/50 for 180mm)	13.50	-13.50		End of borehole at 13.50 m	13		
								14			
								15			

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m.



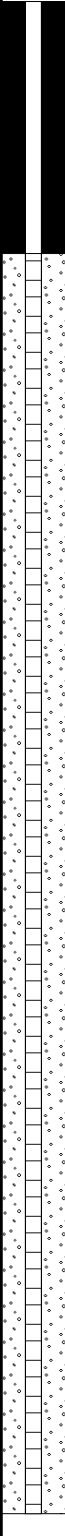
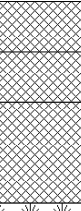
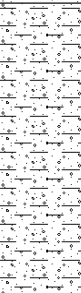
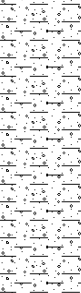
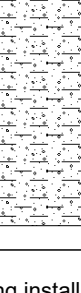
 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS01 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388167.00 - 403360.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.08	-0.08		TARMAC	
		0.35	ES		0.40	-0.40		MADE GROUND: Light grey SAND & GRAVEL. Sand is fine to coarse. Gravel is angular, fine to coarse of limestone and concrete.	
		0.50	ES		0.70	-0.70		MADE GROUND: Brown, very gravelly SAND. Sand is fine to coarse. Gravel is angular, fine to coarse of concrete, sandstone, red brick and clinker. Occasional cobbles of red brick.	
					1.00	-1.00		White geotextile membrane.	
		1.20		N=8 (1,2/2,2,2,2)	1.25	-1.25		MADE GROUND: Brown, very sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular, fine to coarse of concrete, red brick and sandstone.	
					1.45	-1.45		Firm, yellowish brown, slightly sandy CLAY. Sand is fine to coarse.	
								Soft, dark brown, slightly sandy, slightly gravelly, peaty CLAY. Sand is fine to coarse. Gravel is rounded, fine to medium of mudstone.	
								Soft, dark brown, amorphous PEAT.	
		2.00		N=8 (1,2/2,2,2,2)	2.15	-2.15		Loose, grey, very silty SAND. Sand is fine to coarse.	
					2.60	-2.60		HP of 48 kN/m ²	
		2.70	D					Firm, grey, very sandy, slightly gravelly CLAY. Sand is fine to coarse.	
								HP of 96 kN/m ²	
		3.00		N=9 (1,1/2,2,2,3)	3.00	-3.00		HP of 48 kN/m ²	
								Soft, grey, very sandy CLAY. Sand is fine to coarse.	
		3.60 - 4.00	U		3.70	-3.70		Firm, grey, sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to medium of mudstone.	
	4.00		N=17 (2,2/3,4,4,6)	4.00	-4.00		Stiff, grey, very sandy CLAY. Sand is fine to coarse.		
				4.50	-4.50		Firm to stiff, grey, sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to medium of mudstone.		
	4.80	D					HP of 36 kN/m ²		
	5.00		N=25 (4,3/5,6,6,8)				HP of 132 kN/m ²		
							HP of 192 kN/m ²		
	5.60 - 6.00	U							
	6.00		N=23 (3,4/4,5,6,8)	6.00	-6.00				
End of borehole at 6.00 m								6	

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.

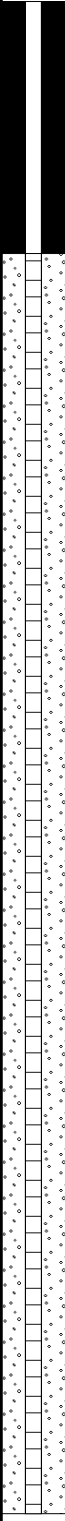


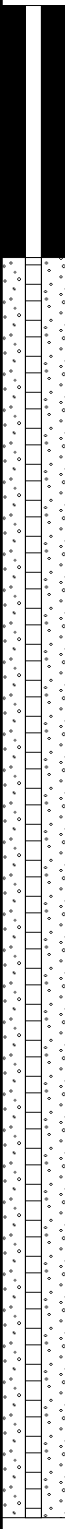
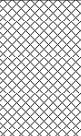
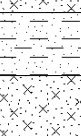
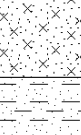
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Project Name: ALDI Moston					Project No. A3469		Co-ords: 388196.00 - 403378.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

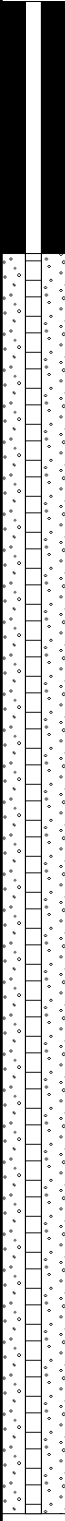
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
							TARMAC		
	0.30	ES		0.20	-0.20		MADE GROUND: Blackish brown, very gravelly SAND. Sand is fine to coarse. Gravel is angular, fine to coarse of concrete, sandstone, red brick and clinker.		
	0.40			-0.40	MADE GROUND: Orangish brown becoming light brown, slightly silty, gravelly SAND. Sand is fine to coarse. Gravel is rounded to sub-angular, fine to coarse of sandstone and rare red brick.				
	0.80			-0.80	Soft, dark brown, amorphous PEAT.		1		
	1.20		N=4 (1,1/1,1,1,1)						
	1.70			-1.70	Soft, grey, very sandy SILT. Sand is fine to coarse.		2		
	2.00		N=6 (1,1/1,2,2,1)						
	2.80	D		-2.80	HP of 96 kN/m ²				
	3.00		N=9 (2,2/2,2,2,3)		Soft to stiff, greyish brown, slightly silty, slightly sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular to sub-rounded, fine to coarse of mudstone.		3		
									
3.70	D			HP of 36 kN/m ²					
4.00		N=24 (2,3/6,6,6,6)		HP of 72 kN/m ²					
									
5.00		N=19 (4,4/4,5,5,5)		HP of 144 kN/m ²					
				HP of 108 kN/m ²					
									
				HP of 120 kN/m ²					
				HP of 72 kN/m ²					
									
				50% recovery.					
				HP of 120 kN/m ²					
				6.00	-6.00		End of borehole at 6.00 m	6	

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.

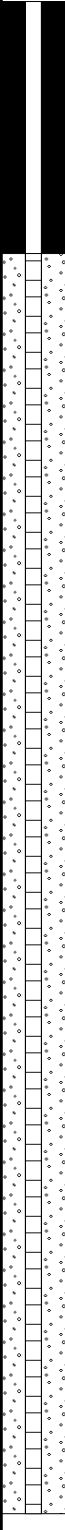
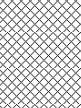
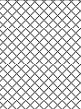
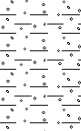
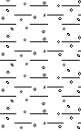
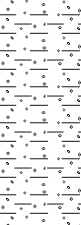


 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS03 Sheet 1 of 1		
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388176.00 - 403422.00		Hole Type WS	
Location: Moston					Level: 0.00		Scale 1:30			
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022		Logged By DS			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.20	-0.20		Grass over, dark brown, clayey, sandy, slightly gravelly TOPSOIL. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone, mudstone and red brick.		1
								MADE GROUND: Brown, slightly sandy, clayey GRAVEL. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of red brick and concrete.		
			0.70	ES						
			1.20		N=9 (2,2/2,2,2,3)	1.10 1.20	-1.10 -1.20		Dark grey, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional roots.	
									Firm to stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	
			2.00		N=17 (2,2/4,5,3,5)				HP of 120 kN/m ²	
									HP of 108 kN/m ²	
						2.40 2.65	-2.40 -2.65		Medium dense, brown, slightly gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded, fine of sandstone.	
									Stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	
			3.00		N=22 (3,4/4,6,5,7)	3.00	-3.00		HP of 192 kN/m ²	
									Stiff, brown, very sandy SILT. Sand is fine to medium.	
						3.60 3.80	-3.60 -3.80		Medium dense, brown, silty SAND. Sand is fine to medium.	
								Stiff, brown, silty, sandy CLAY. Sand is fine to medium.		
		4.00		N=34 (3,3/4,9,12,9)	4.00	-4.00		HP of 144 kN/m ²		
								Dense, brown, silty SAND. Sand is fine to medium.		
					4.50 4.60	-4.50 -4.60		Firm, brown, very sandy SILT. Sand is fine to medium.		
								Stiff, brown, silty, sandy CLAY. Sand is fine to medium.		
		5.00		N=23 (3,4/4,5,6,8)	5.00	-5.00		HP of 144 kN/m ²		
								Stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.		
								HP of 72 kN/m ²		
		6.00		N=23 (3,4/5,5,6,7)	6.00	-6.00		End of borehole at 6.00 m		
Remarks 1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.										

 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS04 Sheet 1 of 1		
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388188.00 - 403403.00		Hole Type WS	
Location: Moston					Level: 0.00		Scale 1:30			
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022		Logged By DS			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.20	-0.20		TARMAC		
		0.60	ES		0.80	-0.80		MADE GROUND: Brown becoming black, very gravelly SAND. Sand is fine to coarse. Gravel is angular, fine to coarse of concrete, sandstone, red brick and clinker. Occasional cobbles of red brick.		
		1.20		N=8 (1,2/2,2,2,2)	1.30	-1.30		Soft, brown, sandy, slightly gravelly CLAY. Sand is fine to coarse. Gravel is rounded, fine to coarse of sandstone. <u>Black, woven membrane.</u>	1	
					1.50	-1.50		Loose, brown, very silty SAND. Sand is fine to coarse.		
					1.75	-1.75		Stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		
		2.00		N=4 (2,2/1,1,1,1)	2.65	-2.65		Loose, greyish brown, slightly silty SAND. Sand is fine to coarse. Becoming silty with depth.	2	
					3.00	-3.00		Stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		
					3.35	-3.35		Loose, greyish brown, slightly silty, slightly gravelly SAND. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of mudstone.	3	
					4.00	-4.00		Stiff becoming firm, brown, slightly sandy CLAY. Sand is fine to coarse.		
								NO RECOVERY	4	
					4.80	-4.80		Loose, greyish brown, slightly silty SAND. Sand is fine to coarse.		
					4.90	-4.90		Stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		
					5.00	-5.00		NO RECOVERY	5	
					5.60	-5.60		Loose, greyish brown, slightly silty SAND. Sand is fine to coarse.		
					5.70	-5.70		Stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		
				6.00	-6.00		End of borehole at 6.00 m	6		
Remarks 1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.										

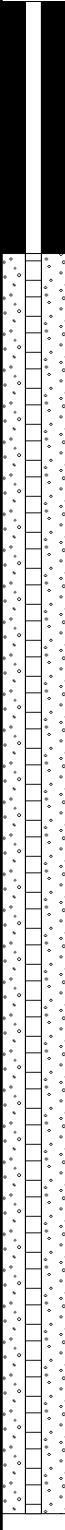
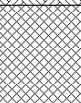
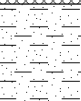
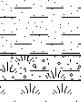
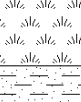
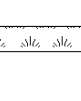
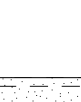
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Project Name: ALDI Moston					Project No. A3469		Co-ords: 388209.00 - 403419.00		Hole Type WS	
Location: Moston					Level: 0.00		Scale 1:30			
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022		Logged By DS			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.25	-0.25		Grass over, dark brown, clayey, sandy, slightly gravelly TOPSOIL. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone, mudstone and red brick.	1	
		0.55	ES					MADE GROUND: Brown, slightly sandy, clayey GRAVEL. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of red brick and concrete.		
		1.20		N=10 (2,1/3,2,2,3)	1.30	-1.30		Firm, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	2	
		2.00		N=9 (1,2/2,2,2,3)				HP of 168 kN/m²		
					2.70	-2.70		Soft, dark grey, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	3	
		3.00		N=28 (5,5/6,7,7,8)	3.20	-3.20		HP of 108 kN/m²		
					4.00	-4.00		Stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	4	
		4.00		N=18 (3,3/4,4,4,6)	4.15	-4.15		HP of 96 kN/m²		
								Soft, dark grey, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	5	
		5.00		N=23 (3,4/5,5,6,7)				HP of 84 kN/m² HP of 84 kN/m² HP of 48 kN/m²		
							Stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone.	6		
	6.00		N=20 (3,5/5,6,6,3)	6.00	-6.00		HP of 96 kN/m² HP of 48 kN/m² HP of 132 kN/m²			
End of borehole at 6.00 m										
Remarks 1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.										
										

 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS06 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388238.00 - 403396.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

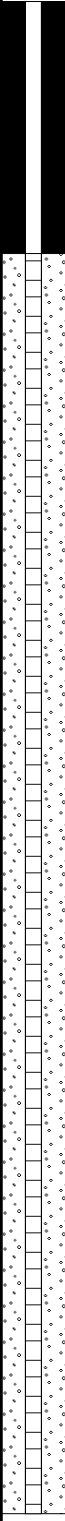
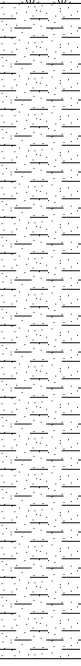
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.15	-0.15		TARMAC	
					0.60	-0.60		MADE GROUND: Yellowish brown, sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to sub-rounded, fine to coarse of sandstone.	
					1.15	-1.15		MADE GROUND: Grey, sandy, gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone. Rare wire and glass.	1
		1.10 1.20	ES	N=8 (2,1/1,2,3,2)	1.40	-1.40		Soft, dark brown, amorphous PEAT.	
		2.00		N=11 (2,1/2,2,3,4)				Firm to stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone. Occasional cobbles of mudstone. <u>Timber fragment.</u> <u>HP of 120 kN/m²</u>	2
								<u>HP of 72 kN/m²</u>	
								<u>HP of 72 kN/m²</u>	
								<u>HP of 72 kN/m²</u>	
		3.00		N=17 (2,3/3,4,5,5)				<u>HP of 215 kN/m²</u>	3
		4.00		N=23 (3,4/5,5,6,6)					4
	5.00		N=20 (3,4/4,5,5,6)	4.50	-4.50		Medium dense, brown, silty SAND. Sand is fine to medium. <u>HP of 144 kN/m²</u>	5	
	6.00		N=21 (3,4/5,4,5,7)	5.70	-5.70		Stiff, brown, silty , sandy CLAY. Sand is fine to medium. <u>HP of 84 kN/m²</u>	6	
				6.00	-6.00		End of borehole at 6.00 m		

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.



 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS07 Sheet 1 of 1		
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388235.00 - 403330.00		Hole Type WS	
Location: Moston					Level: 0.00		Scale 1:30			
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022		Logged By DS			
Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
		0.45	ES		0.40	-0.40		Grass over, dark brown, clayey, sandy, slightly gravelly TOPSOIL. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of sandstone and organic fragments. Frequent roots and rootlets.		1
					0.80	-0.80		MADE GROUND: Dark brown, slightly silty, gravelly SAND. Sand is fine to coarse. Gravel is angular, fine to coarse of sandstone, red brick, clinker and timber.		
		1.20		N=7 (1,1/1,2,2,2)	1.40	-1.40		Firm, yellowish brown, slightly sandy CLAY. Sand is fine to coarse.		
		1.50				-1.50		Soft, dark brown, slightly sandy, slightly gravelly, peaty CLAY. Sand is fine to coarse. Gravel is rounded, fine to medium of mudstone. Soft, dark brown, fibrous PEAT.		
		2.00		N=4 (1,1/1,1,1,1)						2
		2.20	ES							
		3.00		N=6 (1,1/1,1,2,2)						3
										
		4.00		N=8 (1,2/2,2,2,2)	3.85	-3.85		Stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		4
					4.00	-4.00		NO RECOVERY		
5.00		N=14 (2,2/2,2,4,6)	4.90	-4.90		Soft, dark brown, fibrous PEAT.		5		
			5.00	-5.00		NO RECOVERY				
			5.50	-5.50		Soft becoming stiff, brown, slightly sandy CLAY. Sand is fine to coarse.		6		
6.00		N=17 (2,3/4,4,4,5)	6.00	-6.00		HP of 108 kN/m² HP of 108 kN/m²				
End of borehole at 6.00 m										
Remarks 1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.										
										

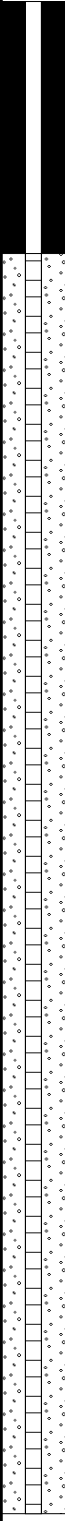
 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS08 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388253.00 - 403349.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.15			0.15	-0.15	 Grass over, dark brown, clayey, sandy, slightly gravelly TOPSOIL. Sand is fine to coarse. Gravel is sub-rounded, fine to medium of sandstone and organic fragments. Frequent roots and rootlets. MADE GROUND: Black, slightly clayey, very sandy GRAVEL. Sand is fine to coarse. Gravel is angular, fine to coarse of clinker and ash. Soft, yellowish brown, sandy CLAY. Sand is fine to coarse.		
		0.40	ES		0.55	-0.55			
		0.90				-0.90			
		1.20		N=4 (1,1/1,1,1,1)			 Soft, dark brown, amorphous PEAT. Becoming fibrous with depth.	1	
		2.00		N=4 (1,1/1,1,1,1)				2	
		3.00		N=8 (1,2/2,2,2,2)				3	
	3.40			3.40	-3.40	 Soft to stiff, brown, slightly sandy CLAY. Sand is fine to coarse. HP of 12 kN/m² HP of 24 kN/m² HP of 120 kN/m² HP of 72 kN/m² HP of 108 kN/m² HP of 96 kN/m² HP of 60 kN/m² HP of 72 kN/m² HP of 60 kN/m²	4		
	4.00		N=14 (1,2/2,4,4,4)				5		
	5.00		N=15 (3,3/2,4,4,5)				6		
	6.00		N=13 (2,3/3,4,3,3)	6.00	-6.00		End of borehole at 6.00 m		

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.



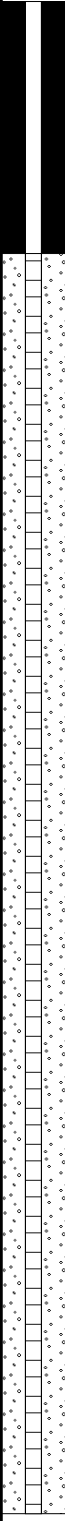
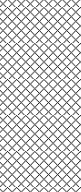
 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS09 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388254.00 - 403373.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	-0.20	 Grass over, dark brown, clayey, sandy, slightly gravelly TOPSOIL. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone, mudstone and red brick.  Very soft, black, pseudo-fibrous PEAT, with organic fragments.		
		1.20	ES	N=0 (0,0/0,0,0,0)			 	1	
		1.30							
		2.00	N=3 (0,1/0,1,1,1)	2.00	-2.00	 Soft, grey, silty CLAY.  HP of 12 kN/m ²  HP of 12 kN/m ²	2		
		3.00	N=9 (1,2/1,3,2,3)			  HP of 12 kN/m ²  HP of 48 kN/m ²  HP of 48 kN/m ²	3		
		4.00	N=17 (3,3/3,4,4,6)			  HP of 96 kN/m ²  HP of 120 kN/m ²	4		
	5.00	N=20 (3,3/4,4,6,6)	5.00 5.10	-5.00 -5.10	 Stiff, brown, silty , sandy CLAY. Sand is fine to medium.  Firm, brown, slightly gravelly CLAY. Gravel is sub-rounded, medium of mudstone.	5			
	6.00	N=19 (3,4/4,4,5,6)	6.00	-6.00	End of borehole at 6.00 m		6		

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.



 Earth Environmental & Geotechnical Ltd Houldsworth Mill Business & Arts Centre Houldsworth Street Stockport SK5 6DA					Borehole Log			Borehole No. WS10 Sheet 1 of 1			
Project Name: ALDI Moston					Project No. A3469		Co-ords: 388260.00 - 403413.00		Hole Type WS		
Location: Moston					Level: 0.00		Scale 1:30		Logged By DS		
Client: ALDI Stores UK					Dates: 05/01/2022 - 05/01/2022						

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description		
		Depth (m)	Type	Results						
					0.10	-0.10		TARMAC		
								MADE GROUND: Yellowish brown, sandy GRAVEL. Sand is fine to coarse. Gravel is sub-angular to sub-rounded, fine to coarse of sandstone.		
		0.80	ES			0.90	-0.90		MADE GROUND: Grey, sandy, gravelly CLAY. Sand is fine to coarse. Gravel is sub-angular, fine to coarse of sandstone. Rare wire and glass.	1
		1.20		N=5 (2,1/1,1,1,2)		1.10	-1.10		Soft to stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone.	
								HP of 24 kN/m ²		
								HP of 36 kN/m ²		
								HP of 60 kN/m ²		
		2.00		N=11 (2,2/2,3,2,4)				HP of 144 kN/m ²		
								HP of 48 kN/m ²		
								HP of 72 kN/m ²		
		3.00		N=19 (2,3/3,5,4,7)				HP of 120 kN/m ²		
		4.00		N=24 (3,2/5,6,6,7)						
					4.15	-4.15		Medium dense, brown, silty SAND. Sand is fine to medium.		
					4.40	-4.40		Stiff, mottled, grey and brown, slightly gravelly CLAY. Gravel is sub-angular to sub-rounded, fine of mudstone.		
							HP of 120 kN/m ²			
	5.00		N=15 (2,3/3,3,4,5)		5.00	-5.00		Medium dense, brown, very silty SAND. Sand is fine to medium.	5	
					5.80	-5.80		Stiff, brown, silty, sandy CLAY. Sand is fine to medium.		
	6.00		N=24 (4,4/5,5,6,8)		6.00	-6.00		End of borehole at 6.00 m	6	

Remarks
1) Hole location scanned with CAT. Hand dug pit dug to 1.20m. 3) Monitoring installation, 1.00m plain, 5.00m slotted.



APPENDIX 2

MONITORING RESULTS

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Moston Job No: A3469
 Date: 08/02/22 Engineer: O Q
 Time: Client SWF Consulting Ltd

METEOROLOGICAL & SITE INFORMATION

State of ground: Dry ☐ Moist ☒ Wet ☐
 Wind: Calm ☒ Light ☐ Moderate ☐ Strong ☐
 Cloud cover: None ☐ Slight ☒ Cloudy ☐ Overcast ☐
 Precipitation: None ☒ Slight ☐ Moderate ☐ Heavy ☐
 Barometric pressure (mb): 999 Local pressure system*: Air temperature (°C):

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS1	0	0.0	0.0	0.3	21.4		-	-	H2S:0 CO:12
	15	0.0	0.0	1.3	21.2				(Bung Stuck)
	30	0.0	0.0	0.9	21.3				
	45	0.0	0.0	0.8	21.3				
	60	0.0	0.0	0.8	21.3				
	120	0.0	0.0	0.8	21.3				
	180	0.0	0.0	0.8	21.3				
	240								
	300								
	360								
	420								
	480								
WS2	0	0.0	0.0	0.3	21.7		0.60	4.20	H2S:0 CO:3
	15	0.0	0.0	3.1	20.4				
	30	0.0	0.0	2.9	20.4				
	45	0.0	0.0	2.4	20.8				
	60	0.0	0.0	2.1	20.9				
	120	0.0	0.0	1.6	21.1				
	180	0.0	0.0	1.2	21.1				
	240								
	300								
	360								
	420								
	480								
WS3	0	0.0	0.0	0.4	21.2		-	5.50	H2S:0 CO:0
	15	0.0	0.0	18.6	11.4				
	30	0.0	0.0	18.9	5.4				
	45	0.0	0.0	18.9	4.6				
	60	0.0	0.0	18.8	4.5				
	120	0.0	0.0	18.7	4.5				
	180	0.0	0.0	18.7	4.5				
	240								
	300								
	360								
	420								
	480								
WS4	0	0.0	0.0	3.8	19.3		-	-	H2S:0 CO:2
	15	0.0	0.0	3.1	18.9				(Bung stuck)
	30	0.0	0.0	2.3	19.4				
	45	0.0	0.0	1.7	19.8				
	60	0.0	0.0	1.4	20.0				
	120	0.0	0.0	1.0	20.2				
	180	0.0	0.0	0.9	20.3				
	240								
	300								
	360								
	420								

	480							
	540							
	600							

WS5	0	0.0	0.0	0.4	20.8		WAB	5.60	H2S:0 CO:1
	15	0.0	0.0	3.2	19.2				
	30	0.0	0.0	2.9	17.7				
	45	0.0	0.0	2.4	18.1				
	60	0.0	0.0	2.0	18.7				
	120	0.0	0.0	1.5	19.4				
	180	0.0	0.0	1.2	19.8				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS6	0	0.0	0.0	0.4	21.2		5.00	5.70	H2S:0 CO:1
	15	0.0	0.0	2.5	20.4				
	30	0.0	0.0	8.5	14.6				
	45	0.0	0.0	9.1	12.9				
	60	0.0	0.0	8.7	12.5				
	120	0.0	0.0	5.6	15.6				
	180	0.0	0.0	4.5	16.6				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS10	0	0.1	0.0	0.5	21.4		-	5.00	H2S:0 CO:0
	15	1.9	4.2	4.7	9.7				
	30	1.8	4.2	4.7	1.2				
	45	1.5	4.2	4.7	0.9				
	60	1.3	4.2	4.7	0.9				
	120	0.7	4.0	4.6	1.1				
	180	0.5	4.0	4.6	1.2				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS7	0	0.0	0.0	0.4	20.9		WAB	4.10	H2S:0 CO:0
	15	0.0	0.0	4.4	17.3				
	30	0.0	0.0	4.2	17.2				
	45	0.0	0.0	4.2	17.2				
	60	0.0	0.0	4.2	17.2				
	120	0.0	0.0	4.1	17.2				
	180	0.0	0.0	4.2	17.2				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS8	0	0.0	0.0	0.3	20.9		0.70	5.00	H2S:0 CO:1
	15	0.0	0.0	2.4	19.8				
	30	0.0	0.0	1.3	20.3				
	45	0.0	0.0	1.0	20.6				
	60	0.0	0.0	1.0	20.6				
	120	0.0	0.0	0.8	20.7				
	180	0.0	0.0	0.6	20.9				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

	0	0.0	0.0	0.3	21.4		0.40	5.40	H2S:0 CO:0
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WS9	15	0.0	0.0	0.3	21.5				
	30	0.0	0.0	0.3	21.5				
	45	0.0	0.0	0.3	21.5				
	60	0.0	0.0	0.3	21.5				
	120	0.0	0.0	0.3	21.5				
	180	0.0	0.0	0.3	21.5				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

Notes: TOC = top of casing

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.

** With reference to the Met Office rolling weather archive*

	Flow (l/hr)	CH4	CO2	O2
MIN	0.0	0.0	0.3	4.5
MAX	1.9	4.2	18.9	21.7
GSV		0.0798	0.3591	

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Moston Job No: A3469
 Date: 17/03/22 Engineer: O Q
 Time: Client SWF Consulting Ltd

METEOROLOGICAL & SITE INFORMATION

State of ground: Dry ☐ Moist ☒ Wet ☐
 Wind: Calm ☒ Light ☐ Moderate ☐ Strong ☐
 Cloud cover: None ☐ Slight ☒ Cloudy ☐ Overcast ☐
 Precipitation: None ☐ Slight ☒ Moderate ☐ Heavy ☐
 Barometric pressure (mb): 1008 Local pressure system*: Air temperature (°C):

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS1	0	0.0	0.0	0.0	20.5		-	-	H2S:0 CO:0
	15	0.0	0.0	0.4	20.8				Relative:0.72mb
	30	0.0	0.0	0.2	20.7				
	45	0.0	0.0	0.1	20.7				
	60	0.0	0.0	0.1	20.7				
	120	0.0	0.0	0.1	20.7				
	180	0.0	0.0	0.1	20.7				
	240								
	300								
	360								
	420								
	480								
WS2	0	-0.3	0.0	0.4	20.2		0.60	4.10	H2S:0 CO:0
	15	-1.7	0.0	1.1	20.2				Relative:-5.49mb
	30	-1.0	0.0	0.8	20.2				
	45	-0.6	0.0	0.5	20.3				
	60	-0.5	0.0	0.4	20.4				
	120	-0.5	0.0	0.2	20.4				
	180	-0.5	0.0	0.2	20.4				
	240								
	300								
	360								
	420								
	480								
WS3	0	0.0	0.0	0.0	20.4		2.00	5.60	H2S:0 CO:0
	15	0.0	0.0	6.3	16.2				Relative:0.56mb
	30	0.0	0.0	6.4	12.6				
	45	0.0	0.0	6.4	11.9				
	60	0.0	0.0	6.5	11.8				
	120	0.0	0.0	6.7	11.5				
	180	0.0	0.0	7.0	11.2				
	240								
	300								
	360								
	420								
	480								
WS4	0	0.0	0.0	0.0	20.3		-	-	H2S:0 CO:0
	15	0.0	0.0	2.6	20.2				(Bung stuck)
	30	0.0	0.0	2.4	20.1				
	45	0.0	0.0	2.1	20.0				
	60	0.0	0.0	2.0	20.0				
	120	0.0	0.0	1.7	10.0				
	180	0.0	0.0	1.0	19.9				
	240								
	300								
	360								
	420								

	480							
	540							
	600							

WS5	0	0.0	0.0	0.0	20.1		1.60	5.60	H2S:0 CO:0
	15	0.0	0.0	0.2	20.0				Relative:0.34mb
	30	0.0	0.0	0.4	19.1				
	45	0.0	0.0	0.5	19.1				
	60	0.0	0.0	0.6	18.9				
	120	0.0	0.0	0.8	18.6				
	180	0.0	0.0	1.5	17.8				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS6	0	0.0	0.0	0.0	20.2		5.10	5.70	H2S:0 CO:0
	15	0.0	0.0	5.9	19.2				Relative:0.52mb
	30	0.0	0.0	3.2	16.0				
	45	0.0	0.0	3.1	16.0				
	60	0.0	0.0	3.1	16.1				
	120	0.0	0.0	3.1	16.1				
	180	0.0	0.0	3.1	16.1				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS10	0	0.0	0.0	0.0	20.3		2.00	5.00	H2S:0 CO:0
	15	0.0	0.0	4.0	4.1				Relative:0.45mb
	30	0.0	0.0	4.0	3.5				
	45	0.0	0.0	4.0	3.2				
	60	0.0	0.0	4.0	3.1				
	120	0.0	0.0	4.0	3.0				
	180	0.0	0.0	4.0	3.0				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS7	0	0.0	0.0	0.0	20.4		1.10	4.10	H2S:0 CO:0
	15	0.0	0.0	1.0	19.8				Relative:0.34mb
	30	0.0	0.0	1.1	18.8				
	45	0.0	0.0	1.3	18.2				
	60	0.0	0.0	1.5	17.9				
	120	0.0	0.0	1.9	17.1				
	180	0.0	0.0	2.2	16.6				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS8	0	0.0	0.0	0.0	20.5		1.00	3.70	H2S:0 CO:0
	15	0.0	0.0	2.1	19.4				Relative:0.34mb
	30	0.0	0.0	0.2	20.3				
	45	0.0	0.0	0.1	20.4				
	60	0.0	0.0	0.1	20.3				
	120	0.0	0.0	0.5	20.2				
	180	0.0	0.0	0.3	20.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

	0	0.0	0.0	0.0	20.5		0.60	5.40	H2S:0 CO:3
--	---	-----	-----	-----	------	--	------	------	------------

WS9	15	0.0	0.0	0.4	20.4				Relative:0.22mb
	30	0.0	0.0	0.4	20.2				
	45	0.0	0.0	0.3	20.4				
	60	0.0	0.0	0.1	20.5				
	120	0.0	0.0	0.1	20.5				
	180	0.0	0.0	0.1	20.5				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

Notes: TOC = top of casing

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.

** With reference to the Met Office rolling weather archive*

	Flow (l/hr)	CH4	CO2	O2
MIN	-1.7	0.0	0.0	10.0
MAX	0.0	0.0	7.0	20.8
GSV		0	0	

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Moston	Job No: A3469
Date: 22/03/2022	Engineer: O Q
Time:	Client: SWF Consulting Ltd

METEOROLOGICAL & SITE INFORMATION

State of ground:	Dry ☒	Moist ☐	Wet ☐		
Wind:	Calm ☒	Light ☐	Moderate ☐	Strong ☐	
Cloud cover:	None ☐	Slight ☒	Cloudy ☐	Overcast ☐	
Precipitation:	None ☒	Slight ☐	Moderate ☐	Heavy ☐	
Barometric pressure (mb): 1015		Local pressure system*: _____		Air temperature (°C): _____	

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS1	0	0.0	0.0	0.0	20.8		-	-	H2S:0 CO:1
	15	0.0	0.0	0.4	20.6				Relative:0.45mb
	30	0.0	0.0	0.2	20.6				
	45	0.0	0.0	0.1	20.6				
	60	0.0	0.0	0.1	20.6				
	120	0.0	0.0	0.1	20.6				
	180	0.0	0.0	0.1	20.6				
	240								
	300								
	360								
	420								
	480								
WS2	0	0.0	0.1	0.0	20.6		0.73	4.10	H2S:0 CO:1
	15	0.0	0.1	0.7	20.4				Relative:1.10mb
	30	0.0	0.1	0.6	20.3				
	45	0.0	0.1	0.5	20.3				
	60	0.0	0.1	0.4	20.3				
	120	0.0	0.1	0.2	20.3				
	180	0.0	0.1	0.1	20.3				
	240								
	300								
	360								
	420								
	480								
WS3	0	0.0	0.0	0.0	20.5		-	-	H2S:0 CO:0
	15	0.0	0.0	1.5	19.5				Relative:0.28mb
	30	0.0	0.0	0.9	19.6				
	45	0.0	0.0	0.7	19.9				
	60	0.0	0.0	0.5	20.0				
	120	0.0	0.0	0.2	20.2				
	180	0.0	0.0	0.1	20.3				
	240								
	300								
	360								
	420								
	480								
WS4	0	0.0	0.0	0.0	20.1		1.90	5.50	H2S:0 CO:1
	15	0.0	0.0	5.1	17.9				Relative:0.23mb
	30	0.0	0.0	4.9	14.9				
	45	0.0	0.0	4.9	14.9				
	60	0.0	0.0	4.9	14.9				
	120	0.0	0.0	4.9	14.9				
	180	0.0	0.0	4.9	14.9				
	240								
	300								
	360								
	420								

	480							
	540							
	600							

WS5	0	0.0	0.0	0.0	20.3		1.90	5.60	H2S:0 CO:0
	15	0.0	0.0	0.1	20.3				Relative:0.26mb
	30	0.0	0.0	0.1	20.3				
	45	0.0	0.0	0.1	20.3				
	60	0.0	0.0	0.1	20.3				
	120	0.0	0.0	0.1	20.3				
	180	0.0	0.0	0.1	20.3				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS6	0	0.0	0.0	0.2	20.2		-	5.77	H2S:0 CO:0
	15	0.0	0.0	3.3	16.2				Relative:0.05mb
	30	0.0	0.0	2.9	16.7				
	45	0.0	0.0	2.9	16.7				
	60	0.0	0.0	2.9	16.6				
	120	0.0	0.0	1.9	16.8				
	180	0.0	0.0	1.5	18.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS10	0	0.0	0.0	0.0	20.3		2.32	4.98	H2S:0 CO:0
	15	0.0	0.0	3.1	9.2				Relative:0.62mb
	30	0.0	0.0	3.2	4.7				
	45	0.0	0.0	3.2	4.3				
	60	0.0	0.0	3.2	4.3				
	120	0.0	0.0	3.2	4.2				
	180	0.0	0.0	3.2	4.2				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS7	0	0.0	0.0	0.0	20.4		1.15	4.10	H2S:0 CO:0
	15	0.0	0.0	0.9	20.0				Relative:0.30mb
	30	0.0	0.0	1.0	19.9				
	45	0.0	0.0	1.1	18.6				
	60	0.0	0.0	1.0	18.0				
	120	0.0	0.0	1.6	17.3				
	180	0.0	0.0	1.9	16.7				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS8	0	0.0	0.0	0.0	20.5		1.15	3.70	H2S:0 CO:0
	15	0.0	0.0	0.2	20.4				Relative:0.32mb
	30	0.0	0.0	0.2	20.3				
	45	0.0	0.0	0.1	20.4				
	60	0.0	0.0	0.1	20.3				
	120	0.0	0.0	0.5	20.2				
	180	0.0	0.0	0.3	20.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

	0	0.0	0.0	0.0	20.5		0.65	5.40	H2S:0 CO:2
--	---	-----	-----	-----	------	--	------	------	------------

WS9	15	0.0	0.0	0.5	20.4				Relative:0.16mb
	30	0.0	0.0	0.4	20.4				
	45	0.0	0.0	0.3	20.4				
	60	0.0	0.0	0.2	20.4				
	120	0.0	0.0	0.1	20.4				
	180	0.0	0.0	0.1	20.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

Notes: TOC = top of casing

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.

** With reference to the Met Office rolling weather archive*

	Flow (l/hr)	CH4	CO2	O2
MIN	0.0	0.0	0.0	14.9
MAX	0.0	0.1	5.1	20.8
GSV		0	0	

GAS MONITORING RECORD SHEET

JOB DETAILS

Site: Moston	Job No: A3469
Date: 30/03/2022	Engineer: O Q
Time:	Client: SWF Consulting Ltd

METEOROLOGICAL & SITE INFORMATION

State of ground:	Dry	Moist <input checked="" type="text"/>	Wet		
Wind:	Calm	Light <input checked="" type="text"/>	Moderate	Strong	
Cloud cover:	None	Slight <input checked="" type="text"/>	Cloudy	Overcast	
Precipitation:	None	Slight <input checked="" type="text"/>	Moderate	Heavy	
Barometric pressure (mb): 990		Local pressure system*: _____		Air temperature (°C): _____	

Well No.	Time (s)	Flow (l/hr)	CH ₄ (% vol. in air)	CO ₂ (% vol. in air)	O ₂ (% vol. in air)	PID (ppm)	Depth to GW (mbgl)	Total Depth (mbgl)	Comments
WS1	0	0.0	0.0	0.0	21.4		-	-	H2S:0 CO:0
	15	0.0	0.0	0.2	21.2				Relative:0.69mb
	30	0.0	0.0	0.2	21.2				
	45	0.0	0.0	0.2	21.2				
	60	0.0	0.0	0.2	21.2				
	120	0.0	0.0	0.2	21.2				
	180	0.0	0.0	0.2	21.2				
	240								
	300								
	360								
	420								
	480								
WS2	0	0.0	0.0	0.0	21.3		0.45	4.10	H2S:0 CO:0
	15	0.0	0.0	0.0	21.3				Relative:0.77mb
	30	0.0	0.0	0.1	21.2				
	45	0.0	0.0	0.1	21.2				
	60	0.0	0.0	0.4	20.7				
	120	0.0	0.0	0.5	20.1				
	180	0.0	0.0	1.4	19.4				
	240								
	300								
	360								
	420								
	480								
WS3	0	0.0	0.0	0.0	21.2		-	-	H2S:0 CO:0
	15	0.0	0.0	2.2	20.2				Relative:0.60mb
	30	0.0	0.0	1.2	20.2				
	45	0.0	0.0	0.8	20.5				
	60	0.0	0.0	0.6	20.7				
	120	0.0	0.0	0.4	20.8				
	180	0.0	0.0	0.4	20.9				
	240								
	300								
	360								
	420								
	480								
WS4	0	0.0	0.0	0.0	21.9		1.95	5.56	H2S:0 CO:0
	15	0.0	0.0	4.4	21.0				Relative:0.55mb
	30	0.0	0.0	4.9	16.3				
	45	0.0	0.0	3.8	17.0				
	60	0.0	0.0	3.2	17.5				
	120	0.0	0.0	2.6	18.3				
	180	0.0	0.0	2.3	18.8				
	240								
	300								
	360								
	420								

	480								
	540								
	600								

WS5	0	0.0	0.0	0.1	21.0		1.20	5.50	H2S:0 CO:0
	15	0.0	0.0	0.0	21.1				Relative:0.60mb
	30	0.0	0.0	0.0	21.2				
	45	0.0	0.0	0.0	21.2				
	60	0.0	0.0	0.0	21.2				
	120	0.0	0.0	0.0	21.2				
	180	0.0	0.0	0.0	21.2				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS6	0	0.0	0.0	0.0	21.2		5.10	5.70	H2S:0 CO:0
	15	0.0	0.0	1.2	20.6				Relative:0.62mb
	30	0.0	0.0	0.9	20.3				
	45	0.0	0.0	0.7	20.4				
	60	0.0	0.0	0.6	20.5				
	120	0.0	0.0	0.4	20.6				
	180	0.0	0.0	0.4	20.8				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS10	0	0.0	0.0	0.0	21.3		2.36	4.90	H2S:0 CO:2
	15	0.0	0.0	5.2	20.9				Relative:0.55mb
	30	0.0	0.0	5.3	18.4				
	45	0.0	0.0	5.3	18.1				
	60	0.0	0.0	5.3	17.9				
	120	0.0	0.0	5.4	17.6				
	180	0.0	0.0	5.4	17.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS7	0	0.0	0.0	0.0	20.2		1.10	4.10	H2S:0 CO:0
	15	0.0	0.0	0.9	20.0				Relative:0.54mb
	30	0.0	0.0	1.0	19.2				
	45	0.0	0.0	1.0	18.8				
	60	0.0	0.0	1.1	18.3				
	120	0.0	0.0	1.3	17.8				
	180	0.0	0.0	1.6	17.1				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

WS8	0	0.0	0.0	0.0	20.4		1.15	3.70	H2S:0 CO:1
	15	0.0	0.0	1.8	19.9				Relative:0.50mb
	30	0.0	0.0	0.9	20.0				
	45	0.0	0.0	0.4	20.1				
	60	0.0	0.0	0.3	20.1				
	120	0.0	0.0	0.2	20.2				
	180	0.0	0.0	0.2	20.2				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

	0	0.0	0.0	0.0	20.4		0.70	5.40	H2S:0 CO:2
--	---	-----	-----	-----	------	--	------	------	------------

WS9	15	0.0	0.0	0.3	20.4				Relative:0.68mb
	30	0.0	0.0	0.4	20.3				
	45	0.0	0.0	0.3	20.2				
	60	0.0	0.0	0.2	20.3				
	120	0.0	0.0	0.1	20.4				
	180	0.0	0.0	0.1	20.4				
	240								
	300								
	360								
	420								
	480								
	540								
	600								

Notes: TOC = top of casing

The measurement of hydrogen sulphide and hydrocarbon free product is undertaken on a site specific basis, if deemed necessary.

** With reference to the Met Office rolling weather archive*

	Flow (l/hr)	CH4	CO2	O2
MIN	0.0	0.0	0.0	16.3
MAX	0.0	0.0	5.4	21.9
GSV		0	0	

APPENDIX 3

GEOTECHNICAL TESTING RESULTS

TEST REPORT

Client Earth Environmental & Geotechnical Ltd

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

Contract A3469 -
ALDI, Moston

Job Number MRN 4288/4
Date of Issue 24 January 2022
Pages 1 of 22

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.



Andrew House, Hadfield Street, Dukinfield, Cheshire SK16 4QX Tel: 0161 475 0870
Email: enquiries@murrayrix.com Website: www.murrayrix.com

Also at: London: 020 8523 1999

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MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

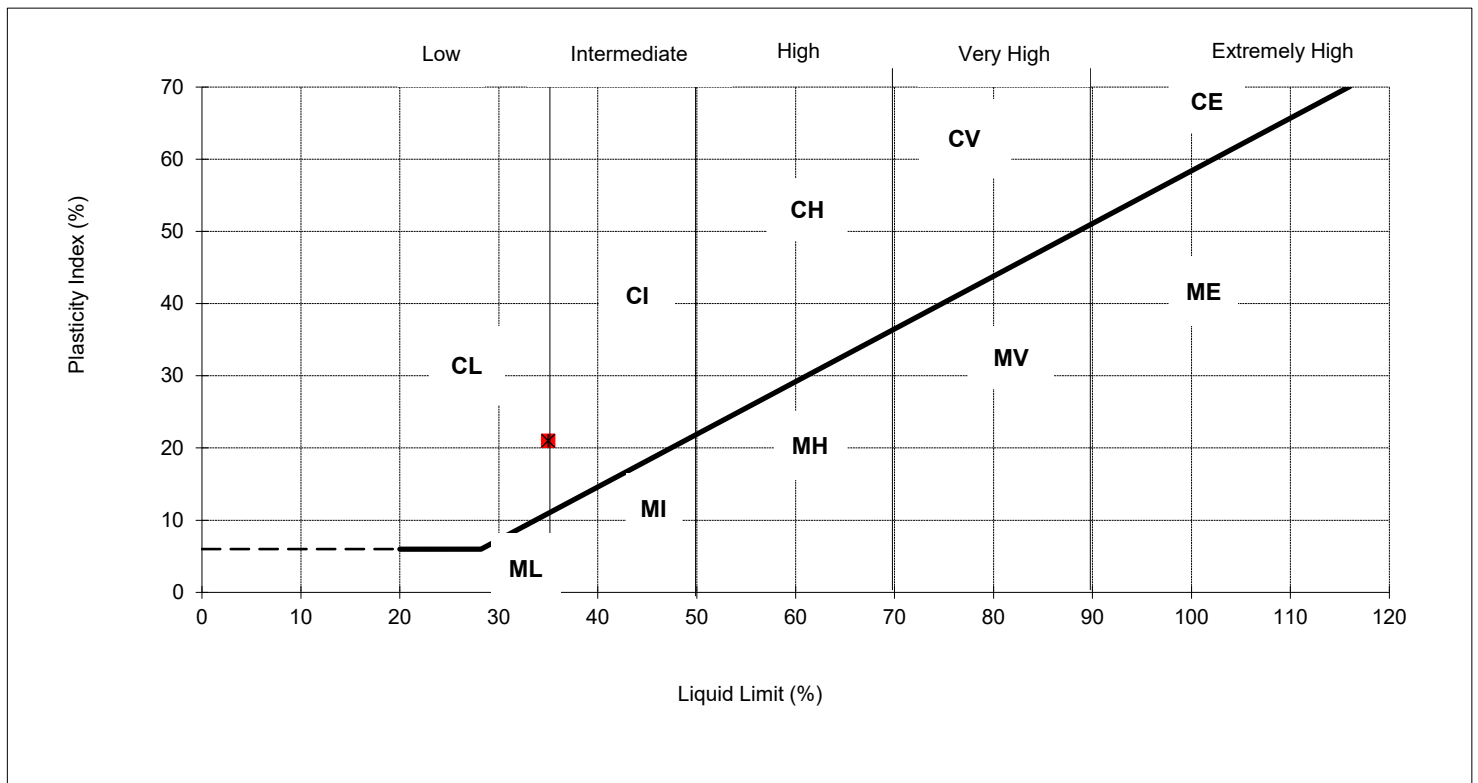
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd		
SITE	A3469 - ALDI, Moston		
JOB NUMBER	MRN 4288/4		

SAMPLE LABEL	WS01 D 2.70	DATE SAMPLED	05-Jan-22
SAMPLE No.	108120	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
23	35	14	21	99



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

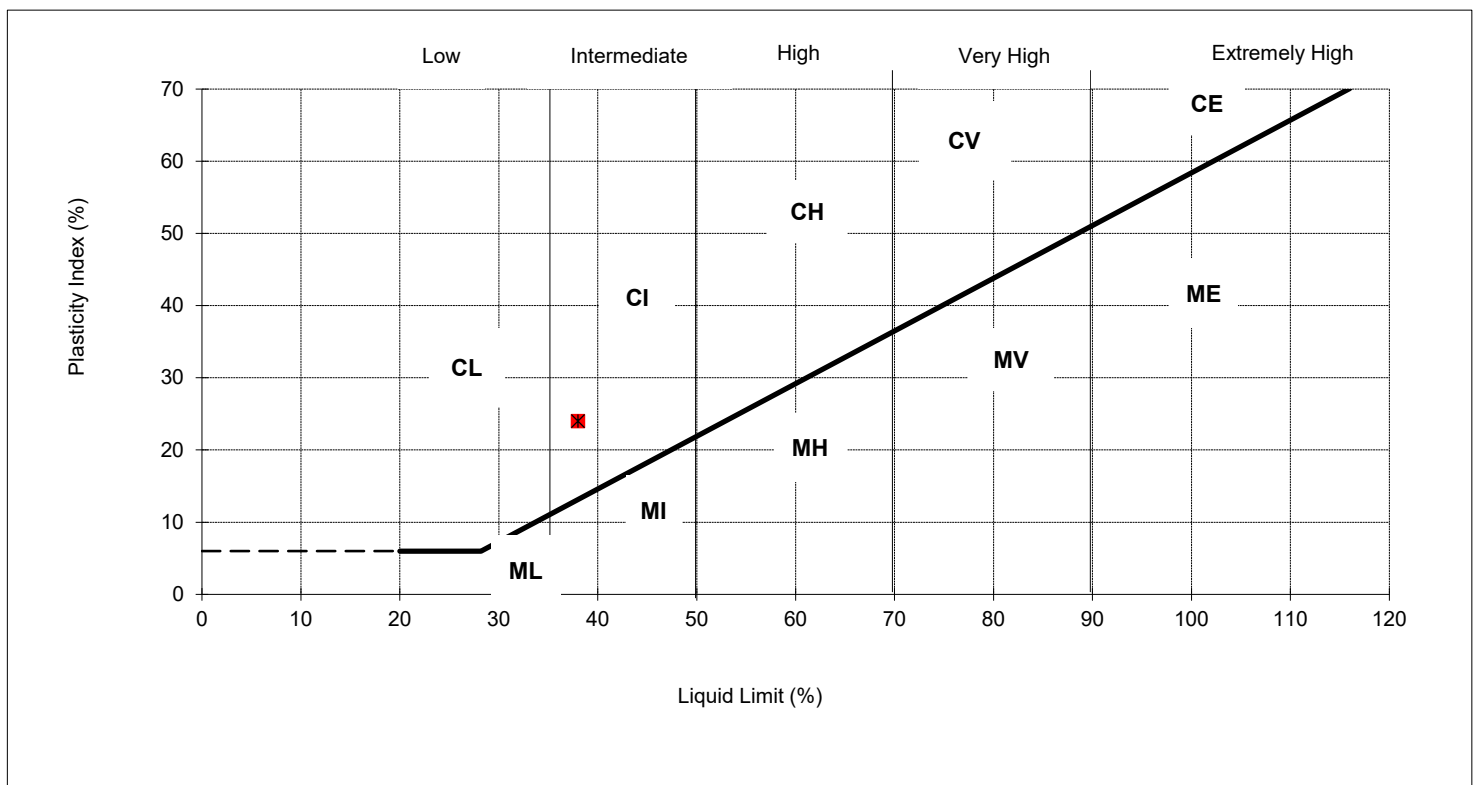
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS01 D 4.80	DATE SAMPLED	05-Jan-22
SAMPLE No.	108122	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
17	38	14	24	99



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

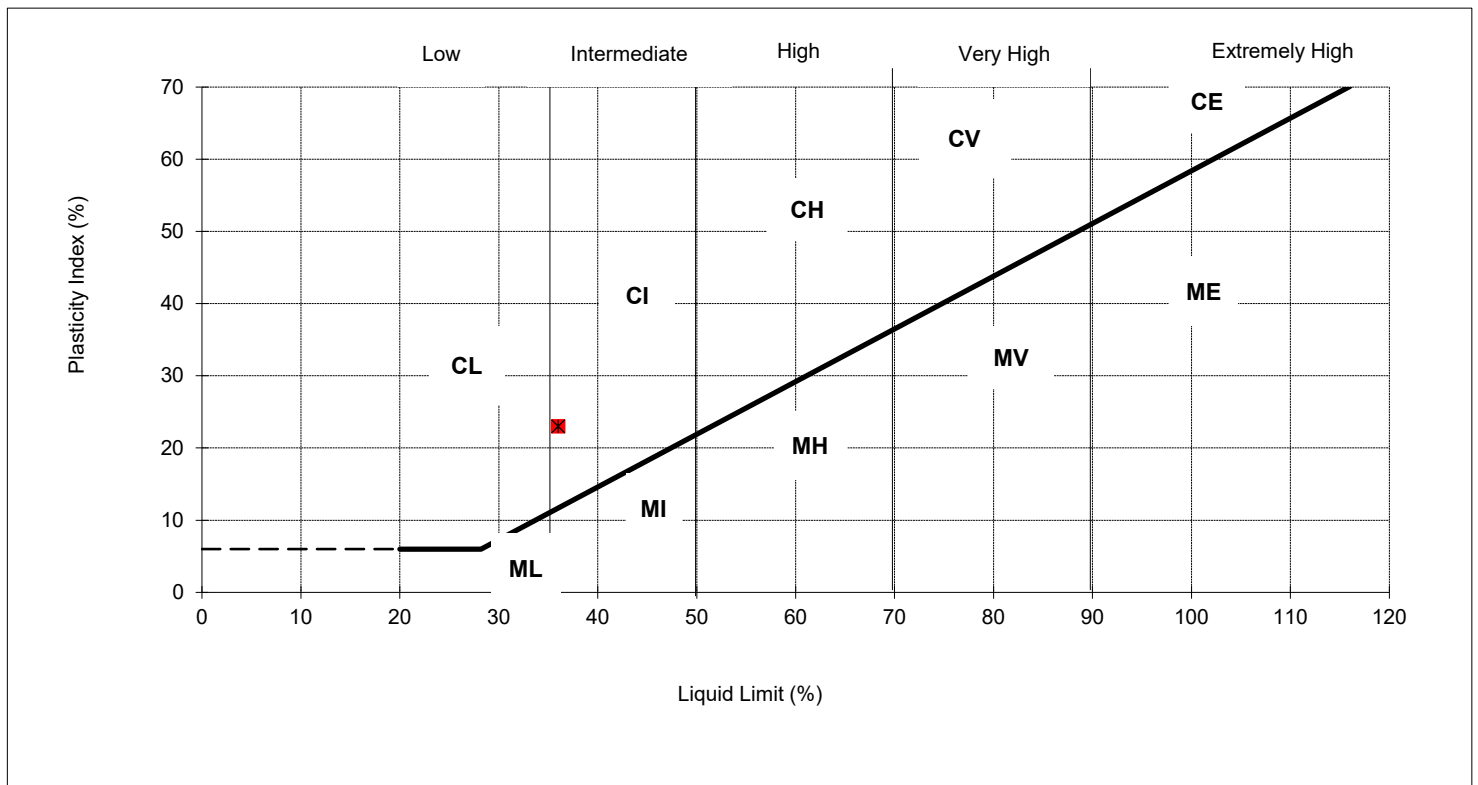
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS02 D 2.80	DATE SAMPLED	05-Jan-22
SAMPLE No.	108124	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Firm brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
24	36	13	23	99



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

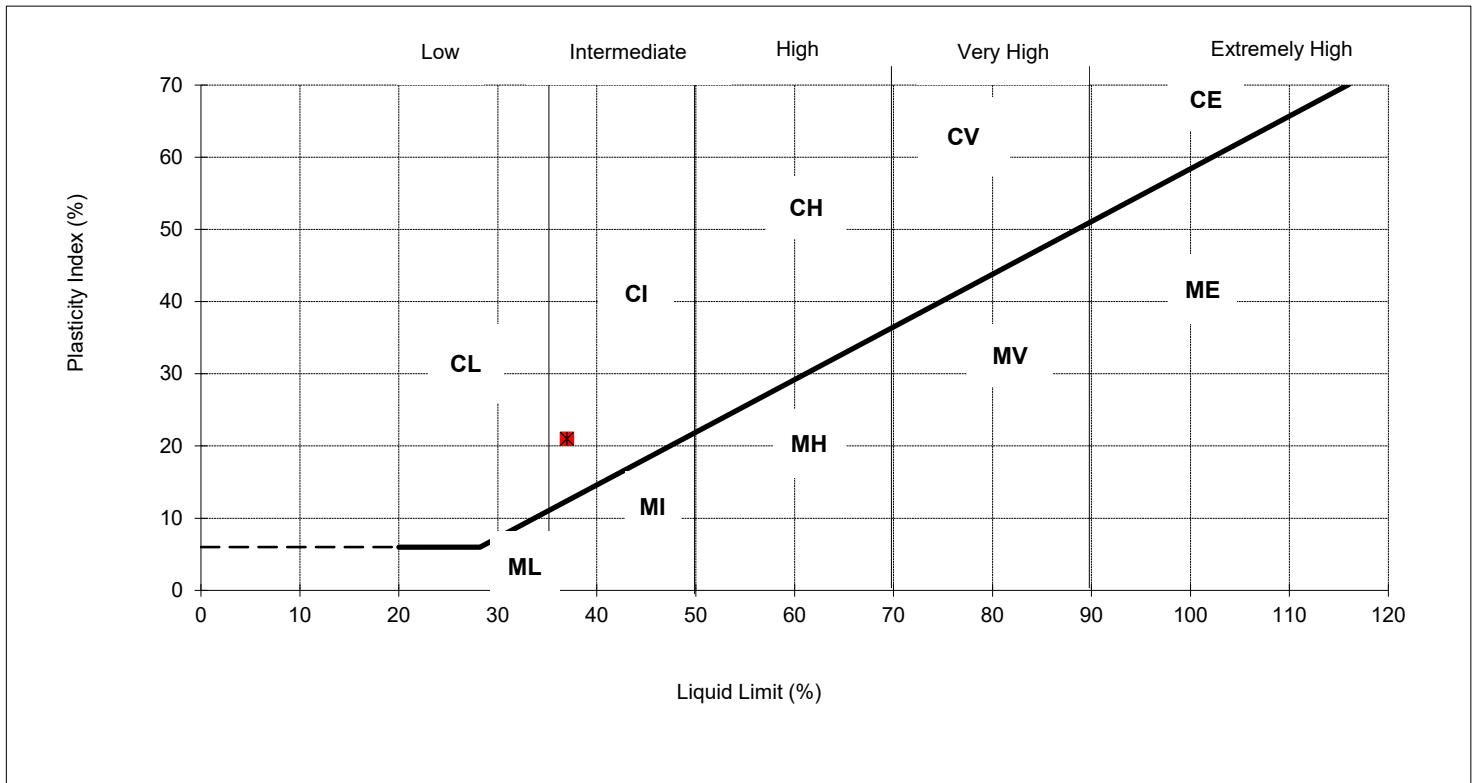
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS02 D 3.70	DATE SAMPLED	05-Jan-22
SAMPLE No.	108125	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Firm to stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
21	37	16	21	97



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

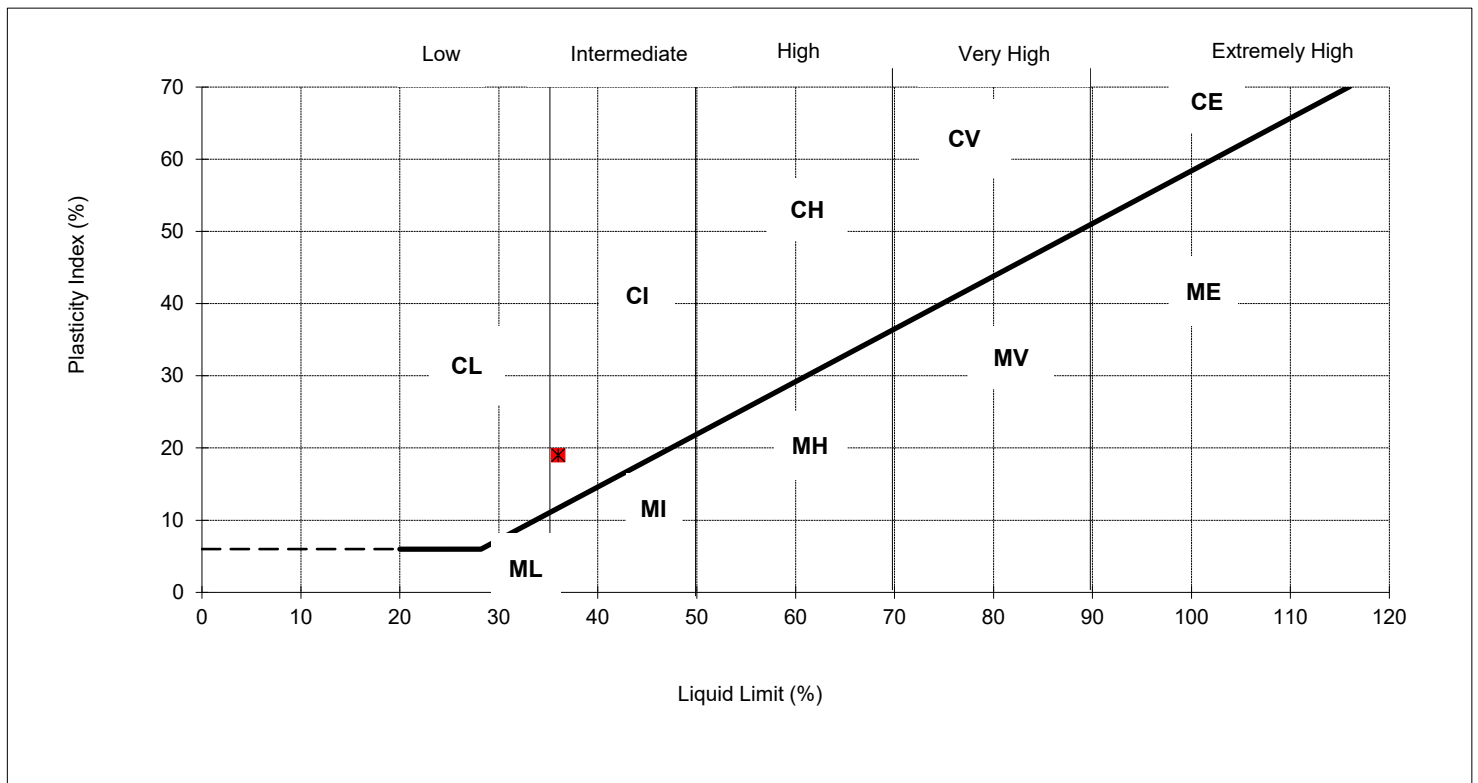
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP101 D 1.50-1.95	DATE SAMPLED	05-Jan-22
SAMPLE No.	108113	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
20	36	17	19	98



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

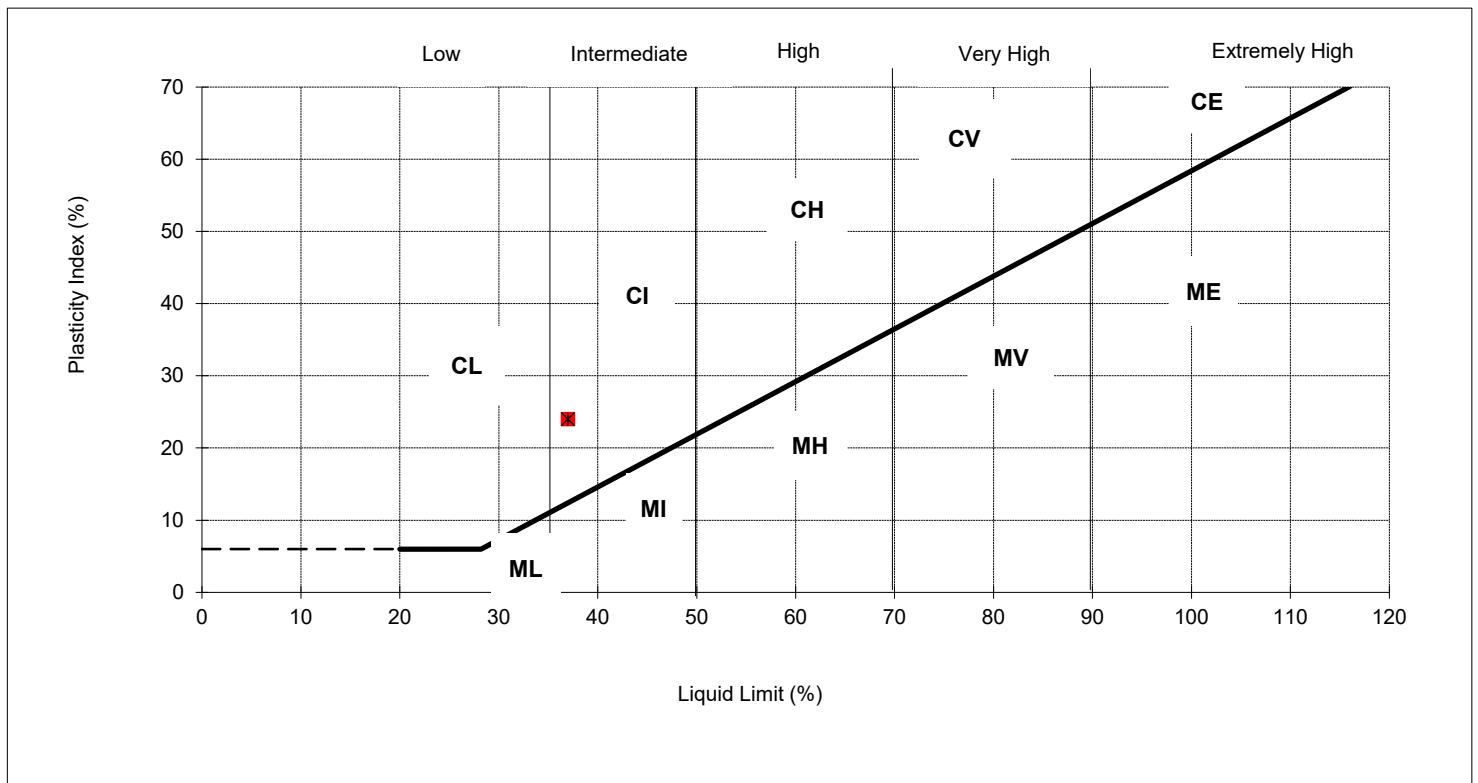
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP101 D 3.00-3.45	DATE SAMPLED	05-Jan-22
SAMPLE No.	108114	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15	37	13	24	99



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

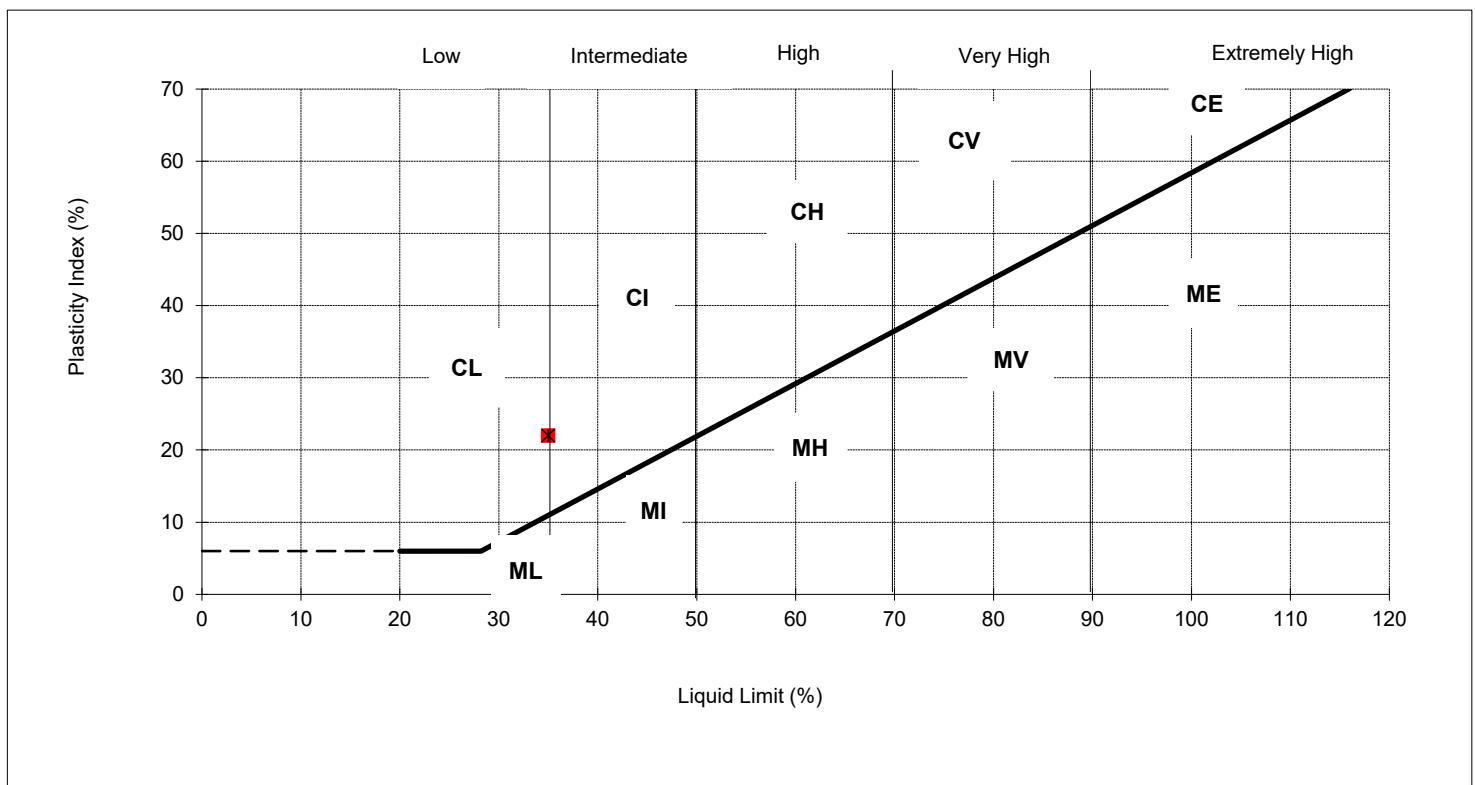
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 D 4.50-4.95	DATE SAMPLED	06-Jan-22
SAMPLE No.	108116	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
11	35	13	22	98



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

Andrew House, Hadfield Street,
Dukinfield, Cheshire SK16 4QX
TEL 0161 475 0870



TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

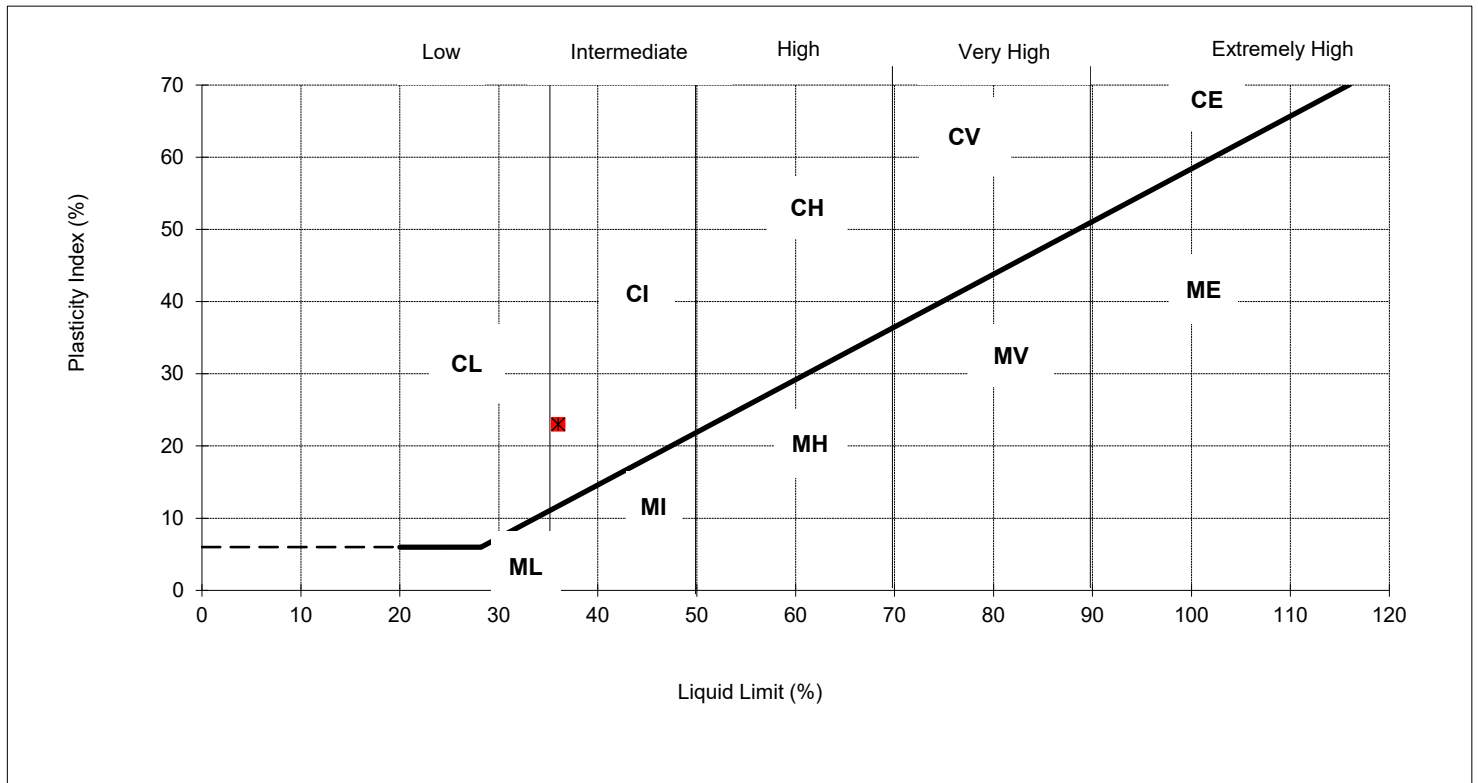
BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 D 7.50-7.95	DATE SAMPLED	06-Jan-22
SAMPLE No.	108117	DATE RECEIVED	06-Jan-22
DATE TESTED	11-Jan-22	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15	36	13	23	99



REMARKS

Sample tested in natural condition

SIGNED

NAME

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

DATE

24-Jan-22

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS01 D 2.70	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108120	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	6.9	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.18	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS01 D 4.80	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108122	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.15	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS02 D 2.80	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108124	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.17	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	WS02 D 3.70	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108125	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.13	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP101 D 1.50-1.95	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108113	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.11	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP101 D 3.00-3.45	DATE SAMPLED	05 January 2022
LAB SAMPLE No	108114	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.1	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.14	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 D 4.50-4.95	DATE SAMPLED	06 January 2022
LAB SAMPLE No	108116	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	6.9	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.10	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

pH and Sulphate as SO₄
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 D 7.50-7.95	DATE SAMPLED	06 January 2022
LAB SAMPLE No	108117	DATE RECEIVED	06 January 2022
DATE TESTED	11 January 2022	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	6.9	g/l
Sulphate as SO ₄ (2:1 Water Extract)	0.09	

REMARKS

SIGNED



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

DATE 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

BS 1377 : PART 7: Clause 8 Single Stage

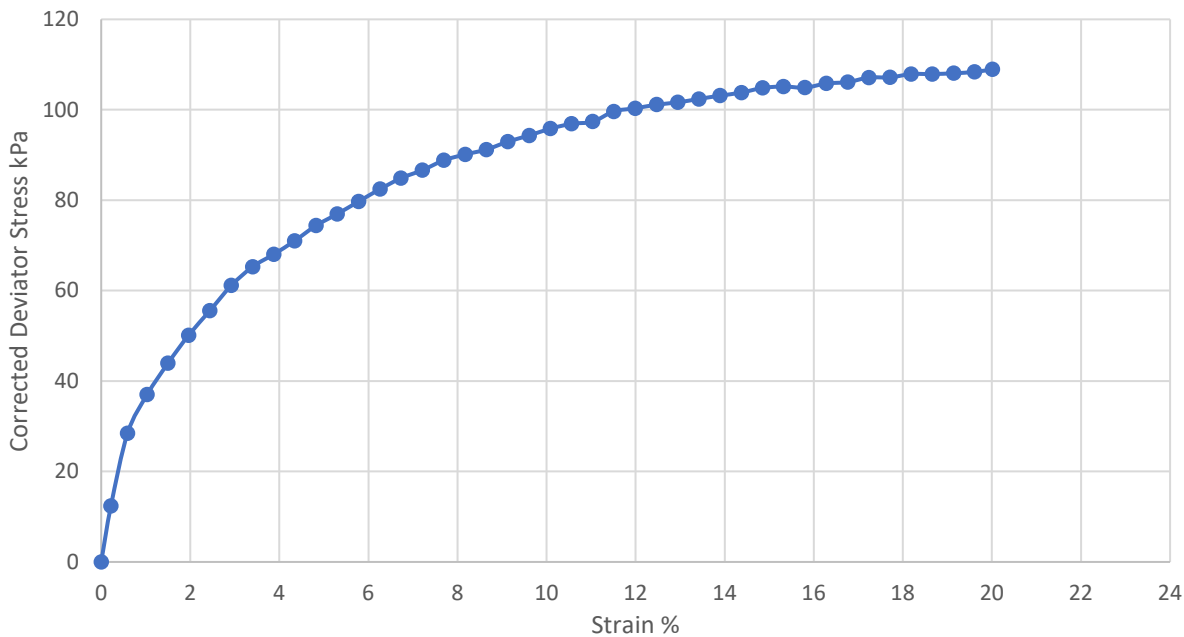
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4388/4

SAMPLE LABEL	WS01 U 3.60-4.00	DATE SAMPLED	05-Jan-22
LAB SAMPLE No.	108121	DATE RECEIVED	06-Jan-22
DATE TESTED	20-Jan-22	SAMPLED BY	Client
MATERIAL	Firm brown silty sandy CLAY		
ADVISED SOURCE	Site Investigation Sample		

INITIAL CONDITIONS

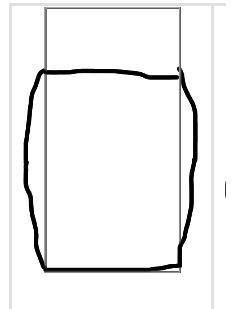
Specimen Location		Sample Length (mm)	450	Specimen depth from top of Sample (mm)	200
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	140	Specimen Moisture Content (%)	14
		Specimen Diameter (mm)	75	Specimen Bulk Density (Mg/m3)	2.28
		Membrane Thickness (mm)	0.4	Specimen Dry Density (Mg/m3)	2.01
		Membrane Correction	2.02		

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN



TEST TYPE
SINGLE STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
80	20	2	108	54

Remarks/Abnormalities

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

Signed



Date 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

BS 1377 : PART 7: Clause 8 Single Stage

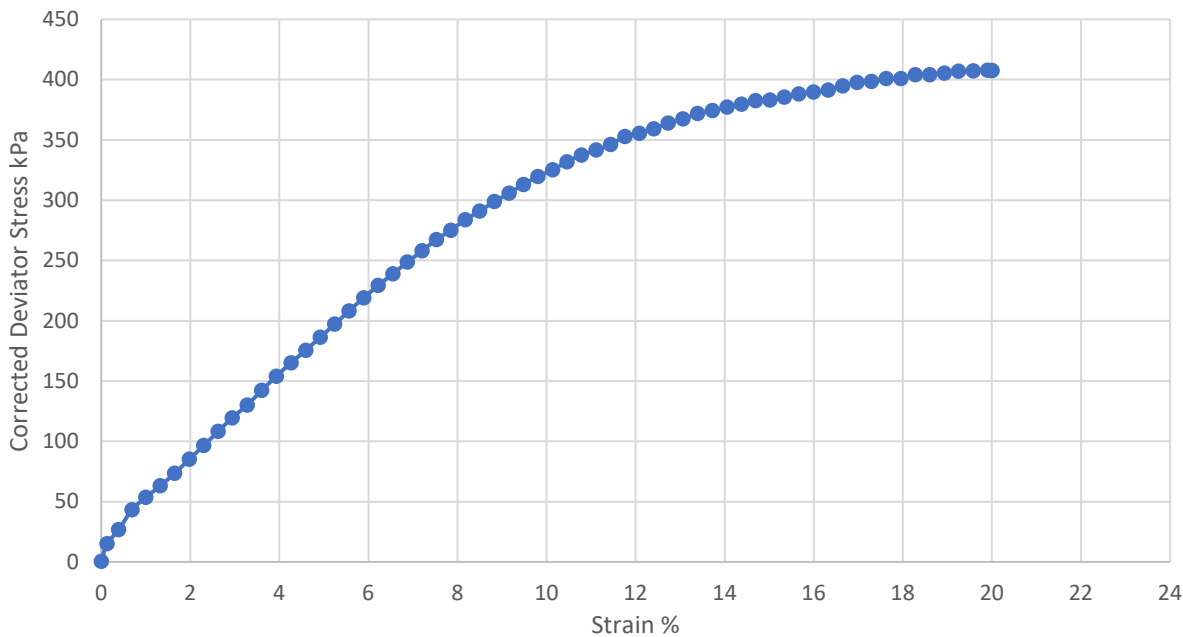
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4388/4

SAMPLE LABEL	WS01 U 5.60-6.00	DATE SAMPLED	05-Jan-22
LAB SAMPLE No.	108123	DATE RECEIVED	06-Jan-22
DATE TESTED	20-Jan-22	SAMPLED BY	Client
MATERIAL	Stiff brown silty sandy CLAY		
ADVISED SOURCE	Site Investigation Sample		

INITIAL CONDITIONS

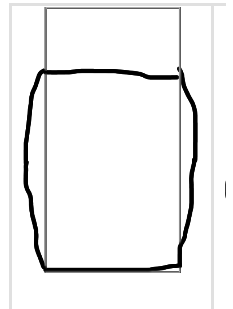
Specimen Location		Sample Length (mm)	450	Specimen depth from top of Sample (mm)	120
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	133	Specimen Moisture Content (%)	18
		Specimen Diameter (mm)	65	Specimen Bulk Density (Mg/m3)	2.11
		Membrane Thickness (mm)	0.4	Specimen Dry Density (Mg/m3)	1.79
		Membrane Correction	2.33		

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN



TEST TYPE
SINGLE STAGE

SKETCH OF
SPECIMEN AT
FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength c_u (kPa)
120	20	2	408	204

Remarks/Abnormalities

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

Signed



Date 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

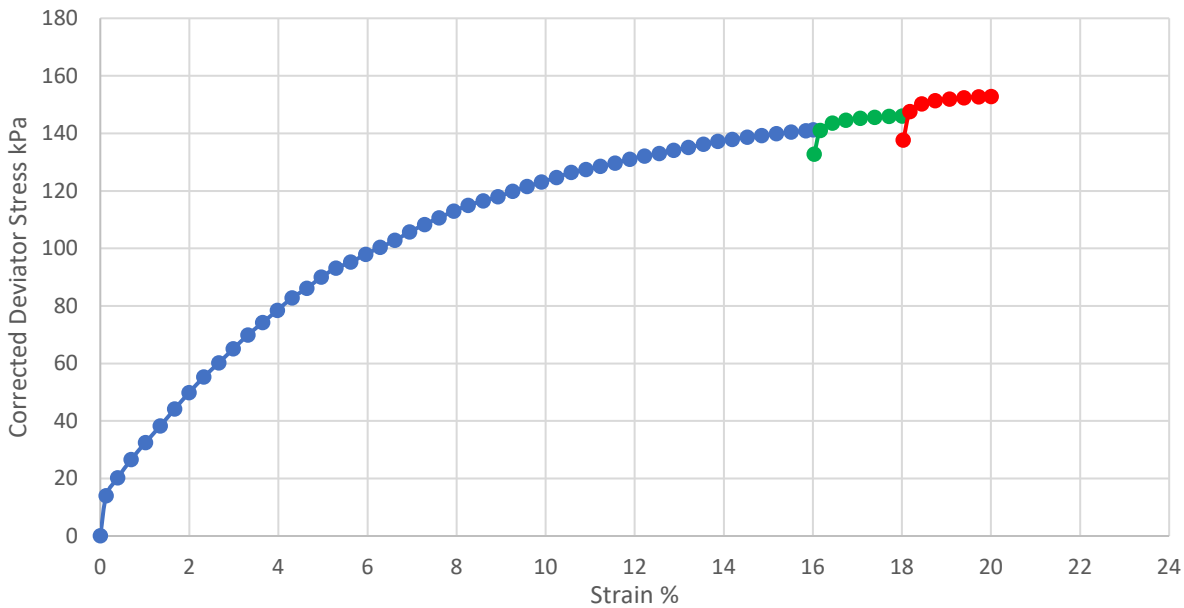
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP101 U 4.50-4.95	DATE SAMPLED	05-Jan-22
LAB SAMPLE No.	108115	DATE RECEIVED	06-Jan-22
DATE TESTED	20-Jan-22	SAMPLED BY	Client
MATERIAL	Firm to stiff brown silty sandy CLAY		
ADVISED SOURCE	Site Investigation Sample		

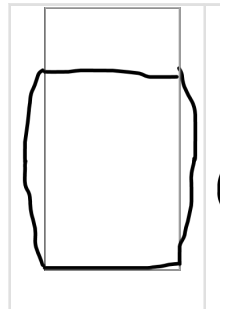
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	450	Specimen depth from top of Sample (mm)	200
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	202	Specimen Moisture Content (%)	19
		Specimen Diameter (mm)	98	Specimen Bulk Density (Mg/m3)	2.1
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.77
		Membrane Correction	1.31	1.43	1.55

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength C_u (kPa)
50	16	2	141.2	71
100	18	2	146.0	73
200	20	2	152.8	76

Remarks/Abnormalities

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

Signed



Date 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

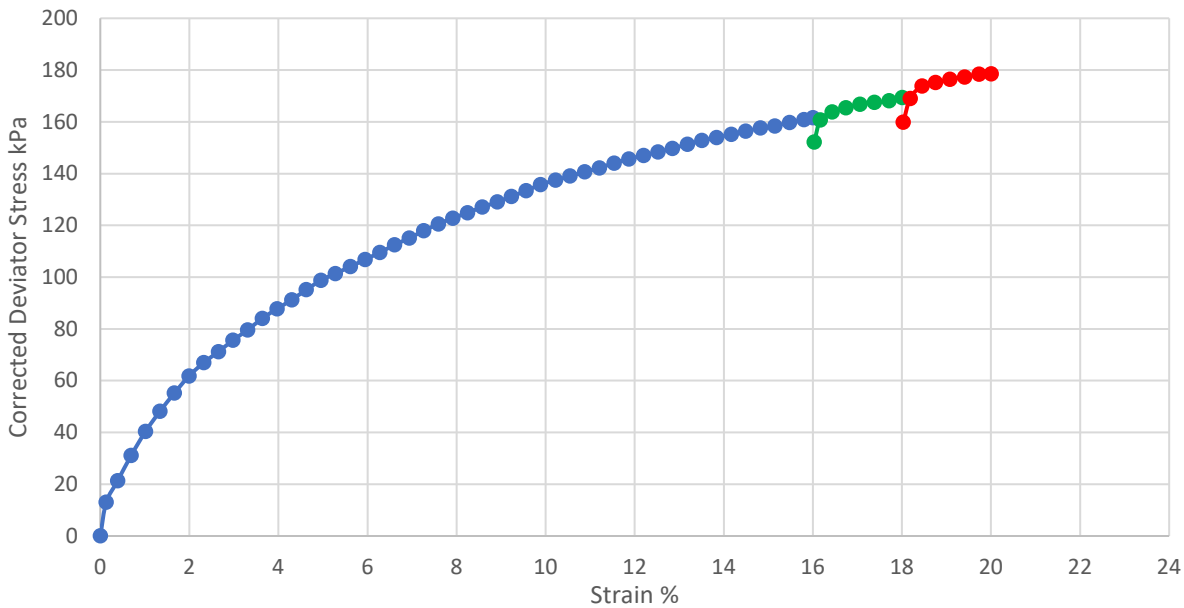
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 U 6.00-6.45	DATE SAMPLED	06-Jan-22
LAB SAMPLE No.	108118	DATE RECEIVED	06-Jan-22
DATE TESTED	20-Jan-22	SAMPLED BY	Client
MATERIAL	Stiff brown silty sandy CLAY		
ADVISED SOURCE	Site Investigation Sample		

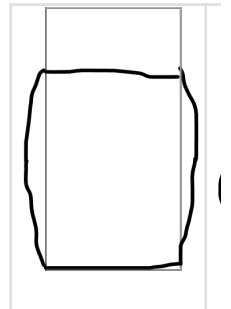
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	390	Specimen depth from top of Sample (mm)	100
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	202	Specimen Moisture Content (%)	18
		Specimen Diameter (mm)	98	Specimen Bulk Density (Mg/m3)	2.00
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.69
		Membrane Correction	1.31	1.43	1.55

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength Cu (kPa)
65	16	2	161.6	81
130	18	2	169.3	85
260	20	2	178.5	89

Remarks/Abnormalities

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

Signed



Date 24 January 2022

MURRAY RIX

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

TEST CERTIFICATE

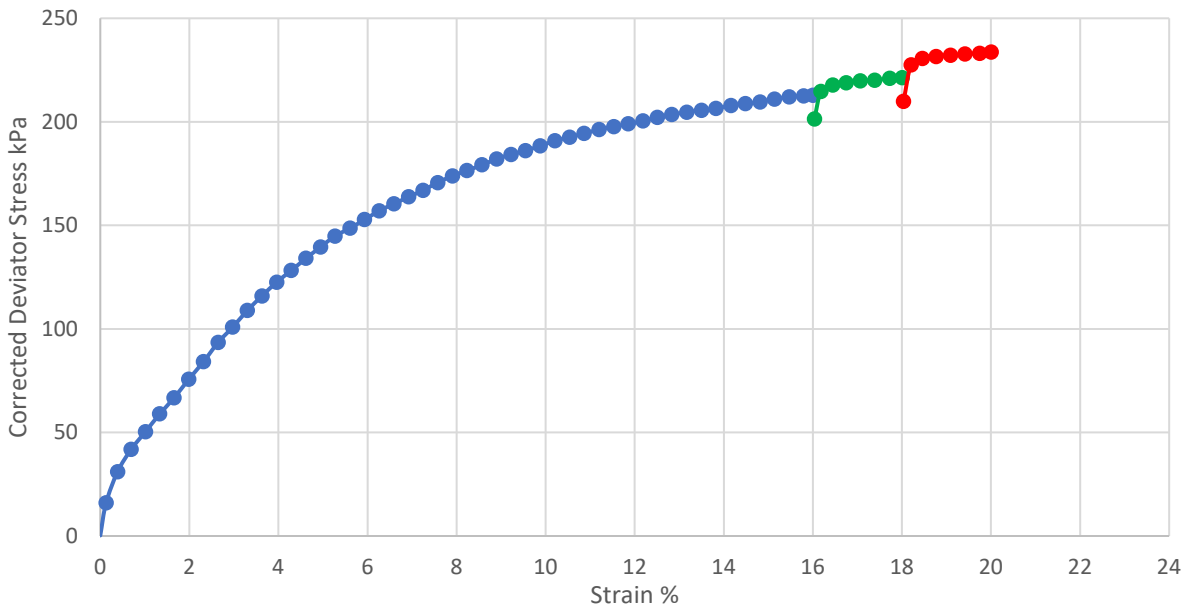
UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377 : PART 7: Clause 9 Multi Stage

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A3469 - ALDI, Moston
JOB NUMBER	MRN 4288/4

SAMPLE LABEL	CP102 U 9.00-9.45	DATE SAMPLED	06-Jan-22
LAB SAMPLE No.	108118	DATE RECEIVED	06-Jan-22
DATE TESTED	20-Jan-22	SAMPLED BY	Client
MATERIAL	Stiff brown silty sandy CLAY		
ADVISED SOURCE	Site Investigation Sample		

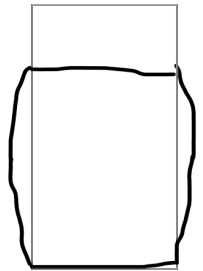
INITIAL CONDITIONS

Specimen Location		Sample Length (mm)	450	Specimen depth from top of Sample (mm)	100
		Sample Orientation	Vertical	Specimen Condition	Undisturbed
		Specimen Length (mm)	202	Specimen Moisture Content (%)	15
		Specimen Diameter (mm)	101	Specimen Bulk Density (Mg/m3)	2.24
		Membrane Thickness (mm)	0.40	Specimen Dry Density (Mg/m3)	1.95
		Membrane Correction	1.26	1.38	1.49

CORRECTED DEVIATOR STRESS vs AXIAL STRAIN

TEST TYPE
MULTI STAGE

SKETCH OF SPECIMEN AT FAILURE



PLASTIC

Cell Pressure (kPa)	Failure Strain (%)	Rate of Strain (%/min)	Corrected Deviator Stress (kPa)	Shear Strength C_u (kPa)
95	16	2	212.9	106
190	18	2	221.4	111
380	20	2	233.6	117

Remarks/Abnormalities

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

Signed



Date 24 January 2022

APPENDIX 4

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: 22-00188

Site Reference: ALDI Moston

Project / Job Ref: A3469

Order No: A3469

Sample Receipt Date: 11/01/2022

Sample Scheduled Date: 11/01/2022

Report Issue Number: 1

Reporting Date: 17/01/2022

Authorised by:

Dave Ashworth
Technical 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.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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



Soil Analysis Certificate						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.35	0.50	0.30	1.20	0.70
Reporting Date: 17/01/2022	DETS Sample No	581613	581614	581615	581616	581617

Determinand	Unit	RL	Accreditation	(n)		(n)		(n)
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	8.6	10.2	8.4	6.1	7.5
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	28	< 2
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	11	< 2
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	17	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200	6114	238	402	774
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02	0.61	0.02	0.04	0.08
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10	457	28	47	32
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01	0.46	0.03	0.05	0.03
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter (SOM)	%	< 0.1	MCERTS	12.3	3	6.8	40	9.4
Arsenic (As)	mg/kg	< 2	MCERTS	< 2	6	< 2	< 2	13
Barium (Ba)	mg/kg	< 2.5	MCERTS	105	240	74	73	220
Beryllium (Be)	mg/kg	< 0.5	MCERTS	< 0.5	< 0.5	< 0.5	< 0.5	0.7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.7	0.4	0.4	< 0.2	0.3
Chromium (Cr)	mg/kg	< 2	MCERTS	< 2	11	6	12	20
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	< 4	25	5	58	35
Lead (Pb)	mg/kg	< 3	MCERTS	5	94	8	12	64
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	< 3	7	6	13	19
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS	1	17	14	12	28
Zinc (Zn)	mg/kg	< 3	MCERTS	71	144	20	31	93
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	116	2040	33	107

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						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS04	WS05	WS06	WS07	WS07
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.60	0.55	1.10	0.45	2.20
Reporting Date: 17/01/2022	DETS Sample No	581618	581619	581620	581621	581622

Determinand	Unit	RL	Accreditation	(n)				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE		Chrysotile present as fibre bundles			
Asbestos Type ^(S)	PLM Result	N/a	ISO17025		Chrysotile			
pH	pH Units	N/a	MCERTS	8.6	8.3	6.6	6.2	5.7
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	6	< 2	7
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	6	< 2	7
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1724	1531	451	670	911
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.17	0.15	0.05	0.07	0.09
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	65	26	< 10	30	47
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.06	0.03	< 0.01	0.03	0.05
Sulphide	mg/kg	< 5	NONE	7	< 5	< 5	< 5	< 5
Organic Matter (SOM)	%	< 0.1	MCERTS	7.4	5.2	7.3	24.8	56
Arsenic (As)	mg/kg	< 2	MCERTS	13	11	15	46	4
Barium (Ba)	mg/kg	< 2.5	MCERTS	360	215	187	389	233
Beryllium (Be)	mg/kg	< 0.5	MCERTS	0.6	0.6	0.8	4.8	1.2
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	1.5
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.7	0.3	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	46	15	21	24	54
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	41	36	33	136	42
Lead (Pb)	mg/kg	< 3	MCERTS	104	135	558	116	18
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	1.3	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	38	13	13	59	37
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	MCERTS	21	28	30	90	18
Zinc (Zn)	mg/kg	< 3	MCERTS	105	162	64	91	32
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	590	83	21	16	14

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Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: ALDI Moston	TP / BH No	WS08	WS09	WS10		
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A3469	Depth (m)	0.40	1.30	0.80		
Reporting Date: 17/01/2022	DETS Sample No	581623	581624	581625		

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.1	6.1	8.1		
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	819	919	< 200		
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.08	0.09	< 0.02		
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	17	144	< 10		
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.02	0.14	< 0.01		
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5		
Organic Matter (SOM)	%	< 0.1	MCERTS	23.2	63.1	0.7		
Arsenic (As)	mg/kg	< 2	MCERTS	27	11	< 2		
Barium (Ba)	mg/kg	< 2.5	MCERTS	229	136	86		
Beryllium (Be)	mg/kg	< 0.5	MCERTS	1.4	0.8	< 0.5		
W/S Boron	mg/kg	< 1	NONE	< 1	1.6	< 1		
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4	< 0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	18	42	9		
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2		
Copper (Cu)	mg/kg	< 4	MCERTS	79	48	5		
Lead (Pb)	mg/kg	< 3	MCERTS	70	31	16		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	25	32	10		
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3		
Vanadium (V)	mg/kg	< 1	MCERTS	60	29	10		
Zinc (Zn)	mg/kg	< 3	MCERTS	89	41	30		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		
EPH (C10 - C40)	mg/kg	< 6	MCERTS	13	25	56		

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Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.35	0.50	0.30	1.20	0.70
Reporting Date: 17/01/2022	DETS Sample No	581613	581614	581615	581616	581617

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	1.66	< 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	0.61	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	1.07	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	4.69	0.11	< 0.1	0.80
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	1.17	< 0.1	< 0.1	0.17
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	4.12	< 0.1	0.20	1.21
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	4.31	< 0.1	< 0.1	1.14
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	1.45	< 0.1	< 0.1	0.47
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	1.94	< 0.1	< 0.1	0.58
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	1.52	< 0.1	< 0.1	0.57
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.70	< 0.1	< 0.1	0.15
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	1.27	< 0.1	< 0.1	0.44
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.66	< 0.1	< 0.1	0.24
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	0.64	< 0.1	< 0.1	0.24
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	25.8	< 1.6	< 1.6	6

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS04	WS05	WS06	WS07	WS07
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.60	0.55	1.10	0.45	2.20
Reporting Date: 17/01/2022	DETS Sample No	581618	581619	581620	581621	581622

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Naphthalene	mg/kg	< 0.1	MCERTS	0.41	0.28	< 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	0.68	0.22	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.50	0.14	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	4.63	1.57	< 0.1	0.19	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	0.97	0.31	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	5.52	1.83	0.13	0.58	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	4.90	1.52	0.14	0.54	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	2.28	0.63	< 0.1	0.28	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	2.42	0.73	< 0.1	0.35	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	2.56	0.73	< 0.1	0.44	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.82	0.20	< 0.1	0.15	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	2.22	0.54	< 0.1	0.32	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.95	0.27	< 0.1	0.20	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.29	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.96	0.28	< 0.1	0.19	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	30.1	9.3	< 1.6	3.2	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: ALDI Moston	TP / BH No	WS08	WS09	WS10		
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A3469	Depth (m)	0.40	1.30	0.80		
Reporting Date: 17/01/2022	DETS Sample No	581623	581624	581625		

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	0.41	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	0.67	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	0.63	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.25	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	0.33	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.32	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.24	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2.9	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.35	0.50	0.30	1.20	0.70
Reporting Date: 17/01/2022	DETS Sample No	581613	581614	581615	581616	581617

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	274	< 10	16
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	274	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	3	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	9	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	23	< 3	< 3	7
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	26	427	< 10	22
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	61	427	< 21	29
Total >C5 - C35	mg/kg	< 42	NONE	< 42	61	701	< 42	49

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS04	WS05	WS06	WS07	WS07
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.60	0.55	1.10	0.45	2.20
Reporting Date: 17/01/2022	DETS Sample No	581618	581619	581620	581621	581622

Determinand	Unit	RL	Accreditation	(n)		(n)		(n)	
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	4	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	94	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	98	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	7	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	38	10	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	212	19	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	257	29	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	355	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: ALDI Moston	TP / BH No	WS08	WS09	WS10		
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A3469	Depth (m)	0.40	1.30	0.80		
Reporting Date: 17/01/2022	DETS Sample No	581623	581624	581625		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	15	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	4	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS01	WS01	WS02	WS02	WS03
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.35	0.50	0.30	1.20	0.70
Reporting Date: 17/01/2022	DETS Sample No	581613	581614	581615	581616	581617

Determinand	Unit	RL	Accreditation	(n)	(n)	(n)	(n)	(n)
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	8	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	6	< 2	< 2	< 2
MTBE	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: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22	05/01/22	05/01/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: ALDI Moston	TP / BH No	WS04	WS05	WS06	WS07	WS07
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	0.60	0.55	1.10	0.45	2.20
Reporting Date: 17/01/2022	DETS Sample No	581618	581619	581620	581621	581622

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



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-00188	Date Sampled	05/01/22	05/01/22	05/01/22		
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: ALDI Moston	TP / BH No	WS08	WS09	WS10		
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: A3469	Depth (m)	0.40	1.30	0.80		
Reporting Date: 17/01/2022	DETS Sample No	581623	581624	581625		

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



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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																							
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Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
3%	5%	6%																																					
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1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied																																				
Site Reference: ALDI Moston		TP / BH No	WS01																																				
Project / Job Ref: A3469		Additional Refs	None Supplied																																				
Order No: A3469		Depth (m)	0.35																																				
Reporting Date: 17/01/2022		DETS Sample No	581613																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	2.9																																				
Loss on Ignition	%	< 0.01	0.36																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	8.6																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	6.3																																				
Eluate Analysis			10:1 mg/l			Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U		< 0.01				0.5	2	25																															
Barium ^U		0.08				20	100	300																															
Cadmium ^U		< 0.0005				0.04	1	5																															
Chromium ^U		< 0.005				0.5	10	70																															
Copper ^U		< 0.01				2	50	100																															
Mercury ^U		< 0.0005				0.01	0.2	2																															
Molybdenum ^U		< 0.001				0.5	10	30																															
Nickel ^U		< 0.007				0.4	10	40																															
Lead ^U		< 0.005				0.5	10	50																															
Antimony ^U		< 0.005				0.06	0.7	5																															
Selenium ^U		< 0.005				0.1	0.5	7																															
Zinc ^U		0.011				4	50	200																															
Chloride ^U		3.0				800	15000	25000																															
Fluoride ^U		< 0.5				10	150	500																															
Sulphate ^U		1.5				1000	20000	50000																															
TDS		61				4000	60000	100000																															
Phenol Index		< 0.01				1	-	-																															
DOC		8.5				500	800	1000																															
Leach Test Information																																							
Sample Mass (kg)		0.09																																					
Dry Matter (%)		96.7																																					
Moisture (%)		3.4																																					
Stage 1																																							
Volume Eluate L10 (litres)		0.90																																					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
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Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
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1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied																																				
Site Reference: ALDI Moston		TP / BH No	WS02																																				
Project / Job Ref: A3469		Additional Refs	None Supplied																																				
Order No: A3469		Depth (m)	0.30																																				
Reporting Date: 17/01/2022		DETS Sample No	581615																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	4																																				
Loss on Ignition	%	< 0.01	4.40																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	436																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	8.4																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.6																																				
Eluate Analysis			10:1 mg/l			Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U		< 0.01				0.5	2	25																															
Barium ^U		< 0.02				20	100	300																															
Cadmium ^U		< 0.0005				0.04	1	5																															
Chromium ^U		< 0.005				0.5	10	70																															
Copper ^U		< 0.01				2	50	100																															
Mercury ^U		< 0.0005				0.01	0.2	2																															
Molybdenum ^U		0.002				0.5	10	30																															
Nickel ^U		< 0.007				0.4	10	40																															
Lead ^U		< 0.005				0.5	10	50																															
Antimony ^U		< 0.005				0.06	0.7	5																															
Selenium ^U		< 0.005				0.1	0.5	7																															
Zinc ^U		0.005				0.05	50	200																															
Chloride ^U		3.0				800	15000	25000																															
Fluoride ^U		< 0.5				10	150	500																															
Sulphate ^U		2.0				1000	20000	50000																															
TDS		51				4000	60000	100000																															
Phenol Index		< 0.01				1	-	-																															
DOC		14.1				500	800	1000																															
Leach Test Information																																							
Sample Mass (kg)		0.09																																					
Dry Matter (%)		94.7																																					
Moisture (%)		5.6																																					
Stage 1																																							
Volume Eluate L10 (litres)		0.89																																					

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																							
DETS Report No: 22-00188			Date Sampled		05/01/22		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="3" style="text-align: left; padding: 5px;">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <td style="width: 33%; padding: 5px; text-align: center;">Inert Waste Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</td> <td style="width: 33%; padding: 5px; text-align: center;">Hazardous Waste Landfill</td> </tr> <tr> <td style="padding: 5px; text-align: center;">3%</td> <td style="padding: 5px; text-align: center;">5%</td> <td style="padding: 5px; text-align: center;">6%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">10%</td> </tr> <tr> <td style="padding: 5px; text-align: center;">6</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">1</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">500</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">100</td> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">>6</td> <td style="padding: 5px; text-align: center;">--</td> </tr> <tr> <td style="padding: 5px; text-align: center;">--</td> <td style="padding: 5px; text-align: center;">To be evaluated</td> <td style="padding: 5px; text-align: center;">To be evaluated</td> </tr> </table>			Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
Landfill Waste Acceptance Criteria Limits																																							
Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill																																					
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--	--	10%																																					
6	--	--																																					
1	--	--																																					
500	--	--																																					
100	--	--																																					
--	>6	--																																					
--	To be evaluated	To be evaluated																																					
Earth Environmental & Geotechnical Ltd			Time Sampled		None Supplied																																		
Site Reference: ALDI Moston			TP / BH No		WS05																																		
Project / Job Ref: A3469			Additional Refs		None Supplied																																		
Order No: A3469			Depth (m)		0.55																																		
Reporting Date: 17/01/2022			DETS Sample No		581619																																		
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	3																																				
Loss on Ignition	%	< 0.01	5.50																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	9.5																																				
pH ^{MU}	pH Units	N/a	8.3																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.1																																				
Eluate Analysis			10:1					Cumulative 10:1	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																														
			mg/l					mg/kg																															
Arsenic ^U			< 0.01					0.5	2	25																													
Barium ^U			0.02					20	100	300																													
Cadmium ^U			< 0.0005					0.04	1	5																													
Chromium ^U			< 0.005					0.5	10	70																													
Copper ^U			< 0.01					2	50	100																													
Mercury ^U			< 0.0005					0.01	0.2	2																													
Molybdenum ^U			0.002					0.5	10	30																													
Nickel ^U			< 0.007					0.4	10	40																													
Lead ^U			< 0.005					0.5	10	50																													
Antimony ^U			< 0.005					0.06	0.7	5																													
Selenium ^U			< 0.005					0.1	0.5	7																													
Zinc ^U			< 0.005					4	50	200																													
Chloride ^U			3.9					800	15000	25000																													
Fluoride ^U			< 0.5					10	150	500																													
Sulphate ^U			6.3					1000	20000	50000																													
TDS			68					4000	60000	100000																													
Phenol Index			< 0.01					1	-	-																													
DOC			20.5					500	800	1000																													
Leach Test Information																																							
Sample Mass (kg)			0.11																																				
Dry Matter (%)			83																																				
Moisture (%)			20.4																																				
Stage 1																																							
Volume Eluate L10 (litres)			0.88																																				

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Tel : 01622 850410



Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2																																							
DETS Report No: 22-00188		Date Sampled	05/01/22		<table border="1"> <thead> <tr> <th colspan="3">Landfill Waste Acceptance Criteria Limits</th> </tr> <tr> <th>Inert Waste Landfill</th> <th>Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill</th> <th>Hazardous Waste Landfill</th> </tr> </thead> <tbody> <tr> <td>3%</td> <td>5%</td> <td>6%</td> </tr> <tr> <td>--</td> <td>--</td> <td>10%</td> </tr> <tr> <td>6</td> <td>--</td> <td>--</td> </tr> <tr> <td>1</td> <td>--</td> <td>--</td> </tr> <tr> <td>500</td> <td>--</td> <td>--</td> </tr> <tr> <td>100</td> <td>--</td> <td>--</td> </tr> <tr> <td>--</td> <td>>6</td> <td>--</td> </tr> <tr> <td>--</td> <td>To be evaluated</td> <td>To be evaluated</td> </tr> </tbody> </table>					Landfill Waste Acceptance Criteria Limits			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	3%	5%	6%	--	--	10%	6	--	--	1	--	--	500	--	--	100	--	--	--	>6	--	--	To be evaluated	To be evaluated
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Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied																																				
Site Reference: ALDI Moston		TP / BH No	WS08																																				
Project / Job Ref: A3469		Additional Refs	None Supplied																																				
Order No: A3469		Depth (m)	0.40																																				
Reporting Date: 17/01/2022		DETS Sample No	581623																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	13.5																																				
Loss on Ignition	%	< 0.01	19.10																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	< 10																																				
Total PAH ^{MU}	mg/kg	< 1.7	2.9																																				
pH ^{MU}	pH Units	N/a	7.1																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1																																				
Eluate Analysis			10:1 mg/l			Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U		< 0.01				0.5	2	25																															
Barium ^U		0.02				20	100	300																															
Cadmium ^U		< 0.0005				0.04	1	5																															
Chromium ^U		< 0.005				0.5	10	70																															
Copper ^U		< 0.01				2	50	100																															
Mercury ^U		< 0.0005				0.01	0.2	2																															
Molybdenum ^U		0.002				0.5	10	30																															
Nickel ^U		< 0.007				0.4	10	40																															
Lead ^U		< 0.005				0.5	10	50																															
Antimony ^U		< 0.005				0.06	0.7	5																															
Selenium ^U		< 0.005				0.1	0.5	7																															
Zinc ^U		0.008				0.08	50	200																															
Chloride ^U		2.5				800	15000	25000																															
Fluoride ^U		< 0.5				10	150	500																															
Sulphate ^U		2.5				1000	20000	50000																															
TDS		58				4000	60000	100000																															
Phenol Index		< 0.01				1	-	-																															
DOC		16.2				500	800	1000																															
Leach Test Information																																							
Sample Mass (kg)		0.11																																					
Dry Matter (%)		78.9																																					
Moisture (%)		26.8																																					
Stage 1																																							
Volume Eluate L10 (litres)		0.88																																					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
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 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test



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Earth Environmental & Geotechnical Ltd		Time Sampled	None Supplied																																				
Site Reference: ALDI Moston		TP / BH No	WS10																																				
Project / Job Ref: A3469		Additional Refs	None Supplied																																				
Order No: A3469		Depth (m)	0.80																																				
Reporting Date: 17/01/2022		DETS Sample No	581625																																				
Determinand	Unit	MDL																																					
TOC ^{MU}	%	< 0.1	0.4																																				
Loss on Ignition	%	< 0.01	1.70																																				
BTEX ^{MU}	mg/kg	< 0.05	< 0.05																																				
Sum of PCBs	mg/kg	< 0.1	< 0.1																																				
Mineral Oil ^{MU}	mg/kg	< 10	17																																				
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7																																				
pH ^{MU}	pH Units	N/a	8.1																																				
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1																																				
Eluate Analysis			10:1 mg/l			Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)																																
Arsenic ^U		< 0.01				0.5	2	25																															
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Cadmium ^U		< 0.0005				0.04	1	5																															
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Molybdenum ^U		0.001				0.5	10	30																															
Nickel ^U		< 0.007				0.4	10	40																															
Lead ^U		< 0.005				0.5	10	50																															
Antimony ^U		< 0.005				0.06	0.7	5																															
Selenium ^U		< 0.005				0.1	0.5	7																															
Zinc ^U		< 0.005				4	50	200																															
Chloride ^U		1.5				800	15000	25000																															
Fluoride ^U		< 0.5				10	150	500																															
Sulphate ^U		1.3				1000	20000	50000																															
TDS		47				4000	60000	100000																															
Phenol Index		< 0.01				1	-	-																															
DOC		8.9				500	800	1000																															
Leach Test Information																																							
Sample Mass (kg)		0.10																																					
Dry Matter (%)		91.7																																					
Moisture (%)		9																																					
Stage 1																																							
Volume Eluate L10 (litres)		0.89																																					

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Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 22-00188	
Earth Environmental & Geotechnical Ltd	
Site Reference: ALDI Moston	
Project / Job Ref: A3469	
Order No: A3469	
Reporting Date: 17/01/2022	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
581613	WS01	None Supplied	0.35	3.3	Brown sandy gravel with stones and concrete
581614	WS01	None Supplied	0.50	14.6	Brown sandy gravel with stones and concrete
581615	WS02	None Supplied	0.30	5.3	Black loamy sand
581616	WS02	None Supplied	1.20	44.1	Black sandy clay with stones and concrete
581617	WS03	None Supplied	0.70	15.5	Brown sandy gravel with stones and concrete
581618	WS04	None Supplied	0.60	11.7	Brown sandy gravel with stones and concrete
581619	WS05	None Supplied	0.55	17	Brown sandy gravel with stones and concrete
581620	WS06	None Supplied	1.10	21.9	Brown clay
581621	WS07	None Supplied	0.45	15.1	Black sandy clay with stones
581622	WS07	None Supplied	2.20	37.9	Black loamy clay with vegetation
581623	WS08	None Supplied	0.40	21.1	Black loamy sand with stones and vegetation
581624	WS09	None Supplied	1.30	43.9	Black loamy sand with vegetation
581625	WS10	None Supplied	0.80	8.2	Brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/5}

Unsuitable Sample ^{4/5}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-00188

Earth Environmental & Geotechnical Ltd

Site Reference: ALDI Moston

Project / Job Ref: A3469

Order No: A3469

Reporting Date: 17/01/2022

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 diphénylcarbazine 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



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4480

Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-00188

Earth Environmental & Geotechnical Ltd

Site Reference: ALDI Moston

Project / Job Ref: A3469

Order No: A3469

Reporting Date: 17/01/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazine followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR detection	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%



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DETS Report No: 22-00699

Site Reference: ALDI Moston

Project / Job Ref: A3469

Order No: A3469

Sample Receipt Date: 11/01/2022

Sample Scheduled Date: 25/01/2022

Report Issue Number: 1

Reporting Date: 26/01/2022

Authorised by:

Dave Ashworth
Technical Manager

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

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Soil Analysis Certificate						
DETS Report No: 22-00699	Date Sampled	05/01/22				
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied				
Site Reference: ALDI Moston	TP / BH No	WS05				
Project / Job Ref: A3469	Additional Refs	None Supplied				
Order No: A3469	Depth (m)	0.55				
Reporting Date: 26/01/2022	DETS Sample No	583365				

Determinand	Unit	RL	Accreditation				
Asbestos Quantification ^(S)	%	< 0.001	ISO17025	0.001			

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 - Methodology & Miscellaneous Information

DETS Report No: 22-00699

Earth Environmental & Geotechnical Ltd

Site Reference: ALDI Moston

Project / Job Ref: A3469

Order No: A3469

Reporting Date: 26/01/2022

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



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Derwentside Environmental Testing Services Ltd
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DETS Report No: 22-02316

Site Reference: Aldi Victoria Avenue East, Moston

Project / Job Ref: A3469

Order No: A3469

Sample Receipt Date: 10/03/2022

Sample Scheduled Date: 10/03/2022

Report Issue Number: 1

Reporting Date: 15/03/2022

Authorised by:

Dave Ashworth
Technical Manager

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

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Water Analysis Certificate						
DETS Report No: 22-02316	Date Sampled	08/03/22	08/03/22	08/03/22	08/03/22	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Aldi Victoria Avenue East, Moston	TP / BH No	WS2	WS6	WS8	WS9	
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A3469	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2022	DETS Sample No	589819	589820	589821	589822	

Determinand	Unit	RL	Accreditation					
pH	pH Units	N/a	ISO17025	6.8	7.0	6.7	6.4	
Total Cyanide	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Complex Cyanide	ug/l	< 5	NONE	< 5	< 5	< 5	< 5	
Free Cyanide	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Sulphate as SO ₄	mg/l	< 1	ISO17025	9	13	3	< 1	
Sulphide	mg/l	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	
Total Organic Carbon (TOC)	mg/l	< 0.1	NONE	13.7	31	11	21.8	
Arsenic (dissolved)	ug/l	< 5	ISO17025	< 5	7	6	< 5	
Barium (dissolved)	ug/l	< 5	ISO17025	262	1730	353	196	
Beryllium (dissolved)	ug/l	< 3	ISO17025	< 3	< 3	< 3	< 3	
Boron (dissolved)	ug/l	< 5	ISO17025	554	263	75	544	
Cadmium (dissolved)	ug/l	< 0.4	ISO17025	< 0.4	< 0.4	0.5	< 0.4	
Chromium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Chromium (hexavalent)	ug/l	< 20	NONE	< 20	< 20	< 20	< 20	
Copper (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	21	7	
Lead (dissolved)	ug/l	< 5	ISO17025	< 5	27	28	21	
Mercury (dissolved)	ug/l	< 0.05	ISO17025	< 0.05	< 0.05	< 0.05	< 0.05	
Nickel (dissolved)	ug/l	< 5	ISO17025	< 5	8	7	9	
Selenium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Vanadium (dissolved)	ug/l	< 5	ISO17025	< 5	< 5	< 5	10	
Zinc (dissolved)	ug/l	< 2	ISO17025	8	26	122	28	
Total Phenols (monohydric)	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	
EPH (C10 - C40)	ug/l	< 10	NONE	< 10	183	848	< 10	

Subcontracted analysis ^(S)
Insufficient sample ^{I/S}
Unsuitable Sample ^{U/S}



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Water Analysis Certificate - Speciated PAH						
DETS Report No: 22-02316	Date Sampled	08/03/22	08/03/22	08/03/22	08/03/22	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Aldi Victoria Avenue East, Moston	TP / BH No	WS2	WS6	WS8	WS9	
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A3469	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2022	DETS Sample No	589819	589820	589821	589822	

Determinand	Unit	RL	Accreditation				
Naphthalene	ug/l	< 0.01	NONE	0.06	0.05	0.07	0.07
Acenaphthylene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	ug/l	< 0.01	NONE	0.02	< 0.01	0.09	< 0.01
Fluorene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	ug/l	< 0.01	NONE	0.02	< 0.01	0.19	< 0.01
Anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	ug/l	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	ug/l	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008
Total EPA-16 PAHs	ug/l	< 0.16	NONE	< 0.16	< 0.16	0.35	< 0.16



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Water Analysis Certificate - TPH CWG Banded

DETS Report No: 22-02316	Date Sampled	08/03/22	08/03/22	08/03/22	08/03/22
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Aldi Victoria Avenue East, Moston	TP / BH No	WS2	WS6	WS8	WS9
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A3469	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2022	DETS Sample No	589819	589820	589821	589822

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C6 - C8	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C8 - C10	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C10 - C12	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aliphatic >C12 - C16	ug/l	< 10	NONE	< 10	14	60	< 10	< 10
Aliphatic >C16 - C21	ug/l	< 10	NONE	< 10	25	103	< 10	< 10
Aliphatic >C21 - C34	ug/l	< 10	NONE	< 10	< 10	28	< 10	< 10
Aliphatic (C5 - C34)	ug/l	< 70	NONE	< 70	< 70	191	< 70	< 70
Aromatic >C5 - C7	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C7 - C8	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C8 - C10	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C10 - C12	ug/l	< 10	NONE	< 10	< 10	< 10	< 10	< 10
Aromatic >C12 - C16	ug/l	< 10	NONE	< 10	< 10	64	< 10	< 10
Aromatic >C16 - C21	ug/l	< 10	NONE	< 10	22	103	< 10	< 10
Aromatic >C21 - C35	ug/l	< 10	NONE	< 10	< 10	24	< 10	< 10
Aromatic (C5 - C35)	ug/l	< 70	NONE	< 70	< 70	191	< 70	< 70
Total >C5 - C35	ug/l	< 140	NONE	< 140	< 140	382	< 140	< 140



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Water Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-02316	Date Sampled	08/03/22	08/03/22	08/03/22	08/03/22	
Earth Environmental & Geotechnical Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Aldi Victoria Avenue East, Moston	TP / BH No	WS2	WS6	WS8	WS9	
Project / Job Ref: A3469	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: A3469	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2022	DETS Sample No	589819	589820	589821	589822	

Determinand	Unit	RL	Accreditation					
Benzene	ug/l	< 1	ISO17025	< 1	< 1	< 1	< 1	
Toluene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
p & m-xylene	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	
o-xylene	ug/l	< 5	ISO17025	< 5	< 5	< 5	< 5	
MTBE	ug/l	< 10	ISO17025	< 10	< 10	< 10	< 10	



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Water Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 22-02316	
Earth Environmental & Geotechnical Ltd	
Site Reference: Aldi Victoria Avenue East, Moston	
Project / Job Ref: A3469	
Order No: A3469	
Reporting Date: 15/03/2022	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	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 liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

APPENDIX 5

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:

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



3MUWC-Y46C8-J9UK1

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

Job name

A3469 ALDI Victoria Avenue East Moston

Description/Comments

Project

A3469

Site

ALDI Victoria Avenue East Moston

Classified by

Name:

Luke Glover

Date:

04 Feb 2022 16:41 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

Hazardous Waste Classification

Date

-

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01	0.35	Non Hazardous		2
2	WS01[2]	0.50	Non Hazardous		5
3	WS02	0.30	Non Hazardous		8
4	WS02[2]	1.20	Non Hazardous		11
5	WS03	0.70	Non Hazardous		14
6	WS04	0.60	Non Hazardous		17
7	WS05	0.55	Non Hazardous		20
8	WS06	1.10	Non Hazardous		23
9	WS07	0.45	Non Hazardous		26
10	WS07[2]	2.20	Non Hazardous		29
11	WS08	0.40	Non Hazardous		32
12	WS09	1.30	Non Hazardous		35
13	WS10	0.80	Non Hazardous		38

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: 04 Feb 2022 16:41 GMT

Appendices

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Appendix A: Classifier defined and non GB MCL determinands	41
Appendix B: Rationale for selection of metal species	42
Appendix C: Version	43

Classification of sample: WS01

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

Sample details

Sample name:	LoW Code:
WS01	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.35 m	
Moisture content:	
3.3%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 3.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				<2 mg/kg	1.32	<2.641 mg/kg	<0.000264 %			<LOD
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %			<LOD
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.774 mg/kg	0.0000774 %		✓	
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				<2 mg/kg	1.462	<2.923 mg/kg	<0.000292 %			<LOD
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %			<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				<4 mg/kg	1.126	<4.504 mg/kg	<0.00045 %			<LOD
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	5 mg/kg	1.56	7.55 mg/kg	0.000484 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				<3 mg/kg	2.976	<8.929 mg/kg	<0.000893 %			<LOD
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				71 mg/kg	2.774	190.672 mg/kg	0.0191 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
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				<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }									
	006-007-00-5				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
20	pH									
			PH		8.6 pH		8.6 pH	8.6 pH		
21	naphthalene									
	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	acenaphthylene									
		205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	acenaphthene									
		201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	fluorene									
		201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	phenanthrene									
		201-581-5	85-01-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
26	anthracene									
		204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	fluoranthene									
		205-912-4	206-44-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
28	pyrene									
		204-927-3	129-00-0		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
29	benzo[a]anthracene									
	601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
30	chrysene									
	601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
31	benzo[b]fluoranthene									
	601-034-00-4	205-911-9	205-99-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
32	benzo[k]fluoranthene									
	601-036-00-5	205-916-6	207-08-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
33	benzo[a]pyrene; benzo[def]chrysene									
	601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
34	indeno[123-cd]pyrene									
		205-893-2	193-39-5		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
35	dibenz[a,h]anthracene									
	601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
36	benzo[ghi]perylene									
		205-883-8	191-24-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
37	phenol									
	604-001-00-2	203-632-7	108-95-2		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0288 %		

Key

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



Classification of sample: WS01[2]

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

Sample details

Sample name:	LoW Code:
WS01[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14.6%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14.6% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				6 mg/kg	1.32	6.913 mg/kg	0.000691 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	beryllium { beryllium oxide }				<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
	004-003-00-8	215-133-1	1304-56-9							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.4 mg/kg	1.142	0.399 mg/kg	0.0000399 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11 mg/kg	1.462	14.029 mg/kg	0.0014 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				25 mg/kg	1.126	24.561 mg/kg	0.00246 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	94 mg/kg	1.56	127.943 mg/kg	0.0082 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				7 mg/kg	2.976	18.18 mg/kg	0.00182 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				144 mg/kg	2.774	348.584 mg/kg	0.0349 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group				61 mg/kg		53.229 mg/kg	0.00532 %	✓	
			TPH							
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
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				0.014 mg/kg		0.0122 mg/kg	0.00000122 %	✓	
	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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				10.2 pH		10.2 pH	10.2 pH		
21	naphthalene				1.66 mg/kg		1.449 mg/kg	0.000145 %	✓	
	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				0.61 mg/kg		0.532 mg/kg	0.0000532 %	✓	
		201-469-6	83-32-9							
24	fluorene				1.07 mg/kg		0.934 mg/kg	0.0000934 %	✓	
		201-695-5	86-73-7							
25	phenanthrene				4.69 mg/kg		4.092 mg/kg	0.000409 %	✓	
		201-581-5	85-01-8							
26	anthracene				1.17 mg/kg		1.021 mg/kg	0.000102 %	✓	
		204-371-1	120-12-7							
27	fluoranthene				4.12 mg/kg		3.595 mg/kg	0.00036 %	✓	
		205-912-4	206-44-0							
28	pyrene				4.31 mg/kg		3.761 mg/kg	0.000376 %	✓	
		204-927-3	129-00-0							
29	benzo[a]anthracene				1.45 mg/kg		1.265 mg/kg	0.000127 %	✓	
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				1.94 mg/kg		1.693 mg/kg	0.000169 %	✓	
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				1.52 mg/kg		1.326 mg/kg	0.000133 %	✓	
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				0.7 mg/kg		0.611 mg/kg	0.0000611 %	✓	
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				1.27 mg/kg		1.108 mg/kg	0.000111 %	✓	
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				0.66 mg/kg		0.576 mg/kg	0.0000576 %	✓	
		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				0.64 mg/kg		0.558 mg/kg	0.0000558 %	✓	
		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:								0.06 %		



Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No free phase product.

Hazard Statements hit:

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

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.00532%)

xylene: (conc.: 1.22e-06%)

Classification of sample: WS02

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

Sample details

Sample name:	LoW Code:
WS02	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30 m	
Moisture content:	
5.3%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 5.3% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				<2 mg/kg	1.32	<2.641 mg/kg	<0.000264 %			<LOD
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %			<LOD
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.4 mg/kg	1.142	0.434 mg/kg	0.0000434 %		✓	
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				6 mg/kg	1.462	8.328 mg/kg	0.000833 %		✓	
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %			<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				5 mg/kg	1.126	5.346 mg/kg	0.000535 %		✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	8 mg/kg	1.56	11.85 mg/kg	0.00076 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				6 mg/kg	2.976	16.959 mg/kg	0.0017 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				20 mg/kg	2.774	52.69 mg/kg	0.00527 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group		TPH		701 mg/kg		665.717 mg/kg	0.0666 %		✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				8.4 pH		8.4 pH	8.4 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				0.11 mg/kg		0.104 mg/kg	0.0000104 %	✓	
		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:								0.079 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No free phase product.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0666%)



Classification of sample: WS02[2]

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

Sample details

Sample name:	LoW Code:
WS02[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
44.1%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 44.1% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				<2 mg/kg	1.32	<2.641 mg/kg	<0.000264 %		<LOD
	033-003-00-0	215-481-4	1327-53-3							
2	beryllium { beryllium oxide }				<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
	004-003-00-8	215-133-1	1304-56-9							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				12 mg/kg	1.462	12.171 mg/kg	0.00122 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				58 mg/kg	1.126	45.317 mg/kg	0.00453 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	12 mg/kg	1.56	12.989 mg/kg	0.000833 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				13 mg/kg	2.976	26.85 mg/kg	0.00269 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				31 mg/kg	2.774	59.68 mg/kg	0.00597 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
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				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
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 }				17 mg/kg	1.884	22.226 mg/kg	0.00222 %		✓	
	006-007-00-5										
20	pH				6.1 pH		6.1 pH	6.1 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				0.2 mg/kg		0.139 mg/kg	0.0000139 %		✓	
		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:									0.0246 %		



Key

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

Classification of sample: WS03

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

Sample details

Sample name:	LoW Code:
WS03	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.70 m	
Moisture content:	
15.5%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15.5% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				13 mg/kg	1.32	14.861 mg/kg	0.00149 %	✓		
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				0.7 mg/kg	2.775	1.682 mg/kg	0.000168 %	✓		
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.3 mg/kg	1.142	0.297 mg/kg	0.0000297 %	✓		
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	25.308 mg/kg	0.00253 %	✓		
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %			<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				35 mg/kg	1.126	34.118 mg/kg	0.00341 %	✓		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	64 mg/kg	1.56	86.431 mg/kg	0.00554 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				19 mg/kg	2.976	48.96 mg/kg	0.0049 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				93 mg/kg	2.774	223.373 mg/kg	0.0223 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group		TPH		49 mg/kg		42.424 mg/kg	0.00424 %	✓		
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH		PH		7.5 pH		7.5 pH	7.5 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				0.8 mg/kg		0.693 mg/kg	0.0000693 %	✓	
		201-581-5	85-01-8							
26	anthracene				0.17 mg/kg		0.147 mg/kg	0.0000147 %	✓	
		204-371-1	120-12-7							
27	fluoranthene				1.21 mg/kg		1.048 mg/kg	0.000105 %	✓	
		205-912-4	206-44-0							
28	pyrene				1.14 mg/kg		0.987 mg/kg	0.0000987 %	✓	
		204-927-3	129-00-0							
29	benzo[a]anthracene				0.47 mg/kg		0.407 mg/kg	0.0000407 %	✓	
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				0.58 mg/kg		0.502 mg/kg	0.0000502 %	✓	
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				0.57 mg/kg		0.494 mg/kg	0.0000494 %	✓	
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				0.15 mg/kg		0.13 mg/kg	0.000013 %	✓	
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				0.44 mg/kg		0.381 mg/kg	0.0000381 %	✓	
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				0.24 mg/kg		0.208 mg/kg	0.0000208 %	✓	
		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				0.24 mg/kg		0.208 mg/kg	0.0000208 %	✓	
		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:								0.048 %		



Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No free phase product.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00424%)



Classification of sample: WS04

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

Sample details

Sample name:	LoW Code:
WS04	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.60 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11.7%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11.7% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				13 mg/kg	1.32	15.366 mg/kg	0.00154 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	beryllium { beryllium oxide }				0.6 mg/kg	2.775	1.491 mg/kg	0.000149 %	✓	
	004-003-00-8	215-133-1	1304-56-9							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				0.7 mg/kg	1.142	0.716 mg/kg	0.0000716 %	✓	
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				46 mg/kg	1.462	60.189 mg/kg	0.00602 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				41 mg/kg	1.126	41.326 mg/kg	0.00413 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	104 mg/kg	1.56	145.229 mg/kg	0.00931 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				38 mg/kg	2.976	101.252 mg/kg	0.0101 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				105 mg/kg	2.774	260.775 mg/kg	0.0261 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group		TPH		355 mg/kg		317.816 mg/kg	0.0318 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				8.6 pH		8.6 pH	8.6 pH		
			PH							
21	naphthalene				0.41 mg/kg		0.367 mg/kg	0.0000367 %	✓	
	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				0.68 mg/kg		0.609 mg/kg	0.0000609 %	✓	
		201-469-6	83-32-9							
24	fluorene				0.5 mg/kg		0.448 mg/kg	0.0000448 %	✓	
		201-695-5	86-73-7							
25	phenanthrene				4.63 mg/kg		4.145 mg/kg	0.000415 %	✓	
		201-581-5	85-01-8							
26	anthracene				0.97 mg/kg		0.868 mg/kg	0.0000868 %	✓	
		204-371-1	120-12-7							
27	fluoranthene				5.52 mg/kg		4.942 mg/kg	0.000494 %	✓	
		205-912-4	206-44-0							
28	pyrene				4.9 mg/kg		4.387 mg/kg	0.000439 %	✓	
		204-927-3	129-00-0							
29	benzo[a]anthracene				2.28 mg/kg		2.041 mg/kg	0.000204 %	✓	
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				2.42 mg/kg		2.167 mg/kg	0.000217 %	✓	
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				2.56 mg/kg		2.292 mg/kg	0.000229 %	✓	
	601-034-00-4	205-911-9	205-99-2							
32	benzo[k]fluoranthene				0.82 mg/kg		0.734 mg/kg	0.0000734 %	✓	
	601-036-00-5	205-916-6	207-08-9							
33	benzo[a]pyrene; benzo[def]chrysene				2.22 mg/kg		1.987 mg/kg	0.000199 %	✓	
	601-032-00-3	200-028-5	50-32-8							
34	indeno[123-cd]pyrene				0.95 mg/kg		0.85 mg/kg	0.000085 %	✓	
		205-893-2	193-39-5							
35	dibenz[a,h]anthracene				0.29 mg/kg		0.26 mg/kg	0.000026 %	✓	
	601-041-00-2	200-181-8	53-70-3							
36	benzo[ghi]perylene				0.96 mg/kg		0.859 mg/kg	0.0000859 %	✓	
		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:								0.0947 %		



Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No free phase product.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0318%)

Classification of sample: WS05

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

Sample details

Sample name:	LoW Code:
WS05	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.55 m	
Moisture content:	
17%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 17% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				11 mg/kg	1.32	12.413	mg/kg	0.00124 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				0.6 mg/kg	2.775	1.423	mg/kg	0.000142 %	✓	
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				0.3 mg/kg	1.142	0.293	mg/kg	0.0000293 %	✓	
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				15 mg/kg	1.462	18.738	mg/kg	0.00187 %	✓	
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				36 mg/kg	1.126	34.643	mg/kg	0.00346 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	135 mg/kg	1.56	179.979	mg/kg	0.0115 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				13 mg/kg	2.976	33.07	mg/kg	0.00331 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				162 mg/kg	2.774	384.113	mg/kg	0.0384 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
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				<5 mg/kg		<5	mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }									
	006-007-00-5				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
20	pH									
			PH		8.3 pH		8.3 pH	8.3 pH		
21	naphthalene									
	601-052-00-2	202-049-5	91-20-3		0.28 mg/kg		0.239 mg/kg	0.0000239 %	✓	
22	acenaphthylene									
		205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	acenaphthene									
		201-469-6	83-32-9		0.22 mg/kg		0.188 mg/kg	0.0000188 %	✓	
24	fluorene									
		201-695-5	86-73-7		0.14 mg/kg		0.12 mg/kg	0.000012 %	✓	
25	phenanthrene									
		201-581-5	85-01-8		1.57 mg/kg		1.342 mg/kg	0.000134 %	✓	
26	anthracene									
		204-371-1	120-12-7		0.31 mg/kg		0.265 mg/kg	0.0000265 %	✓	
27	fluoranthene									
		205-912-4	206-44-0		1.83 mg/kg		1.564 mg/kg	0.000156 %	✓	
28	pyrene									
		204-927-3	129-00-0		1.52 mg/kg		1.299 mg/kg	0.00013 %	✓	
29	benzo[a]anthracene									
	601-033-00-9	200-280-6	56-55-3		0.63 mg/kg		0.538 mg/kg	0.0000538 %	✓	
30	chrysene									
	601-048-00-0	205-923-4	218-01-9		0.73 mg/kg		0.624 mg/kg	0.0000624 %	✓	
31	benzo[b]fluoranthene									
	601-034-00-4	205-911-9	205-99-2		0.73 mg/kg		0.624 mg/kg	0.0000624 %	✓	
32	benzo[k]fluoranthene									
	601-036-00-5	205-916-6	207-08-9		0.2 mg/kg		0.171 mg/kg	0.0000171 %	✓	
33	benzo[a]pyrene; benzo[def]chrysene									
	601-032-00-3	200-028-5	50-32-8		0.54 mg/kg		0.462 mg/kg	0.0000462 %	✓	
34	indeno[123-cd]pyrene									
		205-893-2	193-39-5		0.27 mg/kg		0.231 mg/kg	0.0000231 %	✓	
35	dibenz[a,h]anthracene									
	601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
36	benzo[ghi]perylene									
		205-883-8	191-24-2		0.28 mg/kg		0.239 mg/kg	0.0000239 %	✓	
37	phenol									
	604-001-00-2	203-632-7	108-95-2		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0678 %		

Key

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



Classification of sample: WS06

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

Sample details

Sample name:	LoW Code:
WS06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.10 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
21.9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 21.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				15 mg/kg	1.32	16.247 mg/kg	0.00162 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	beryllium { beryllium oxide }				0.8 mg/kg	2.775	1.821 mg/kg	0.000182 %	✓	
	004-003-00-8	215-133-1	1304-56-9							
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21 mg/kg	1.462	25.179 mg/kg	0.00252 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				33 mg/kg	1.126	30.479 mg/kg	0.00305 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	558 mg/kg	1.56	714.009 mg/kg	0.0458 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				1.3 mg/kg	1.353	1.443 mg/kg	0.000144 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				13 mg/kg	2.976	31.74 mg/kg	0.00317 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				64 mg/kg	2.774	145.648 mg/kg	0.0146 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
13	TPH (C6 to C40) petroleum group				<42 mg/kg		<42 mg/kg	<0.0042 %		<LOD
			TPH							
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				6.6 pH		6.6 pH	6.6 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				0.13 mg/kg		0.107 mg/kg	0.0000107 %	✓	
		205-912-4	206-44-0							
28	pyrene				0.14 mg/kg		0.115 mg/kg	0.0000115 %	✓	
		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:								0.078 %		



Key

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

Classification of sample: WS07

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

Sample details

Sample name:	LoW Code:
WS07	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.45 m	
Moisture content:	
15.1%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				46	mg/kg	1.32	52.767	mg/kg	0.00528 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		beryllium { beryllium oxide }				4.8	mg/kg	2.775	11.574	mg/kg	0.00116 %	✓	
		004-003-00-8	215-133-1	1304-56-9									
3		boron { diboron trioxide; boric oxide }				<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2									
4		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
5		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				24	mg/kg	1.462	30.476	mg/kg	0.00305 %	✓	
			215-160-9	1308-38-9									
6		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
		024-017-00-8											
7		copper { dicopper oxide; copper (I) oxide }				136	mg/kg	1.126	133.033	mg/kg	0.0133 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
8		lead { lead chromate }			1	116	mg/kg	1.56	157.201	mg/kg	0.0101 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
9		mercury { mercury dichloride }				<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
10		nickel { nickel chromate }				59	mg/kg	2.976	152.563	mg/kg	0.0153 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
11		selenium { nickel selenate }				<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
12		zinc { zinc chromate }				91	mg/kg	2.774	219.329	mg/kg	0.0219 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
13		TPH (C6 to C40) petroleum group				<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
				TPH									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }									
	006-007-00-5				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
20	pH									
			PH		6.2 pH		6.2 pH	6.2 pH		
21	naphthalene									
	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
22	acenaphthylene									
		205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
23	acenaphthene									
		201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
24	fluorene									
		201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
25	phenanthrene									
		201-581-5	85-01-8		0.19 mg/kg		0.165 mg/kg	0.0000165 %	✓	
26	anthracene									
		204-371-1	120-12-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
27	fluoranthene									
		205-912-4	206-44-0		0.58 mg/kg		0.504 mg/kg	0.0000504 %	✓	
28	pyrene									
		204-927-3	129-00-0		0.54 mg/kg		0.469 mg/kg	0.0000469 %	✓	
29	benzo[a]anthracene									
	601-033-00-9	200-280-6	56-55-3		0.28 mg/kg		0.243 mg/kg	0.0000243 %	✓	
30	chrysene									
	601-048-00-0	205-923-4	218-01-9		0.35 mg/kg		0.304 mg/kg	0.0000304 %	✓	
31	benzo[b]fluoranthene									
	601-034-00-4	205-911-9	205-99-2		0.44 mg/kg		0.382 mg/kg	0.0000382 %	✓	
32	benzo[k]fluoranthene									
	601-036-00-5	205-916-6	207-08-9		0.15 mg/kg		0.13 mg/kg	0.000013 %	✓	
33	benzo[a]pyrene; benzo[def]chrysene									
	601-032-00-3	200-028-5	50-32-8		0.32 mg/kg		0.278 mg/kg	0.0000278 %	✓	
34	indeno[123-cd]pyrene									
		205-893-2	193-39-5		0.2 mg/kg		0.174 mg/kg	0.0000174 %	✓	
35	dibenz[a,h]anthracene									
	601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
36	benzo[ghi]perylene									
		205-883-8	191-24-2		0.19 mg/kg		0.165 mg/kg	0.0000165 %	✓	
37	phenol									
	604-001-00-2	203-632-7	108-95-2		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
Total:								0.0774 %		

Key

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



Classification of sample: WS07[2]

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

Sample details

Sample name:	LoW Code:
WS07[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
37.9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 37.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				4 mg/kg	1.32	3.83	mg/kg	0.000383 %	✓	
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				1.2 mg/kg	2.775	2.415	mg/kg	0.000242 %	✓	
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				1.5 mg/kg	3.22	3.502	mg/kg	0.00035 %	✓	
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				54 mg/kg	1.462	57.233	mg/kg	0.00572 %	✓	
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				42 mg/kg	1.126	34.291	mg/kg	0.00343 %	✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	18 mg/kg	1.56	20.36	mg/kg	0.00131 %	✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				37 mg/kg	2.976	79.856	mg/kg	0.00799 %	✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				32 mg/kg	2.774	64.375	mg/kg	0.00644 %	✓	
	024-007-00-3	236-878-9	13530-65-9								
13	TPH (C6 to C40) petroleum group				<42 mg/kg		<42	mg/kg	<0.0042 %		<LOD
			TPH								
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<5 mg/kg		<5	mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				5.7 pH		5.7 pH	5.7 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:								0.0327 %		



Key

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

Classification of sample: WS08

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

Sample details

Sample name:	LoW Code:
WS08	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.40 m	
Moisture content:	
21.1%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 21.1% Dry Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number								
1		arsenic { arsenic trioxide }			27	mg/kg	1.32	29.437	mg/kg	0.00294 %	✓	
		033-003-00-0	215-481-4	1327-53-3								
2		beryllium { beryllium oxide }			1.4	mg/kg	2.775	3.208	mg/kg	0.000321 %	✓	
		004-003-00-8	215-133-1	1304-56-9								
3		boron { diboron trioxide; boric oxide }			<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<LOD
		005-008-00-8	215-125-8	1303-86-2								
4		cadmium { cadmium oxide }			0.4	mg/kg	1.142	0.377	mg/kg	0.0000377 %	✓	
		048-002-00-0	215-146-2	1306-19-0								
5		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }			18	mg/kg	1.462	21.724	mg/kg	0.00217 %	✓	
			215-160-9	1308-38-9								
6		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }			<2	mg/kg	2.27	<4.54	mg/kg	<0.000454 %		<LOD
		024-017-00-8										
7		copper { dicopper oxide; copper (I) oxide }			79	mg/kg	1.126	73.448	mg/kg	0.00734 %	✓	
		029-002-00-X	215-270-7	1317-39-1								
8		lead { lead chromate }		1	70	mg/kg	1.56	90.163	mg/kg	0.00578 %	✓	
		082-004-00-2	231-846-0	7758-97-6								
9		mercury { mercury dichloride }			<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<LOD
		080-010-00-X	231-299-8	7487-94-7								
10		nickel { nickel chromate }			25	mg/kg	2.976	61.442	mg/kg	0.00614 %	✓	
		028-035-00-7	238-766-5	14721-18-7								
11		selenium { nickel selenate }			<3	mg/kg	2.554	<7.662	mg/kg	<0.000766 %		<LOD
		028-031-00-5	239-125-2	15060-62-5								
12		zinc { zinc chromate }			89	mg/kg	2.774	203.88	mg/kg	0.0204 %	✓	
		024-007-00-3	236-878-9	13530-65-9								
13		TPH (C6 to C40) petroleum group			<42	mg/kg		<42	mg/kg	<0.0042 %		<LOD
				TPH								
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane			<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4								
15		benzene			<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				7.1 pH		7.1 pH	7.1 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				0.41 mg/kg		0.339 mg/kg	0.0000339 %	✓	
		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				0.67 mg/kg		0.553 mg/kg	0.0000553 %	✓	
		205-912-4	206-44-0							
28	pyrene				0.63 mg/kg		0.52 mg/kg	0.000052 %	✓	
		204-927-3	129-00-0							
29	benzo[a]anthracene				0.25 mg/kg		0.206 mg/kg	0.0000206 %	✓	
	601-033-00-9	200-280-6	56-55-3							
30	chrysene				0.33 mg/kg		0.273 mg/kg	0.0000273 %	✓	
	601-048-00-0	205-923-4	218-01-9							
31	benzo[b]fluoranthene				0.32 mg/kg		0.264 mg/kg	0.0000264 %	✓	
	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				0.24 mg/kg		0.198 mg/kg	0.0000198 %	✓	
	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:								0.0524 %		

Key

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



Classification of sample: WS09

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

Sample details

Sample name:	LoW Code:
WS09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
43.9%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 43.9% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				11 mg/kg	1.32	10.093 mg/kg	0.00101 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	beryllium { beryllium oxide }				0.8 mg/kg	2.775	1.543 mg/kg	0.000154 %	✓	
	004-003-00-8	215-133-1	1304-56-9							
3	boron { diboron trioxide; boric oxide }				1.6 mg/kg	3.22	3.58 mg/kg	0.000358 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				42 mg/kg	1.462	42.658 mg/kg	0.00427 %	✓	
		215-160-9	1308-38-9							
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %		<LOD
	024-017-00-8									
7	copper { dicopper oxide; copper (I) oxide }				48 mg/kg	1.126	37.556 mg/kg	0.00376 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	31 mg/kg	1.56	33.603 mg/kg	0.00215 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel chromate }				32 mg/kg	2.976	66.185 mg/kg	0.00662 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
12	zinc { zinc chromate }				41 mg/kg	2.774	79.041 mg/kg	0.0079 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
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				<5 mg/kg		<5 mg/kg	<0.0005 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-020-00-8	200-753-7	71-43-2							



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	toluene									
	601-021-00-3	203-625-9	108-88-3		<0.005 mg/kg		<0.005 mg/kg	<0.0000005 %		<LOD
17	ethylbenzene									
	601-023-00-4	202-849-4	100-41-4		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
18	xylene									
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				6.1 pH		6.1 pH	6.1 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:								0.033 %		



Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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:	LoW Code:
WS10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.80 m	
Moisture content:	
8.2%	
(dry weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.2% Dry Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	arsenic { arsenic trioxide }				<2 mg/kg	1.32	<2.641 mg/kg	<0.000264 %			<LOD
	033-003-00-0	215-481-4	1327-53-3								
2	beryllium { beryllium oxide }				<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %			<LOD
	004-003-00-8	215-133-1	1304-56-9								
3	boron { diboron trioxide; boric oxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %			<LOD
	005-008-00-8	215-125-8	1303-86-2								
4	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %			<LOD
	048-002-00-0	215-146-2	1306-19-0								
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9 mg/kg	1.462	12.157 mg/kg	0.00122 %		✓	
		215-160-9	1308-38-9								
6	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<2 mg/kg	2.27	<4.54 mg/kg	<0.000454 %			<LOD
	024-017-00-8										
7	copper { dicopper oxide; copper (I) oxide }				5 mg/kg	1.126	5.203 mg/kg	0.00052 %		✓	
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	16 mg/kg	1.56	23.066 mg/kg	0.00148 %		✓	
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel chromate }				10 mg/kg	2.976	27.507 mg/kg	0.00275 %		✓	
	028-035-00-7	238-766-5	14721-18-7								
11	selenium { nickel selenate }				<3 mg/kg	2.554	<7.662 mg/kg	<0.000766 %			<LOD
	028-031-00-5	239-125-2	15060-62-5								
12	zinc { zinc chromate }				30 mg/kg	2.774	76.917 mg/kg	0.00769 %		✓	
	024-007-00-3	236-878-9	13530-65-9								
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				<5 mg/kg		<5 mg/kg	<0.0005 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
15	benzene				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-020-00-8	200-753-7	71-43-2								



#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
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 }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
20	pH				8.1 pH		8.1 pH	8.1 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:								0.0212 %		



Key

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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

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

Description/Comments:

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

Reason for additional Hazards Statement(s):

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

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

GB MCL index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

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

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database

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

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

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

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 21 Aug 2015
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2; H351

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

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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; boric oxide}

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) Worst 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: 2022.25.4995.9469 (25 Jan 2022)

HazWasteOnline Database: 2022.25.4995.9469 (25 Jan 2022)

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

APPENDIX 6

REPORT LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd based on 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 2022 and should be read considering 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 of 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.