Manchester Airport Building 401

Geotechnical Investigation Report (GIR)

Threadneedle Curtis Ltd

Project number: 60663052

21 September 2022

Delivering a better world

Quality information

Prepared by	Checked by	Verified by	Approved by
James McIntosh Geotechnical Engineer	Anass Attya Principal Geotechnical Engineer	Martin de Kretser Technical Director	01790010625 Digitally signed by 01790010625 DN: cn=01790010625, c=US, o=Palo Alto Networks Date: 2023.02.13 12:06:55
Laura McMurtry Environmental Consultant	Harry Garner Senior Environmental Consultant	Damian Watkin Associate Director	

Revision History

Revision	Revision date	Details	Authorized	Name	Position
01	13/02/23	Update Appended SI Factual Report		Will Hartas	Principal Consultant

Distribution List

# Hard Copies	PDF Required	Association / Company Name

Prepared for:

Threadneedle Curtis Ltd

Prepared by:

AECOM Limited
1 New York Street
Manchester M1 4HD
United Kingdom

T: +44 161 601 1700
aecom.com T: +44 (0)113 391 6800
aecom.com

© 2022 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Infrastructure & Environment UK Limited (“AECOM”) for sole use of our client (the “Client”) in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1. Introduction 1
2. Existing Information 3
3. Field and Laboratory Studies 8
4. Ground Summary 11
5. Ground Conditions and Material Properties 13
6. Geotechnical Risk Assessment 20
7. Contamination Assessment 23
8. Revised Conceptual Model and Risk Assessment (Tier 2 Assessment) 34
9. Engineering Assessment 43
10. Conclusions 45
11. Figures 47
12. References 48
Appendix A Proposed Development Plan 49
Appendix B Groundsure Report 50
Appendix C UXO Desk Study & Risk Assessment 51
Appendix D Factual Report 52
Appendix E Screening Sheets 53
Appendix F HazWaste Online 54

Figures

Figure 2-1 Screenshot of relevant exploratory hole locations from BGS GeoIndex Viewer 4
Figure 5-1 Extract from Tomlinson Foundation Design and Construction (2001); Relation of N-Values and Friction Angles by Peck et al. (1967) 15

Tables

Table 2-1 Geological Succession from Published Mapping 3
Table 2-2 Geological Succession from BGS Borehole Logs 4
Table 2-3 Review of Historical Maps 5
Table 3-1 Exploratory Hole Summary Table 8
Table 3-2 Summary of Geotechnical Testing 9
Table 3-3 Summary of Geo-environmental Testing 10
Table 4-1 Ground Profile 11
Table 4-2 Summary of Groundwater Data 12
Table 5-1 Summary of Atterberg Limit Tests for Cohesive Glacial Till 13
Table 5-2 Summary of SPT Tests for Cohesive Glacial Till 14
Table 5-3 Summary of Unconsolidated Undrained Triaxial Tests for Cohesive Glacial Till 14
Table 5-4 Summary of Hand Vane Tests for Cohesive Glacial Till 14
Table 5-5 Summary of Particle Size Distribution Tests for Cohesive Glacial Till 14
Table 5-6 Summary of SPT Tests for Granular Glacial Till 15
Table 5-7 Summary of Particle Size Distribution Tests for Granular Glacial Till 15
Table 5-8 Summary of Atterberg Limit Tests for Mercia Mudstone 16
Table 5-9 Summary of SPT Tests for Mercia Mudstone 16
Table 5-10 Summary of Unconsolidated Undrained Triaxial Tests for Mercia Mudstone 16
Table 5-11 Summary of Point Load Tests for Mercia Mudstone 16
Table 5-12 Characteristic Soil Parameters Summary 17

Table 5-13 BRE Concrete in Aggressive Ground Assessment Summary 18
Table 5-14 In-situ Contamination Observations 19
Table 6-1 Geotechnical Risk Register 21
Table 7-1 Summary of Groundwater exceedances of controlled waters screening criteria 27
Table 7-2 Summary of Leachate exceedances of controlled waters screening criteria 27
Table 7-3 Classification Scheme for Site Gas Risk Assessment (modified Wilson and Card Classification) 28
Table 7-4 Gas Monitoring Characteristic Situation – Worst Case Scenario 29
Table 7-5 Physiological Effects of Oxygen Depletion 30
Table 7-6 WAC Samples Summary 32
Table 8-1 Identified Sources 34
Table 8-2 Potential Receptors 34
Table 8-3 Potential Pathways 35
Table 8-4 Description of Severity of Risk 36
Table 8-5 Likelihood of Risk Occurrence 36
Table 8-6 Risk based on Comparison of Likelihood and Severity 36
Table 8-7 Conversion to LCRM Risk Categories 37
Table 8-8 Environmental Risk Assessment 38
Table 9-1 Lightweight Deflectometer Testing Result Summary 44

1. Introduction

Scope and Objective of the Report

Threadneedle Curtis Ltd (hereafter referred to as the Client) has commissioned AECOM Limited (AECOM) to complete a Ground Investigation Report (hereafter referred to as GIR) of the site known as Building 401 (MAN B401).

This GIR provides a summary and interpretation of the ground conditions (both geotechnical and geo-environmental) encountered during the intrusive Ground Investigation works (GI).

The aims of this GIR are to:

- Assess the overall ground conditions based on the results obtained during the GI.
- Report directly measured and derived geotechnical parameters for encountered strata.
- Assess the geo-environmental risks to human health, controlled waters and surrounding environment based on chemical analysis of both the soil and groundwater.

Background and Proposed Development

The report has been produced on the assumption that the site will be redeveloped to incorporate a single warehouse structure divided into three units with incorporated offices. The current proposal for the warehouse covers c.7,056m^2 occupying approximately one third of the site area. The remainder of the site would comprise associated infrastructure, including lorry and car parking, two new access routes into site from Avro Way, and soft landscaping. The proposed development is shown in Appendix A.

The development of the site is anticipated to require the following stages:

- Demolition of the existing building 401 on the site,
- Demobilisation of the temporary structures of the airport bus depot,
- Site earthworks, including excavation levelling and landscaping for external areas,
- Installation of services and site drainage; and
- Construction of the new building and associated infrastructure.

Site Description

The site is located on the north east side of the junction of Avro Way and Pinfold Lane (M90 5XR) and is centred on National Grid Reference 380906 384825. The site is within Manchester Airport's landside western commercial and industrial development c.14km south of Manchester city centre.

The site is currently occupied by commercial development and at the time of this report the site is broadly split into two.

The majority of the north eastern half of the site is occupied by the current MAG Building 401 which covers c.6,785m2. To the immediate north west of the building is tarmac and concrete hard standing. To the immediate east is a grass landscaped area with small trees and shrubs which rises gently to Avro Way. To the south of the building the area is slightly larger and comprises a tarmac and concrete area in front of eight lorry bays for the building, with an entrance from Pinfold Lane and associated landscaping.

The south western side of the site is broadly divided into two. The far south western portion lies outside of the fenced boundary for the current development on the site and comprises a broadly level wooded area. The north eastern portion between the wooded area and the main building is an area of tarmac hard standing which was previously the car parking area for building 401. This tarmac area is currently occupied by a 'temporary' bus depot service area for airport vehicles. All of the structures in this area are temporary and stand atop the hard standing, including mobile offices, multiple fuel terminals, associated storage tanks and a vehicle wash. This area also includes a second entrance from Pinfold Lane to the South.

Building 401 is currently derelict and has been empty for some time. The last usage of the site was by an airline food company ‘LSG SkyChefs’ which is understood to have moved to renovated facilities in building 402 to the immediate north of the site, with additional buildings within the commercial/ industrial estate.

2. Existing Information

The existing information relating to the Site and used within this report is as follows:

- Manchester Airport Building 401 Phase 1 Tier 1 Geo-Environmental and Geotechnical Assessment (AECOM, 2021) (1)
- Project Quantum (AECOM) Report No: MAN-19 60592411, February 2019 – High level desk study and walkover; and (2)
- Manchester Airport Bus Deport Relocation, Wilmslow: Factual Report on Ground Investigation (ESG) Report No: F6042-16, February 2017. (3)

Published Geology

AECOM has reviewed publicly available information. The published 1:50,000 and 1:63,000 geological maps of the area produced by the BGS (Sheet 98, Stockport, Drift, 1971a and Sheet 98, Stockport, Solid, 1977) (4) indicates the site is underlain by the geological succession summarised in Table 2-1. Extracts of the superficial deposit and bedrock maps are included as part of the Groundsure Geo-Insight Report (Appendix B).

Table 2-1 Geological Succession from Published Mapping

Age	Group	Geological Stratum	Stratum	Description
Quaternary Devensian	N/A	Diamicton Till	Superficial Deposits*	A wide range of deposits and geomorphologies associated with glacial and inter-glacial periods during the Quaternary.
Triassic	Sidmouth Mudstone Formation	Bollin Mudstone Member	Bedrock	Upper: laminated reddish-brown and greenish-grey mudstone with siltstones. Lower: structureless and laminated, dominantly reddish-brown mudstone. (Within the lower part of the member, a unit termed the 'Lower Keuper Sandstone' has been recognised in the stockport area. This unit closely resembles the Tarporley Siltstone Formation of adjacent areas.)

**While anticipated due to the developed nature of the site, no artificial deposits are recorded on the geological mapping*

The BGS maintains an archive of historical exploratory hole records throughout the UK. AECOM has searched the database and those which are publicly available and considered to provide useful information on the ground profile at the site, have been referenced in producing this report. The extract below shows those boreholes recorded by the BGS in the site area. The black boreholes are not publicly available, leaving 8no. boreholes located within the site which may be publicly available. Of these only 3no. have online records. These are the three to the west of building 401 (SJ88SW235, SJ88SW236 and SJ88SW237). The position of these holes is shown in Figure 2-1.

Presented in Table 2-2 is a summary of the three boreholes, with full copies of the exploratory hole records included as Appendix D. Relevant information from the records is considered as part of the Preliminary Ground Model in Section 4.

Figure 2-1 Screenshot of relevant exploratory hole locations from BGS GeoIndex Viewer

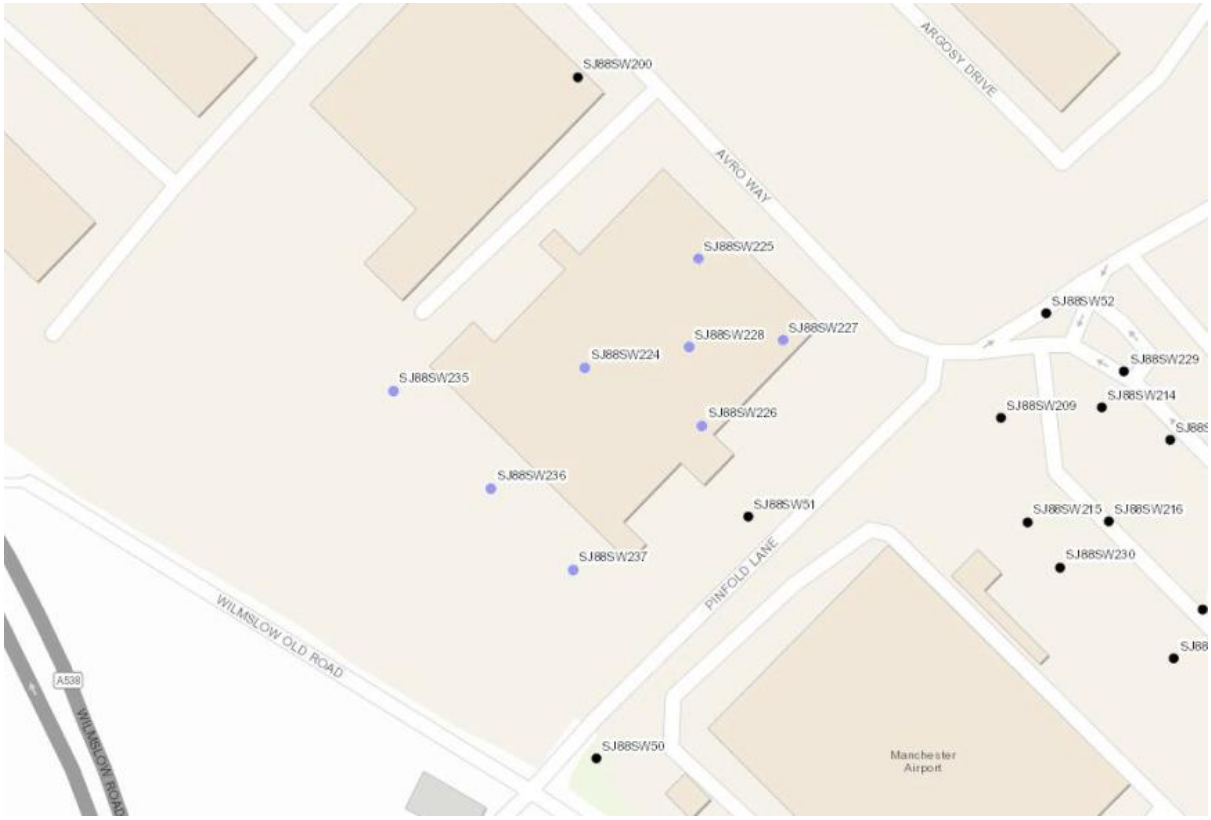


Table 2-2 Geological Succession from BGS Borehole Logs

Borehole	Made Ground m bgl (Thickness m)	Description Summary	Superficial Deposits m bgl (Thickness m)	Description summary
SJ88SW235 (BH6)	0.60 (0.60)	Soft Medium brown Clay with stones and broken tarmac	4.00 (3.40)	Very soft becoming stiff with depth, Mottled brown and grey CLAY
SJ88SW236 (BH7)	1.20 (1.20)	Loose concrete, brick, stone, tarmac and Clay over reinforced concrete between 0.6mbgl and 0.9mbgl below which is hardcore fill.	4.00 (2.80)	Firm to stiff, to stiff, Dark reddish brown slightly marly CLAY
SJ88SW237 (BH8)	0.70 (0.70)	Soft to firm dark brown and black silty Clay (disturbed – fill)	4.00 (3.30)	Firm to stiff mottled brown and grey CLAY becoming stiff and marly at 1.3 mbgl

Previous Investigations

Overview

The sections below provide a factual summary of the historical ground investigation data and other information that is currently available, further interpretation of this data, and of data gained during the ground investigation is provided later in this report, where relevant.

Historical Land Use

Table 2-3 below is an abbreviated version of that presented in the Desk Study Report detailing the various historical land uses that may be pertinent to the geotechnical or geo-environmental risk associated with the Site.

Table 2-3 Review of Historical Maps

Year	On-Site	Off-Site
1877 (1:2500)	Partial map does not cover site	Land use is predominantly undeveloped and agricultural with field boundaries and paths/tracks. Yewtree Lane is noted c.150m northeast running northwest to southeast. A pond is noted c.200m northeast close to a number of buildings (Manor Farm). Lilac Cottage is noted c.110m south of site to the east of the church.
1881 (1:2500)	The site is presumed agricultural land with two field boundaries crossing the site northwest to southeast dividing the site into broadly three equal sections.	Land use is predominantly undeveloped and agricultural with field boundaries and paths/tracks. Pinfold Lane runs along the southeast boundary meeting the crossroad with Wilmslow Road. A pond is noted c.20m south of site. The Red Lion Inn (Romper) and All Saints Church are in their current location on the crossroads. A smithy is noted attached to the Inn. Oak Farm is noted c.200m west. The Grange, a collection of buildings with ponds is noted c.175 east.
1898 (1:2500)	The southernmost field boundary is no longer present.	A square pond/ reservoir is attached to Oak Farm.
1899-1938 (1:10560)	No notable change	The area of Manchester Airport to the east of site now contains no mapping other than three large buildings noted c.250 east of site.
1954 (1:10560)	The site is occupied by a series of looped hardstanding areas associated with the Ringway Airport (Manchester Airport). These are understood to be taxiing and aircraft storage.	Hangar 3 and Hangar 5 of Manchester Airport are present c.25m southeast including a bund between the two. Hangar 4 lies a further c.150m southeast.
1968 (1:2500)	No notable change	Peters Croft is present next to the church c.75m south. VHF Receiver Station present c.200m northwest. Oak Field farm has expanded. A tank is noted c.75m southeast associated with Hangar 3.
1981 (1:10000)	No notable changes	Wilmslow Road is now Wilmslow Old Road A new larger Wilmslow Road curves past the site c.50m west in a rough north-south orientation. Wilmslow Road joins a roundabout junction to the north of Oak Farm over 250m from site which adjoins the M56.
1987 (1:2500)	A smaller building is present in the location of Building 401 including lorry entrances to the building and the entrances from Pinfold lane and Avro Way. An electrical substation is noted on the West side of the building. Western half of the site remains with partial hard standing.	A road later identified as Avro Way is present on the northeast site boundary. Cargo Centre is now present c.20m northeast. An elongated building is added to Hangar 4. A tank and electricity substation is shown c.100m north of site (associated with fire water (Project Quantum)).
1991 (1:1,250)	The electrical substation is no longer present within the site boundary.	Electrical substation relocated from on-site to immediately adjacent to sites northwest boundary.
1992 (1:2500)	The building has expanded northwest and the access has moved north with it.	No notable changes

Year	On-Site	Off-Site
1995 (1:2500) 1995 (1:10000)	The building has expanded southwest. The substation is no longer noted. A light tower is noted in the southwest half of the site which is now as hard standing. The site is broadly as it is at present	Building 402 is now present to the immediate northwest with associated infrastructure including an electrical substation on the site boundary. An embankment is present along Wilmslow road to the west. An office building is noted c.100m north.
2001 (1:10000)	No notable changes	Hangar 5 to the east of the site is no longer present A small expansion to building 402 north of site
2021 (1:10000)	No notable changes	Hangar 3 is no longer present (It is known that in 2021 DNATA warehouse was built across the former Hangar 3 and 5 sites). Oak Farm is no longer Present. Two very large warehouses replace it with associated access roads as part of a large commercial industrial development (World Logistics Hub) including warehouses for Amazon, Thomas Cook, DHL and others.

Records of Mines and Mineral Deposits

Aggregate/Mineral Quarrying and Mining

The Groundsure report presents publicly available information on mining and quarrying operations, past and present that have taken place within 2km of the site.

The Groundsure report checks databases held by the British Geological Survey, The Coal Authority, Mining Searches UK, Koalin and Ball Clay Association (UK), Stantec UK Ltd, Johnson Poole and Bloomer, Cheshire Brine Subsidence Compensation Board and British Gypsum; as well as records of surface and ground workings identified from Ordnance Survey and Groundsure mapping.

Of those databases and mapping only one entry is noted within 250m of the Site. A surface ground working named as a ‘pond’ was noted 133m northeast of the site located within the area of landscaping at the southern side of Pinfold Lane within the area of the large airport fuel depot.

The Project area also lies within an area defined as the Cheshire Brine Compensation District and as such, it is recommended that a Cheshire Salt Search is obtained.

Hydrology

There are no ponds, streams, or drainage ditches on or adjacent to the site. The site is however understood to be included within Manchester Airports drainage and fire management systems.

The site lies on the boundary of two Water Framework Directive (WFD) surface water body catchments. The boundary runs along the southern boundary of the site. To the north of this line, including the site area, is within the catchment of Timperley Brook. The area beyond the southern boundary is within the River Bollin (River Dean to Ashley Mill) catchment.

The nearest Water Framework Directive-relevant surface watercourse/feature to the site is the River Bollin located approximately 259m south of the site at its closest point, flowing in a south-westerly direction. The ecological status of the river was assessed as “Moderate” and the chemical status was assessed as “Fail” as per the Environment Agency Cycle 2 Classification (2019).

The Groundsure Report indicates that there are no surface water abstraction licences within 1km of the site. There are 5No. surface water abstractions within 2km of the site, the closest active abstraction is located 1827 m northwest with the use listed as spray irrigation operated by Ringway Gold Club Ltd.

Utility plans for the site indicate the presence of a surface water drainage system sitewide. The plans show the surface water crossing the site boundaries and also connecting to a combined sewer. Information relating to the location of the discharge has not been made available.

Environment Agency mapping shows the site to lie within a Flood Zone 1, indicating that there is a low probability of flooding from rivers and the sea. The Groundsure report identified a 1 in 30-year risk of 0.1m-0.3m surface water flooding. The area indicated is located in centre of the current building 401 onsite and is likely associated with the current part basement of the building. The Groundsure report also identifies a Low risk from groundwater flooding.

Hydrogeology

The DEFRA MAGIC Map has been consulted in conjunction with the Groundsure Report and BGS Interactive Map. Available information indicates that:

- The Devensian Glacial Till is classified as a Secondary Undifferentiated Aquifer. These designations are described by the EA as being 'assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type'.
- The Bollin Mudstone Member is classified as a Secondary B Aquifer. These are described by the EA as 'predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers'.

The EA's Groundwater Vulnerability Map of the area (DEFRA MAGIC Map shows that both the superficial and bedrock aquifers are classified as being low vulnerability.

Mapping produced by the EA and supplied with the Groundsure report shows that the site does not lie within 500m of a Source Protection Zone.

The Groundsure report indicates there are no groundwater abstractions within 2km of the site.

Unexploded Ordnance Survey

The Site has been classed as having a low risk of encountering unexploded ordnance (UXO) by Zetica's mapping, meaning it is estimated that 15 bombs failed to explode within an area of 1,000 acres. However, as the Site is within the vicinity of Manchester Airport with a Luftwaffe target noted approximately 175m to the SE, a UXO risk assessment was undertaken for the Site.

The assessment concluded that the risk for the site was low as no significant sources of UXO were identified. The report's recommendation was for a UXO awareness briefing to be given to all staff involved in excavations. The Zetica desk study and risk assessment is included as Appendix C.

3. Field and Laboratory Studies

Ground Investigation

Description of Field Work

A Ground Investigation (GI) was undertaken at the site by LK Consult Ltd, the overall aim of which was to obtain an understanding of the overall ground conditions, both geological and hydrogeological, to derive geotechnical and geo-environmental parameters for the site. The fieldworks were carried out between 14th March and 25th May 2022. The factual report prepared by LK Consult Ltd following the investigation is provided in Appendix D.

The investigation site works comprised the following:

Boreholes

- 7 No. Cable Percussion/Dynamic Sample Boreholes with Rotary follow on.

In Situ Testing

- Standard Penetration tests (SPTs) typically at 1m to 1.5m intervals,
- Permeability testing,
- Hand Shear Vane (HSV) tests on selected soil samples; and
- Photo-Ionisation Detector (PID) headspace tests on selected soil samples.

Objectives of Field Work

The objectives of the investigation were to:

- Obtain site data to inform the overall ground conditions assessment of the site, including directly measured and derived geotechnical parameters for encountered strata to inform the geotechnical risk assessment; and,
- Obtain site data including soil and groundwater samples to allow further assessment of risks to human health and controlled waters receptors as a result of on-site contaminants.

Summary of Field Work

A summary of the exploratory holes and any installation details are presented in Table 3-1 below. The locations of the exploratory holes are shown in Appendix D.

Table 3-1 Exploratory Hole Summary Table

Borehole ID	Elevation (mAOD)	Final Depth (mbgl)	Response Zone (mbgl)	Response Zone Strata	Comments
BH101	67.35	25.00	1.00-3.00	Superficial: Slightly gravelly silty CLAY	Very weak weathered mudstone at 3.00m bgl
BH102	68.04	21.30	1.10-4.50	Superficial/ Weathered Bedrock: Silty/ gravelly CLAY and very weak weathered MUDSTONE	Very weak weathered mudstone from 2.80m bgl
BH103	68.21	5.26	1.10-3.00	Superficial: Slightly gravelly silty CLAY	Very weak weathered mudstone from 3.20m

Borehole ID	Elevation (mAOD)	Final Depth (mbgl)	Response Zone (mbgl)	Response Zone Strata	Comments
BH104	67.58	25.00	4.70-5.70	Superficial: Slightly gravelly SAND	Very weak mudstone containing bands of Gypsum from 10.60m bgl
BH105	67.23	7.20	4.00-6.00	Superficial: Slightly gravelly silty SAND	Stiff to very stiff clay or possibly extremely weak weathered Mudstone from 6.00m bgl
BH106	66.93	14.50	2.60-3.85	Superficial: Slightly gravelly silty CLAY	Very weak weathered mudstone from 6.00m bgl
DS101	64.40	5.20	N/A	N/A	Extremely weak weathered Mudstone from 4.10m bgl

Groundwater Monitoring and Sampling

Six exploratory hole locations (BH101-BH106) were installed with monitoring wells for subsequent ground gas and groundwater sampling. A summary of the well installations and response zone is listed above in Table 3-1.

One round of groundwater sampling was undertaken on 23rd June 2022 from each of the wells and water samples scheduled for laboratory testing. The results of this testing are provided in the factual report (LK Consult, July 2022) held in Appendix D and discussed later in this report in Sections 7 and 0.

Ground Gas Monitoring

Ground gas monitoring of the wells installed into BH101-BH106 was undertaken across 6No. monitoring rounds dating from 16th, 23rd and 30th June and 7th, 14th, and 20th July 2022. This included measurements of atmospheric pressure, peak and steady flow rate and concentrations of methane (CH_4), carbon dioxide (CO_2), oxygen (O_2), carbon monoxide (CO), hydrogen sulphide (H_2S) and volatile organic compounds (VOC).

Laboratory Investigation

Geotechnical Testing

Soil samples obtained from the investigation were sent for laboratory testing as part of the derivation of geotechnical parameters. These tests included density, moisture content and Atterberg limits, particle size distribution, one-dimensional consolidation, quick undrained triaxial, uniaxial compressive strength and point load testing. Samples were also tested for BRE suite D.

These test results are included in the Ground Investigation Factual Report (Appendix D) and are also summarised in Table 3-2.

Table 3-2 Summary of Geotechnical Testing

Test	Number of Tests
Density and Moisture Content	10
Atterberg Limits	19

Particle Size Distribution	4
One-Dimensional Consolidation	7
Quick Undrained Triaxial	11
Point Load (axial and diametral)	50
BRE Suite D	18

Geo-Environmental Sampling and Test Rationale

Representative soil samples were taken from the exploratory holes and were scheduled for a suite of chemical analysis. The testing regime was prescribed by AECOM and subcontracted to Chemtest. Samples were scheduled based on visual/ olfactory observations and results of PID head space testing as well as being scheduled in order to fully characterise the different strata underlying the site.

Copies of the test results and laboratory certificates are included in the Ground Investigation Factual Report (LK Consult, July 2022) held in Appendix D. A summary of the geo-environmental testing is summarised in Table 3-3.

Table 3-3 Summary of Geo-environmental Testing

Suite Reference	Material	Determinands	Number of Tests
Suite S – 1 (Main Soils)	Soil	Metals, pH, sulphate suite, speciated PAHs*, TPH CWG*, phenols, cyanide suite, FOC* and asbestos screen	16
Suite S – 2 (Additional Soils)	Soil	PCBs*, SVOCs* and VOCs*	14
Suite – W1 (Waters)	Water	Metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity and nitrate	6
Suite – W2 (Additional Waters)	Water	PCBs, SVOCs and VOCs	6
Suite – L1 (Soil Leachate)	Leachate	Metals / metalloids, pH, sulphate suite, speciated PAHs, TPH CWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity and nitrate	6
Suite - L2 (Leachate Additional Suite)	Leachate	PCBs, SVOCs and VOCs	6
Inert WAC Suite	Soil	WAC	6

*PAHs (polycyclic aromatic hydrocarbons), TPH CWG (Total Petroleum Hydrocarbons Criteria Working Group), PCBs (polychlorinated biphenyls), VOCs/ SVOCs (volatile/ semi-volatile organic compounds), FOC (fraction organic carbon), WAC (waste acceptance criteria)

4. Ground Summary

Introduction

The strata sequence encountered during the ground investigation is presented in Table 4-1 below. The profile is based on information provided in the Factual Report in Appendix D.

Table 4-1 Ground Profile

Stratum	Typical Description	Top of Layer		Base of Layer		Layer Thickness (m)
		(m bgl)	(m OD)	(m bgl)	(m OD)	
Made Ground	Tarmacadam underlain by MADE GROUND comprised of sandy Gravel or gravelly Sand with frequent tarmacadam fragments. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of sandstone and limestone. 0.7m thick concrete former loading dock encountered under Tarmacadam at BH101.	0	68.21 – 64.40	0.30 – 1.00	67.71 – 63.80	0.30 – 1.00
Glacial Till - Cohesive	Firm to very stiff consistency medium to high strength slightly gravelly silty CLAY. Gravel is fine to medium subangular to subrounded of various lithologies	0.30 – 1.00	67.71 – 63.80	1.20 – 6.00	65.24 – 60.30	0.65 – 4.00
Glacial Till - Granular	Dense to very dense slightly gravelly SAND with discrete bands of stiff Clay. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of various lithologies.	1.20 – 4.70	66.38 – 62.40	1.40 – 6.00	63.39 – 61.23	0.20 – 2.00
Bollin Mudstone Member – Weathered (Mercia Mudstone)	Very weak to extremely weak weathered MUDSTONE recovered as stiff to very stiff consistency gravelly Clay. Gravel is fine to coarse subangular to angular of mudstone.	2.80 – 6.00	65.24 – 60.30	4.50 – 10.60	63.54 - 56.98	1.00 – 4.90
Bollin Mudstone Member (Mercia Mudstone)	Weak to extremely weak MUDSTONE. Distinct weathering noted.	4.50 – 10.60	63.39 – 56.98	25.00 (Base Not Proven)	42.35	20.50 (Base Not Proven)

Geology

The investigation generally encountered up to 1m of Made Ground underlain by firm to very stiff Clay and Mercia Mudstone. The Made Ground typically comprised tarmacadam over sandy gravel subbase material. A 0.7m thick concrete former loading dock was encountered beneath the tarmacadam at BH101. In DS101 0.3m of brick, coal and ash was encountered overlying the subbase material.

The firm to very stiff Clay was interbedded with horizons of medium dense to dense sand at some locations and has been identified as Glacial Till. Weathered Mudstone bedrock was recovered as Clay at the base of all borehole locations. The weathering grade of the underlying Mercia Mudstone varies between destructured (Grade IVa) and unweathered (Grade I), extending to 25m bgl.

Groundwater

The groundwater strikes recorded during the investigation and the subsequent 6 no. monitoring visits are summarised in Table 4-2.

Table 4-2 Summary of Groundwater Data

Location	Water Strike Depth		Water Monitoring Depths	
	(m bgl)	(m OD)	(m bgl)	(m OD)
BH101	-	-	1.43 – 1.70	65.92 – 65.65
BH102	-	-	1.44 – 1.57	66.60 – 66.47
BH103	-	-	2.35 – 2.49	65.86 – 65.72
BH104	-	-	3.65 – 3.80	63.93 – 63.78
BH105	5.00	62.23	3.37 – 3.50	63.86 – 63.73
BH106	5.50	61.43	3.06 – 3.21	63.87 – 63.72
DS101	-	-	-	-

Visual and Olfactory Observations

There were no visual or olfactory observations of contamination noted during the site investigation or during the subsequent groundwater monitoring.

5. Ground Conditions and Material Properties

Introduction

This section covers the derivation of representative soil parameters for each of the strata based on the findings of the investigation and empirical relationships.

Derivation of Soil Parameters

Made Ground

Engineering properties of Made Ground cannot be relied upon and are not discussed in detail in this document.

Cohesive Glacial Till

Firm to very stiff clay comprising the cohesive Glacial Till was recorded underlying the Made Ground across the Site. Bulk density data from the triaxial and Atterberg testing ranges between 1.66Mg/m^3 and 2.01Mg/m^3, excluding a lower value which is considered to be an anomaly, with an average of 1.80Mg/m^3. Therefore, based on this value and the material description of firm to very stiff clay, a value of 19kN/m^3 is proposed for the stratum. The dry density results from testing are shown on Figure 8.

Atterberg Limit tests were carried out on samples of the cohesive Glacial Till obtained during the investigation. The results are summarised in Table 5-1 and indicate the cohesive Glacial Till is of low to intermediate plasticity with an average plasticity index of 15%. The Atterberg Limit chart is included as Figure 1 and the moisture content testing is shown on Figure 2.

Table 5-1 Summary of Atterberg Limit Tests for Cohesive Glacial Till

Soil Parameter	No. of Tests	Average Value	Range
Moisture Content (%)	18	16	4 - 25
Liquid Limit (%)	11	31	25 - 44
Plastic Limit (%)	11	16	12 - 22
Plasticity Index (%)	11	15	10 - 22

The value of ϕ'_{crit} has been determined using the correlation in BS8002, Code of Practice for Earth Retaining Structures (2015) and Figure 5.3 of CIRIA 504 Engineering in Glacial Tills. Using the average plasticity index gives a suggested value of 27° for both methods.

The uncorrected SPT N values for the strata are shown in Table 5-2 and on Figure 3. This table also includes un-drained shear strength from the SPT data using empirical relationships (c_u = f1*N values from Stroud, 1975) (5). An f1 factor of 6.5 has been used based on the strata's average plasticity index. This f1 value is the upper bound provided by Stroud, however the more conservative hand vane results have also been used to derive the design line and ensure it is moderately conservative.

Single stage unconsolidated undrained triaxial tests were also carried out on samples of the material and these results are summarised in Table 5-3. Two tests at a depth of 1.2m achieved results for 199kPa and 225kPa for BH102 and BH103 respectively, however these are deemed to be anomalies.

Table 5-4 summarises the hand vane tests undertaken at shallow depths.

Table 5-2 Summary of SPT Tests for Cohesive Glacial Till

Depth Range (m bgl)	No. of Tests	Range of Uncorrected SPT N Values	Average Uncorrected SPT N Value	Range of Undrained Shear Strength, SPT x 6.5 (kPa)	Average Undrained Shear Strength (kPa)
1 - 2	5	15 - 22	17	98 - 143	111
3 - 4	4	22 - 50	41	143 – 325	267
5 - 6	5	37 - 50	47	241 – 325	306
7 - 8	3	50	50	325	325
9 - 10	2	50	50	325	325

Table 5-3 Summary of Unconsolidated Undrained Triaxial Tests for Cohesive Glacial Till

Depth (m bgl)	No. of Tests	Undrained Shear Strength	Soil Strength
1 - 1.2	4	58 - 225	Medium to Very High
2 – 2.2	2	106 – 116	High
3	3	88 – 126	High
4	1	56	Medium

Table 5-4 Summary of Hand Vane Tests for Cohesive Glacial Till

Depth (m bgl)	No. of Tests	Undrained Shear Strength	Soil Strength
0.5	6	15 - 87	Low to High
0.75	10	6 – 96	Low to High
0.8	2	24 - 78	Low to High

Based on the undrained shear strengths from the above testing a design line of 40kPa to a depth of 66m OD and 80kPa below that is proposed based on the testing results and the strata's description as firm. The full plot is included as Figure 5.

Using the correlation E'/N=0.9 from CIRIA 143, The Standard Penetration Test (SPT): Methods and Use by Stroud, 1988 (6), and a range of N values of 13 to 27 gives a proposed E' range of 12MPa to 24MPa.

Three particle size distribution (PSD) tests were carried out on the cohesive Glacial Till. The samples were taken from boreholes BH101 and BH103, the results of which are summarised in Table 5-5 and shown on Figure 7.

Table 5-5 Summary of Particle Size Distribution Tests for Cohesive Glacial Till

Location	Depth (m bgl)	Constituents				
		Cobbles (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH101	1.5	0	5	38	29	28
BH103	2	0	1	15	44	40
BH103	4	0	6	20	40	34

Granular Glacial Till

Thin granular layers of the Glacial Till were recorded in five of the seven locations and described as dense to very dense sand. The thickness of the layer was highly variable, ranging from thin bands to layers up to 2m thick where the material was described as containing clay bands and a PSD showed the material to be predominantly cohesive. The suggested bulk density according to BS8002, 2015 for the granular Glacial Till is 19kN/m^2 based on the description as dense to very dense sand and the location of the layer above the groundwater table.

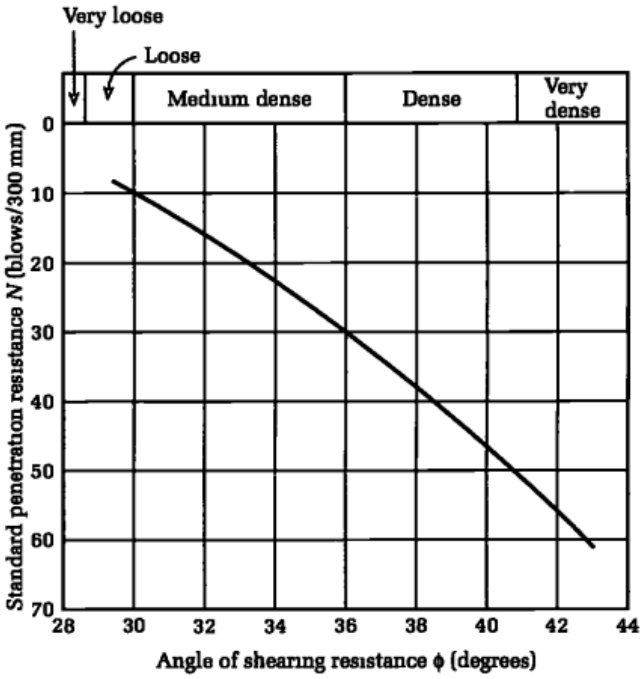
The SPT tests undertaken in these layers are summarised in Table 5-6 and shown on Figure 4.

Table 5-6 Summary of SPT Tests for Granular Glacial Till

Depth Range (m bgl)	No. of Tests	Range of Uncorrected SPT N Values	Average Uncorrected SPT N Value
2 – 3	1	23	23
4 - 5	3	26 - 50	38

The undrained internal (peak) angle of friction for the granular Glacial Till has been estimated using the representative N value and the correlation proposed by Peck et al. (1967), presented in Tomlinson Foundation Design & Construction (2001). Based on an N value of 30, the proposed angle is 36° as shown in Figure 5-1.

Figure 5-1 Extract from Tomlinson Foundation Design and Construction (2001); Relation of N-Values and Friction Angles by Peck et al. (1967)



The suggested drained modulus (E') is 30MPa based on the correlation $E'/N_{60}=1$ from CIRIA 143 and the representative N value of 30. The N value has been used rather than the N_{60} value to be more conservative as the N_{60} value would give an E' of 100MPa to 120MPa based on the energy ratios of 75% and 61% respectively. The results of the single PSD test undertaken on a sample of the granular Glacial Till from BH105 are in Table 5-7, and also on Figure 7. The results show the material is predominantly cohesive so suggest it is from one of the cohesive bands noted in the layer.

Table 5-7 Summary of Particle Size Distribution Tests for Granular Glacial Till

Location	Depth (m bgl)	Constituents				
		Cobbles (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
BH105	4	0	2	19	41	38

Mercia Mudstone

A zone of weathered Mercia Mudstone, recovered as stiff to very stiff Clay, was encountered in each rotary follow on borehole. Underlying this was the Mercia Mudstone which was found to be highly variable in both depth and weathering grade. The weathering grade ranged from Grade IVa & IVb to Grade II with Grade IVa and IVb encountered at depth. The derived values have also been compared to those stated in CIRIA 570 Engineering in Mudstone.

Two dry density values were determined for the weathered Mercia Mudstone of 1.87Mg/m^3 and 1.88Mg/m^3 giving a proposed dry density of 18kN/m^3. These results are shown on the plot in Figure 8. A density of 20kN/m^3 is

proposed for the unweathered Mercia Mudstone based on BS8002 and its description as weak to extremely weak Mudstone. C570 suggests a bulk unit weight of between 18kN/m^3 and 21kN/m^3 for the Grade IV Mudstone so the value for the weathered Mercia Mudstone is at the lower end of this range. For Grades III to I, C570 suggests a bulk unit weight of between 20.5kN/m^3 and 24.5kN/m^3 so the proposed unit wight for the unweathered Mercia Mudstone is also at the lower end of this range.

The Atterberg Limit data for the weathered Mercia Mudstone (Grades IVa and IVb) is summarised in Table 5-8 and shows an average plasticity index of 20%. Using the correlation from BS8002 gives a ϕ'_{crit} of 25°. Table 7.1 of C570 suggests a value of between 25° and 32° for Grade IV so the proposed value is consistent with the lower bound value from C570. The ϕ'_{crit} of the unweathered Mercia Mudstone is assumed to be 27°. Only one Atterberg Limit test was undertaken on the unweathered strata and the result was very similar to that for the weathered layer (21% compared to 20%) however a small increase has been assumed based on the material description compared to the weathered layer. C570 suggests a value of between 32° and 42° for Grade III and greater than 40° for Grades I and II however due to the presence of weathered material at depth, a more conservative value has been proposed.

Table 5-8 Summary of Atterberg Limit Tests for Mercia Mudstone

Soil Parameter	No. of Tests	Average Value	Range
Moisture Content (%)	24	11	1 - 23
Liquid Limit (%)	8	32	18 – 47
Plastic Limit (%)	8	19	16 – 23
Plasticity Index (%)	8	20	17 - 24

26 SPT tests were undertaken in the weathered and unweathered Mercia Mudstone. Only two of these tests did not record refusals, the results are summarised in Table 5-9. Undrained shear strength values were derived based on the f1 correlation by Stroud mentioned previously and using the strata's average plasticity index of 20% to determine an f1 value of 5.4. The single unconsolidated undrained triaxial test is reported in Table 5-10. Therefore, an undrained shear strength of 150kPa is proposed for the weathered Mercia Mudstone layer.

Table 5-9 Summary of SPT Tests for Mercia Mudstone

Depth Range (m bgl)	No. of Tests	Range of Uncorrected SPT N Values	Average Uncorrected SPT N Value	Range of Undrained Shear Strength, SPT x 5.4 (kPa)	Average Undrained Shear Strength (kPa)
1 - 5	7	25 - 50	46	135 – 270	248
6 - 10	5	50	50	270	270
11 - 15	3	34 - 50	45	184 - 270	243
16 - 20	7	50	50	270	270
21 - 25	4	50	50	270	270

Table 5-10 Summary of Unconsolidated Undrained Triaxial Tests for Mercia Mudstone

Depth (m bgl)	No. of Tests	Undrained Shear Strength	Soil Strength
3	1	50	Medium

The point load tests undertaken in the unweathered Mercia Mudstone are summarised in Table 5-11 and shown on Figure 6. A c_0 conversion factor of 24 was used to calculate the UCS values based on the mudstone being a well-cemented calcareous rock. Based on these results a representative UCS value of 3MPa is proposed based on correlation with I_s and I_{s50}, these results are shown in Table 5-11. Where I_s is the uncorrected point load strength and I_{s50} is the strength corrected based on the size of the sample to a reference dimension of 50mm.

Table 5-11 Summary of Point Load Tests for Mercia Mudstone

Soil Parameter	No. of Tests	Average Value	Range
I_s (MPa)	48	0.32	0.04 – 2.14

Soil Parameter	No. of Tests	Average Value	Range
I_{s50} (MPa)	48	0.28	0.04 – 1.53
UCS (MPa)	48	6.65	0.96 – 36.72

The drained modulus, E', of the weathered Mercia Mudstone was derived from the E'/N=0.9 relationship from CIRIA 143 and using a representative N value of 45. This suggests an E' of 40MPa. This value was increased slightly to 50MPa for the unweathered layer based on the material description.

The cohesion values suggested by C570 are greater than 20kPa for Grades IV and III and greater than 25kPa for Grades I and II however more conservative values have been proposed here.

The stiffness was also checked with the rock mass stiffness correlation using the equation $E_m=jM_rq_c$ from CIRIA 181 where j is the mass factor, M_r is the modulus ratio and q_c is the UCS. A mass factor of 0.5 was selected based on an average Rock Quality Designation (RQD) of 67% and a modulus ratio of 150, based on Mercia Mudstone being a cemented mudstone. This gave an E_m of 225MPa however the more conservative value of 50MPa is used in Table 5-12.

Geotechnical Parameters

Table 5-12 details the proposed geotechnical parameters for the strata based on the information from the ground investigation. In comparison to the values suggested by C570 the proposed values for the Mercia Mudstone present more conservative estimates and generally lie at the lower bound of the range suggested by C570.

Table 5-12 Characteristic Soil Parameters Summary

Strata	γ_{DRY} (kN/m3)	Φ'_{crit} (°)	Φ'_{peak} (°)	c_u (kPa)	c' (kPa)	E' (MPa)	UCS (MPa)	v
Glacial Till - Cohesive	19	27	-	40 – 80 (See Figure 5)	0	12 - 24	-	0.3
Glacial Till - Granular	19	-	36	-	0	30	-	0.25
Bollin Mudstone Member – Weathered (Mercia Mudstone)	18	25	-	150	0	40	-	0.3
Bollin Mudstone Member (Mercia Mudstone)	19	27	-	-	0	50	3	0.3

Aggressive Ground

Soil chemistry tests to determine the potential for aggressive ground were performed on 18 No. soil samples recovered during the GI. The following properties were measured –

- Total sulphate content of soil (water soluble)
- Total sulphur content of soil
- pH of soil

Using guidance from BRE Special Digest 1 (7), the following estimates can be made

- Total potential sulphate content (3 x total sulphur content)

Should the estimate of oxidisable sulphides exceed 0.3% within a significant number of tested samples, then it can be concluded that pyrite is likely to be present within the Site. Should pyrite be present, the total potential sulphate should be considered in the assigning of a ground aggressivity classification. Brownfield conditions and mobile groundwater were assumed for the site in the assessment. The results are summarised in Table 5-13.

Table 5-13 BRE Concrete in Aggressive Ground Assessment Summary

Location	Depth (m bgl)	Strata	pH	Sulphate (2:1 Water Soluble) as SO4 (mg/l)	Total Sulphur (%)	Total Potential Sulphate (%)	Design Sulphate Class	ACEC Class
BH101	1.50	Cohesive Glacial Till	8.2	1761	0.37	1.11	DS-3	AC-3
	4.50	Mercia Mudstone	8.2	1797	0.43	1.29	DS-4	AC-4
	8.50	Mercia Mudstone	8.2	1944	4.98	14.94	DS-5	AC-5
	20.50	Mercia Mudstone	8.3	2012	1.10	3.3	DS-5	AC-5
BH102	2.00	Cohesive Glacial Till	8.5	296	0.06	0.18	DS-1	AC-1
	8.00	Mercia Mudstone	8.2	1982	0.53	1.59	DS-4	AC-4
BH103	0.75	Cohesive Glacial Till	8.5	96	0.02	0.06	DS-1	AC-1
	2.00	Cohesive Glacial Till	8.3	167	0.02	0.06	DS-1	AC-1
	4.00	Weathered Mercia Mudstone	7.8	1741	3.71	11.13	DS-5	AC-5
BH104	11.50	Mercia Mudstone	7.9	1867	6.02	18.06	DS-5	AC-5
	17.00	Mercia Mudstone	8.0	1633	5.48	16.44	DS-5	AC-5
BH105	2.00	Cohesive Glacial Till	8.3	2020	0.23	0.69	DS-3	AC-3
	4.00	Granular Glacial Till	8.6	427	<0.01	0.03	DS-1	AC-1
	6.00	Weathered Mercia Mudstone	8.2	1909	0.58	1.74	DS-4	AC-4
BH106	0.50	Cohesive Glacial Till	8.3	520	0.11	0.33	DS-2	AC-2
	6.00	Weathered Mercia Mudstone	8.0	1893	4.63	13.89	DS-5	AC-5
	8.50	Mercia Mudstone	8.0	1930	6.87	20.61	DS-5	AC-5
	13.00	Mercia Mudstone	8.1	1963	5.24	15.72	DS-4	AC-4

DS-5 and AC-5 is required for concrete in the Mercia Mudstone, including the weathered layer. DS-3 and AC-3 is required for the cohesive Glacial Till, and granular Glacial Till as only one test was undertaken in this layer and although it showed DS-1 and AC-1, this has been conservatively raised to DS-3 and AC-3.

CIRIA C570 indicates that high sulphates within the Mercia Mudstone and Cheshire Basin in particular are common due to the presence sulphates such as of gypsum (observed on the engineer's logs) and halites, contributing to differential weathering profiles.

In-Situ Contamination Tests and Observations

A summary of any significant PID readings and any visual and olfactory observations from each exploratory hole location are listed below in Table 5-14.

Table 5-14 In-situ Contamination Observations

Exploratory Hole	Max PID (ppm)	Visual/Olfactory Observations
BH101	0.0	None
BH102	0.3	None
BH103	0.1	None
BH104	0.3	None
BH105	0.3	None
BH106	1.3	None
DS101	0.5	None

6. Geotechnical Risk Assessment

Assessing Geotechnical Risk

A Geotechnical Risk Register has been compiled to show the degree of risk attached to various ground related aspects of the proposed works. The purpose of the register is to produce an assessment of the risk to the project posed by site specific ground related problems and identify suitable mitigation measures to control the risk to an acceptable level. The risk register should be developed and refined as the geotechnical design and assessment progresses such that the register will allow management of the geotechnical risks.

The degree of risk (R) is determined by combining an assessment of the likelihood (L) of the hazard with an assessment of the severity (S) of the hazard. The scale against which the likelihood and severity are measured, and the resulting degree of risk determined are presented below. The risk register is in Table 6-1.

Likelihood (L)		Severity (S)	
Very Likely	5	Very High	5
Likely	4	High	4
Probable	3	Medium	3
Unlikely	2	Low	2
Negligible	1	Very Low	1

Likelihood	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
		Severity				

Risk rating	Response
Intolerable	Unacceptable
Substantial	Early Attention
Tolerable	Regular Attention
Trivial	Monitor

Table 6-1 Geotechnical Risk Register

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Possible Mitigation Measures
			L	S	RR (L*S)		
Aggressive ground chemistry	Scheme Wide	Made Ground, Glacial Till and Mercia Mudstone are potentially sulphide/sulphate bearing stratum.	4	3	12	Deleterious effects on buried concrete/piles.	Analyse BRE test results and design concrete mix during detailed design in accordance with BRE guidance.
Variable thickness and composition of superficial deposits and Made Ground/variable hard ground	Scheme Wide	The inherent variability of Glacial Till and Made Ground or variable rock head level and properties. Investigation found up to 1m of Made Ground, Glacial Till thickness of between 0.5m and 4m and encountered rock head at between 2.8m and 6m bgl.	4	3	12	Unsuitable method of construction. Potential presence of boulders/buried concrete structures may obstruct piling/drilling. Obstruction will be difficult to excavate or drill through. Additional cost.	Design to allow for ground conditions encountered. Works to prepare for variable conditions to those reported by the ground investigation.
Underground obstructions due to current and historical development	Scheme Wide	Known and unknown/unrecorded buried structures. BH101 encountered a former concrete loading dock at 0.3m bgl. Full extent of this loading dock is unknown.	4	3	12	Costs due to damage to plant and delays removing obstructions. Potential settlement issue in areas between proposed and existing foundations of previous structures.	Proposed work to be located away from existing foundations where possible. Extent of concrete loading dock to be proven and installation of stone columns to plan for encountering the dock and any other obstructions.
Required bearing pressure not achieved with vibro-stone columns	Scheme Wide	Ground conditions are worse than expected.	3	4	12	Additional costs and/or delays during construction due to difficulty installing stone columns. Long term poor performance of finished structure such as differential settlement.	Advice should be sought from specialist vibro-stone column contractor regarding suitability of the site and proposed development for stone columns. More onerous foundation solution or redesign of sub-structure to reduce bearing pressures may be required.
Re-grading of site	Scheme Wide	Slope stability and long-term settlement of raised earthworks. A gravity vegetated wall is proposed for the site.	3	3	9	Failure of earthworks slopes and serviceability issues with excessive total and differential settlement.	Earthwork slopes will be designed using conservative parameters from the ground investigation findings. Gravity vegetated wall is to be designed by a specialist contractor.
Unforeseen contamination	Scheme Wide	Historical contamination associated with former site uses e.g. substations and refuelling areas.	3	3	9	Risks to human health and environment, increased costs to remediate.	Review of laboratory data and further assessment to inform construction and risks to construction workers. Allowance for unforeseen contamination within risk register. Inspection and discovery strategy to be employed during earthworks and construction/demolition.
The presence of weak and compressible soils	Scheme Wide	Glacial Till was described as firm to very stiff and dense to very dense for cohesive and granular layers respectively. However soft cohesive and loose granular deposits may be present as Glacial tills are typically	2	4	8	Differential settlement as a result of differing foundation material. Failure of structures or earthworks.	Adopt conservative design based on findings of ground investigation and specify appropriate foundations.

Identified Geotechnical Hazard	Location	Cause	Risk before Control			Consequence	Possible Mitigation Measures
			L	S	RR (L*S)		
		highly variable in composition. Compressible materials may be present. Made Ground encountered to a maximum depth of 1m bgl.					
Frost susceptible soils	Scheme Wide	Construction of pavement and silt-rich soils.	2	3	6	Surface damage or alternative design. Frost heave.	During detailed design review findings of ground investigation and assess risk. Increase pavement thickness to incorporate risk.
Shrinkable clay soils	Scheme Wide	Artificial and/or superficial deposits.	2	3	6	Damage to structures due to seasonal subsidence and heave of clay soils and near trees.	Check Atterberg limits of cohesive soils and specify foundations according to relevant guidance, e.g., NHBC. Trees should be protected during construction and structures should consider the impact of the growth of young trees and potential for damage from roots.
Challenges re-using site won material for earthworks	Scheme Wide	Potential cobbles and boulders in Glacial Till.	2	3	6	Potential difficulty compacting Glacial Till as an engineered fill due to potential presence of coarse granular material. Increased costs from importing suitable material.	Import suitable engineered fill or remove coarse material from existing site won material. Carry out testing to classify material.
Weak pavement formation	Scheme Wide	Site soils including Made Ground may be variable or possess low Cu/CBR/stiffness values. This may result in weak pavement formation and differential settlement.	3	2	6	Increased cost such as resurfacing access roads and car park may be required.	Review laboratory testing results for design CBR values to inform pavement design. Undertake remediation for instance implementation of mechanical compaction, thicker capping material, ground improvement (lime improvement/soil stabilisation) or excavation and replacement.
UXO	Scheme Wide	Potential UXO related to historic military activity as a result of being part of the airport during WWII.	1	5	5	H&S impact during excavation, ground investigation, piling and construction.	UXO Desk Study & Risk Assessment for Avro Way Manchester, undertaken by Zetica (Ref P11632-22-R1, dated 19th April 2022) indicates a low risk of encountering UXO at the site. Specialist UXO supervision is therefore not recommended for future works including excavations and/or boreholes and piling, but a UXO Awareness Briefing should be given to future site operatives.

7. Contamination Assessment

Human Health Risk Assessment

Introduction to Generic Risk Assessment Methodology

AECOM has adopted a prescribed methodology for assessing risks to human health at a generic level (termed 'generic quantitative risk assessment' (GQRA) or 'Tier 2' recommended by the Environment Agency's Land Contamination Risk Management Framework (LCRM) (8)

For sites where the initial conceptual site model (iCSM) has identified one or more complete contaminant linkage to human health, it is often necessary to clarify the risks posed by that contaminant linkage by comparison of reported soil and groundwater contaminant concentrations with guideline values that represent acceptable concentrations.

The procedures outlined in EA Science Reports SC050021/SR2, SR3, SR4 and SR7 (9) (10) (11) (12) have been adopted in conjunction with the amendments to generic land-use exposure models published in DEFRA research report SP1010 detailing the derivation of Category 4 Screening Levels (C4SL) to select and develop generic assessment criteria (GAC) for soil. This approach has also been adapted to develop assessment criteria for groundwater and soil vapour.

Selection and Derivation of Stage 2 GAC

Hierarchy of Published Sources

AECOM utilises a hierarchy of published sources for Stage 2 generic assessment criteria for soil.

The hierarchy of published sources are:

- Defra Category 4 Screening Levels (C4SL)
- Land Quality Management (LQM) / Chartered Institute of Environmental Health (CIEH) Suitable for Use Levels (S4UL) for Sandy loam soil
- Environmental Industries Commission (EIC) GAC
- AECOM GAC
- Dutch Intervention Values (IV) and Serious Risk Concentrations (SRC)
- United States Environmental Protection Agency (USEPA) Regional Screening Levels (RSL)

No LQM or EIC values are available for lead, and therefore the published C4SLs for lead are the default soil GAC. Further consideration of Defra SP1010 C4SLs for other substances is made where appropriate, subject to the current limited availability to six substances.

In accordance with EA guidance co-authored by AECOM, GAC can be used as a starting point for evaluating long-term risks to human health from substances in soil. They address one specific consideration – long-term adverse effects on human health – and are designed to indicate where long-term (chronic) human health soil exposure risks are considered to be tolerable or minimal. They do not represent the "trigger" for an unacceptable risk under Part 2A of EPA 1990 and they do not address risk related to construction workers, acute exposure, ecology, controlled waters or building materials, they do not inform on the geotechnical suitability of the soil, and they do not inform on the aesthetic quality of the soil – both visual and olfactory. Therefore, the GAC have not been explicitly derived to define remediation standards and are just one component in the assessment of whether soil is suitable for use.

It is good practice to use multiple lines of evidence to support GQRA conclusions.

Proposed Land Use Scenario

The proposed land use scenario selected for the site is considered to be "Commercial Land Use" based on the site being redeveloped to include a warehouse and loading area.

Taking into consideration the soil descriptions and total organic content (TOC) found in soils samples across the site, TOC >=0.58 to <1.45% was used with a soil type ‘Sandy Loam’ to calculate the GAC.

It should be noted that Tier 2 assessments tend to be relatively conservative and are therefore suitable for screening the potential chronic long-term risks to human health at a site.

Soils Analytical Data

Soil results and environmental laboratory certificates are provided in the LK Consult Factual Report in Appendix D.

There were no exceedances of the human health GAC for a commercial land use from any of the 16 No. soil samples tested.

In addition, no asbestos was detected by the laboratory in any of the 16 No. samples screened.

Buried Drinking Water Pipes

A comparison of the soil results has been undertaken based on the following:

- United Utilities, 2019. Supplementary guidance for the selection of water pipes in land potentially affected by contamination

The results from the assessment indicates only localised exceedances of the thresholds for polyethylene pipes were obtained from very shallow depth from BH102 (0.15m) and BH103 (0.14m) for EC16 to 40 aliphatic and aromatic hydrocarbons.

Phytotoxicity (Toxicity to Plants)

Assessment of the soil testing results for potentially phytotoxic metals (copper, nickel and zinc) does not show any exceedance of the criteria provided in BS3883:2015 Specification for Topsoil and BS 8601:2013 Specification for Subsoil.

Controlled Waters Risk Assessment

Groundwater and Surface Water Generic risk assessment methodology

AECOM has a prescribed methodology for assessing risks to controlled waters at a generic level, termed 'generic quantitative risk assessment' (GQRA) or 'Tier 2' in LCRM.

For sites in England and Wales where the conceptual site model has identified a potentially complete contaminant linkage to controlled waters, the first step is to define a suitable water target value (WTV) for the identified point of compliance upon which the risk assessment can be based. For groundwater compliance points the drinking water standard (DWS) is used in England and Wales while for surface water compliance points an environmental quality standard (EQS) is adopted.

For England and Wales, Stage 2 WTV have been selected following the Level 1 assessment methodology detailed in the EA's Remedial Target Methodology (RTM) (12).

Selection of Stage 2 WTV

Selection of EQS Criteria

The selection process used to determine the freshwater and coastal EQS is presented below in order of preference:

- United Kingdom environmental quality standards including SEPA WAT-SG-53.
- PNEC derived for EU REACH registration dossiers/chemical safety reports (via the Fuel Ether REACH Consortium FERC).

When an EQS or PNEC is not available, a GAC will not be set. However, for a number of sites where groundwater has the potential to provide base-flow to surface water, the groundwater may also have resource potential and therefore also be screened against DWS based standards.

Tier 2 Assessment for Groundwater Data

The Tier 2 assessment involves the comparison of measured groundwater concentrations against the WTV. If the concentrations are below the WTVs, then the risks are considered insignificant. If the concentrations in the source are above the WTV, there is a potentially unacceptable risk to groundwater or surface water which requires further qualitative or quantitative assessment.

Whilst the hierarchies detailed above are appropriate for most sites there may be site specific conditions which require review of alternative criteria to be adopted, i.e., where an aquifer is located in an area of low environmental sensitivity and/or is considered unlikely to be utilised for potable supply or to provide base-flow to surface water. Where alternative criteria have been considered this will be highlighted.

Selection of Appropriate Controlled Waters Criteria Values

Information from the AECOM Desk Study indicates that the Superficial Deposits underlying the Site, comprising Glacial Till, is categorised as a Secondary Undifferentiated aquifer. The bedrock, comprising Bollin Mudstone, is categorised as a Secondary B aquifer.

It is likely there may be some connectivity of the groundwater with Cotteril Clough Brook (a tributary of the River Bollin) located 259m south of the site down an inferred gradient. There are no surface water abstraction points identified within the Site boundary and no groundwater abstractions licenses have been identified within 1 km. The site is also not located within 500m of a Groundwater Source Protection Zone.

The Groundsure report indicates there are no groundwater or potable water abstractions within 2km of the site. The most sensitive underlying aquifer is listed as being the Bollin Mudstone Member (Secondary B). Superficial deposits encountered immediately underlying Made Ground during the ground investigation comprised cohesive clay deposits. The thickness of the underlying clay ranged between 1.40 – 4.00m bgl. The cohesive material underlying the Made Ground is likely to provide a barrier reducing the potential for downward vertical migration of contaminants within shallow soils and therefore it is unknown if groundwater is in connectivity with Cotteril Clough Brook and the River Bolling. As such, EQS screening criteria protective of surface water receptors have been discounted and the groundwater screened against the less conservative Drinking Water Standards

Ground Water Analytical Results

One round of groundwater monitoring was undertaken at the site which included 6 No. groundwater samples from across the site (BH101 to BH106) on 23rd June 2022. Samples were submitted for groundwater analysis and compared to appropriate DWS WTV screening criteria. The laboratory analytical results for groundwater are presented in Appendix D.

PCBs, VOCs, phenols, cyanide suite and nitrate were not detected above the lower method detection limit (MDL) for any of the groundwater samples. Metals, TPHCWG, Speciated PAHs, SVOCs, and inorganics all reported results above the lower MDL.

There are reported exceedances of sodium, sulphate and chloride within groundwater samples. These are summarised as Table 7-1 below.

Leachate Analytical Results

Six soil samples were subject to leachate analysis with the results of the analysis compared to the WTV. These samples included 4 No. Made Ground samples (BH102 at 0.3m, BH105 at 0.2m and DS101 at 0.00 – 0.30m and 0.30 – 0.44m) and 2 No. natural samples from CLAY (BH101 at 2.1m) and SAND (BH104 at 1.3m).

PCBs, VOCs, SVOCs phenols and cyanide suite all reported concentrations below the lower MDL for all samples scheduled. TPHCWG, metals, speciated PAHs and inorganics all reported concentrations above the lower MDL.

Limited exceedances were exhibited for metals within a samples taken from natural soils in BH104 (1.3m bgl) and Made Ground in DS101 (0.3m bgl). Sulphate was exceeding the WTV for the sample taken from Glacial Till in BH101 (2.2m bgl). These are summarised as Table 7-2 below.

Discussion of Results

Groundwater samples were collected from all 6 No. wells by LK Consult Ltd. It appears that whilst there are several exceedances sulphate and sodium and chloride within all wells. It is probable that these relate to solution of halite and gypsum within the Glacial Tills which derive from the Merica Mudstone (also indicated as having gypsum bands and strings throughout). As there are no potable or trade groundwater abstractions in the area, this observation is not indicated to identify a significant geo-environment risk or anthropogenic contamination. Reference should be made to the engineering conclusions however with regards to aggressivity to concrete from sulphates and chlorides.

It must also be noted that leachate analysis is conservative with higher concentrations along with a wider range of metals present than obtained from groundwater testing. If excavated materials are handled appropriately during construction to prevent run-off and leaching to soils, groundwater and drains then the concentrations observed identified are not expected pose a significant risk and are likely representative of background conditions.

It is, therefore, considered that the reported metals concentrations are likely to be consistent with background conditions.

Table 7-1 Summary of Groundwater exceedances of controlled waters screening criteria

Sample Reference	Units	WTV GAC	BH101	BH102	BH103	BH104	BH105	BH106	WTV Source	Exceedances of WTV
Determinant										
Sodium		200	30	40	85	330	160	210	Drinking Water Standards	2
Sulphate	Mg/l	250	250	970	840	890	300	1300	Drinking Water Standards	5
Chloride	Mg/l	250	69	31	69	710	290	430	Drinking Water Standards	3

Table 7-2 Summary of Leachate exceedances of controlled waters screening criteria

Sample Reference	Units	WTV GAC	BH101	BH102	BH104	BH104	BH105	DS101	DS101	WTV Source	Exceedances of WTV
Depth (m)			2.1	0.3	0.1	1.3	0.2	0	0.3		
Determinant											
Heavy Metals / Metalloids											
Arsenic	µg/l	10	0.9 - 2.4	0.64	0.4	2.5	0.43	1.4	13	Drinking Water Standards	1
Beryllium	µg/l	4	<1	<1	-	140	<1	<1	6.9	Drinking Water Standards	2
Copper	µg/l	5	<0.11	<0.11	<0.11	130	0.38	<0.11	6.6	Drinking Water Standards	2
Chromium (III+VI)	µg/l	50	2.1	4.9	-	170	2.8	5.6	14	Drinking Water Standards	1
Lead	µg/l	10	<0.5	<0.5	<0.5	81	<0.5	2	9.9	Drinking Water Standards	1
Nickel	µg/l	10	<0.5 - 0.87	1.3	<0.5	130	1	<0.5	6.8	Drinking Water Standards	1
Selenium	µg/l	10	0.9 - 2.4	0.64	0.4	2.5	0.43	1.4	13	Drinking Water Standards	1
Inorganics											
Sulphate	mg/l	250	990	37	-	19	10	3.5	6.9	Drinking Water Standards	1

Ground Gas Risk Assessment

Ground Gas Monitoring Results

The generation or migration of ground gases from man-made or natural sources can pose a major hazard to buildings or other structures if the gases are able to accumulate within confined spaces. In terms of the proposed development, the main risks are that ground gases may accumulate in confined spaces in future site infrastructure.

It is understood that the development works to site will include warehouses. Therefore, there exists the potential for the accumulation of ground gases within confined spaces.

In order to determine whether gas generation is occurring at a significant rate within the site, a ground gas monitoring programme comprising 4 rounds for a commercial type building was implemented based upon the British Standard code of practice BS:8576:2013 (13).

The timing of these visits was designed to be reactive as to provide gas monitoring results across a range of atmospheric pressures and conditions including low and falling pressures. However, this was not possible during all visits. It must also be noted that some well screens were flooded during the monitoring visits which reduces the value of the monitored ground gas data.

Borehole gas screening values calculated from the steady state borehole flow rate multiplied by the peak concentration of the particular gas being considered, as defined by Wilson and Card were then compared to the level of risk specified by the characteristic situations defined within BS8485:2015+A1:2019 (14).

The calculations of gas screening values have been carried out for both methane and carbon dioxide and the worst-case adopted in order to establish the appropriate protection measures.

Full set of ground gas data can be found in Appendix D.

Classification of Gas Regime

In accordance with guidelines within BS8485, Gas Screening Values (GSVs) have been calculated to assess the significance of gas generation at the site. . A Gas Screening Value has been calculated for each monitoring well locations based on the peak gas concentration and peak steady state flow rates recorded in each monitoring well.

Gas screening values (GSV) can be calculated from the gas concentration and the flow rate:

$$GSV\ (l/hr) = \frac{Gas\ concentration\ (\%\ v/v)}{100}\ x\ \ flow\ rate\ (l/hr)$$

The corresponding Characteristic Situation (CS) for the site is based on comparison of the generated GSVs to the values given in Table 7-3 taken from BS8485 (15).

Table 7-3 Classification Scheme for Site Gas Risk Assessment (modified Wilson and Card Classification)

Characteristic Situation (CS)	Risk Classification	Gas Screening Value (CH_4/CO_2) l/hr	Additional Factors	Typical Source of Gas Generation
1	Very Low	<0.07	Typically CH_4 <1% and CO_2 <5%. Otherwise consider increase to CS2.	Natural Soil with low organic content. “Typical” Made Ground
2	Low	<0.7	Borehole air flow rate not to exceed 70l/hr.	Natural Soil with high peat/organic content. “Typical” Made Ground.
3	Moderate	<3.5	-	Old landfill. Inert Waste. Mineworkings (flooded).
4	Moderate to High	<15	Quantitative Risk Assessment required to evaluate scope of protective measures.	Mineworkings susceptible to flooding. Completed landfill (MMP 26b criteria).

Characteristic Situation (CS)	Risk Classification	Gas Screening Value (CH_4/CO_2) l/hr	Additional Factors	Typical Source of Gas Generation
5	High	<70	-	Mineworkings (unflooded) inactive with shallow workings near the surface.
6	Very High	>70	-	Recent landfill site.

Source: BS8485

The highest GSV assessed for each of the monitoring visits is provided in Table 7-4. All monitoring wells were screened within superficial deposits.

Table 7-4 Gas Monitoring Characteristic Situation – Worst Case Scenario

Exploratory Hole	Methane		Exploratory Hole	Carbon Dioxide	
	GSV (l/hr)	Characteristic Situation		GSV (l/hr)	Characteristic Situation
Round 1					
BH106	0.0001	1	BH106	0.0001	1
Round 2					
BH106	0.0001	1	BH106	0.0001	1
Round 3					
BH106	0.026	1	BH106	0.109	2
Round 4					
BH106	-0.002	1	BH106	-0.004	1
Round 5					
BH106	0.005	1	BH106	0.012	1
Round 6					
BH106	0.065	1	BH106	0.125	2

Whilst there were a number of results for methane >1% and carbon dioxide >5%, no potential sources for significant gas generation have been identified near to the site. In addition, the majority of results for methane were 0.2% or less (except for BH106 which ranged from 0.6 to 2.9% from glacial deposits). The majority of results for carbon dioxide were also <5% except for BH106 which recorded concentrations of 10.4%,12.1% and 6.2% during monitoring rounds two, three and five respectively. BH104 recorded one reading >5% with a value of 5.9% during monitoring round six.

Flow rates were low, typically below detection (0.1 litres/hour). Slightly higher flow rates were obtained from BH106 during Round 3 (0.9 litres/hour) and Round 6 (2.6 litres/hour) but 0.2 litres/hour or lower during other rounds which is potentially indicative of a constant gas generation source.

BH106 is installed into glacial clay from 1m to 5m bgl with a thin sand layer from 4.3m to 4.5m bgl with standing groundwater levels ranging from 3.06 to 3.21m bgl. The well in BH104 is installed into glacial sand from 4.7m to 5.7m bgl and flooded by groundwater.

The worst case scenario for the site would be to classify the site as Characteristic Situation (CS)2 based on two sets of results for carbon dioxide from BH106. However, all other gas screening values are within CS1.

At present the design shows the area around BH106 to be landscaping and car parking. In addition, the higher flow rates from BH106 are not consistent and this well is installed within the glacial clay.

It is noted that the water level within BH104 and BH105 was consistently above the entire screened section of the installation during the monitoring works. This may have resulted in unrepresentative concentrations of ground gas being recorded at these locations.

Ground Gas Risk Assessment for Construction and Maintenance Workers

Depleted Oxygen Concentrations

The monitoring results show that oxygen concentrations range from 0.4% v/v to 20.4% v/v during the six monitoring rounds. Depleted oxygen concentration (i.e., less than 18% v/v) was detected at 4 No. monitoring well locations (BH101, BH102, BH104, and BH106).

Table 7-5 summarises the physiological effects of an oxygen deficient atmosphere.

Table 7-5 Physiological Effects of Oxygen Depletion

Oxygen Concentration (%v/v)	Physiological Effects
19 – 21	Normal range of concentration in the atmosphere
17	Faster, deeper breathing, slight impairment of judgement.
10-16	Initial signs of anoxia leading to emotional upsets; abnormal fatigue upon exertion.
6-10	Nausea, vomiting, unconsciousness; collapse may occur.
<6	Convulsions, gasping respiration, death.

Based on the oxygen data recorded across the site, it is concluded that there is potential risk to construction workers entering excavations or other enclosed spaces at the site. Oxygen levels should be monitored if excavating on site near these locations.

Methane

Explosion Risk

The presence of methane within a certain range poses an explosion risk within enclosed spaces. The limits of flammability, i.e., the Lower Explosion Limit (LEL) and Upper Explosion Limit (UEL) are 5% v/v and 15% v/v, respectively. Where methane concentrations are encountered between these two ranges there is the possibility of ignition/explosion. However, concentrations above this should not necessarily be considered safe, because on dilution with air the composition may fall within this flammable range.

Assessment

Methane concentrations were recorded across the site in the range of <0.0 v/v to 2.9% v/v. The concentration recorded are below the LEL.

Carbon Dioxide

For carbon dioxide there is no risk of flammability. However, there is a risk of asphyxiation and as such there are toxicity limits of 0.5% v/v for an 8-hour long term Workplace Exposure Limit (WEL) and 1.5% v/v for a 15-minute Workplace Exposure Limit (WEL) Health & Safety Executive document *EH40/2005 Workplace exposure limits* (16)

Concentrations of carbon dioxide were reported in the range of <0.0% to 12.1% v/v during the monitoring visits. The concentrations of carbon dioxide recorded at 4 no. locations exceed the 8-hour long term OEL and 2 no. locations exceed the 15-minute WEL on several occasions.

Carbon Monoxide

A long term (8 hour) workplace exposure limit of 30ppm and a short term (15 minute) workplace exposure limit of 200ppm are provided in EH40/2005 given for carbon monoxide.

Concentrations of carbon monoxide were reported in the range of <0 to 11 ppm during the monitoring visits.

Hydrogen Sulphide

A long term (8-hour) workplace exposure limit of 5ppm and a short term (15 minute) workplace exposure limit of 10ppm are specified for hydrogen sulphide in EH40/2005.

Concentrations of hydrogen sulphide were not recorded above the limit of detection of 1ppm during the monitoring visits.

Volatile Vapours

Reference to the soils and groundwater testing undertaken during the ground investigation reports that potentially volatile contaminants such as VOC group chemicals, BTEX and lighter fraction TPHs are below the level of

detection. PID readings during ground gas monitoring were all <5ppm. As such risk from volatile contaminants is considered unlikely provided that during demolition an inspection and discovery strategy is maintained to remain vigilant and remove any visual/olfactory contamination during clearance works.

Waste Classification

A preliminary waste classification has been undertaken on the soils sampled during the ground investigation. The assessment has been based on the spot samples collected from across the site rather than specifically targeting soils proposed for excavation and disposal, and, as such, should be considered an indicative assessment only.

It should also be noted that the waste classification is only relevant to soils excavated with a view to being disposed of off-site as waste during construction.

Waste Assessment Methodology

The samples have been classified in accordance with Technical Guidance WM3 (1st Edition Version 1.2.GB), published by the Environment Agency (EA) in October 2021 (18). The following steps have been undertaken to classify the soils sampled:

- Setting of an initial European Waste Catalogue (EWC) code (transposed into UK legislation as the List of Wastes Regulations). This is based on our current understanding of the soils present at the site that may require disposal.
- Review of the chemical composition of the soils based on the Conceptual Site Model developed for the site, and the laboratory analysis completed on samples recovered from the ground investigation.
- Comparison of reported concentrations of dangerous substances in the waste against threshold levels for hazardous and non-hazardous waste classifications.
- Proposal of final classification and EWC code.

The waste classification was carried out using HazWasteOnline™ (HWOL), which is a licensed online software package that provides an accurate and auditable tool for the classification of waste materials, taking account of the WM3 guidance and British regulations.

European Waste Catalogue Code (List of Wastes Regulations)

Soils potentially requiring off-site disposal are considered to align with ‘Construction and Demolition Wastes (Including Excavated Soil from Contaminated Sites)’ which has waste code 17.

From this code, the sub-code 17 05 04 (soil and stones other than those mentioned in 17 05 03*) and its hazardous mirror entry 17 05 03* (soil and stones containing dangerous substances) are selected as the most appropriate waste categories for further classification.

Determination of Waste Classification

HWOL uses the solid waste analysis from sample testing to classify materials as ‘Hazardous’ or ‘Non Hazardous’ (in accordance with EA WM3 Technical Guidance). The tool also sometimes refers to a ‘Potentially Hazardous’ classification, which is unique to HWOL. A ‘Potentially Hazardous’ classification is normally identified where a hazardous property could be present simply because a determinand is detected in a sample, i.e. there is no threshold other than its presence or absence. Identifying this as ‘Potentially Hazardous’ enables the assessor to consider this further and, where appropriate, include further justification as to why the sample should be adopted as either ‘Hazardous’ or ‘Non-Hazardous’.

For some analytes (primarily inorganics), the laboratory analysis does not identify the compound present in the waste but instead reports the individual species that make up that component, such as cations and anions. The WM3 guidance states that if it is not possible to ascertain which substances might be present based on the process/activity that produced the waste, the most conservative classification should therefore be initially assumed for each component and the waste assessed accordingly.

Where analytical results for solids are reported on a dry weight basis i.e. the concentration of the substance in the sample after any moisture has been driven off, a moisture content correction is applied to adjust the chemical concentrations to take account of moisture in the samples. The specific mineralogy of metal(loid)s is also considered in the selection of metal species for assessment, where appropriate.

WAC Assessment

Following the classification of the waste as hazardous/non-hazardous, the available waste acceptance criteria (WAC) analytical results have been compared to landfill WAC[1] to identify appropriate disposal routes for the waste materials should they require disposal to landfill.

Data Assessment and Results

The laboratory soil chemical data for the scheduled soil samples have been considered in this preliminary waste classification assessment. The output generated from HWOL is included in Appendix F. All of the 16 no. samples from 7 no. exploratory hole locations were screened as part of this assessment; 9 no. of which were from Made Ground and 7 no. from natural ground. The sample depths ranged from 0.3 – 2.2 m bgl.

Parameters which were reported at a concentration below the laboratory method detection limit (MDL) in all samples were excluded from the assessment.

As part of the assessment, AECOM has assumed the following (where applicable) for all samples:

Total petroleum hydrocarbons (TPH). A judgement was taken to overrule a '*Potentially Hazardous'* classification on selected samples relating to the Hazard Property HP3(i) '*Flammable*'. These were triggered due to the presence of total petroleum hydrocarbons and the potential identified for flammable liquids; for which there is no threshold other than presence or absence. This Hazardous Property was discounted as this is a solid waste without a free draining liquid phase and with no evidence of free product. This adjustment removed the '*Potentially Hazardous'* classification.

Classification of material

A total of 2 samples were classified as Hazardous and 14 samples were classified as Non-hazardous based on the HWOL assessment of the reported analytical results.

The two samples classified as Hazardous BH102 (0.15-0.30m) and BH103 (0.14-0.40m), were Hazardous for TPH (and pH BH102/0.15-0.3). Both samples were collected from Made Ground layers located below tarmacadam surfacing and are likely to relate to the presence of tarmacadam fragments which had fallen in from breaking out the surface above.

All the soil samples were also screened for asbestos and none of them showed any detections.

WAC Assessment

A total of 6No. samples were scheduled for WAC analyses. The list of them is present in Table 7-6.

Table 7-6 WAC Samples Summary

Sample ID	Depth (m bgl)	Meet Inert Waste Landfill Criteria
BH105	0.2-0.4	Yes
BH104	0.1-0.3	Yes
BH106	1.4-1.5	Yes
BH101	2.1-2.2	No (exceed sulphate)
BH102	1.7-1.8	No (exceed sulphate)
DS101	0.0-0.3	Yes

As shown in Table 7-6, 2No. out of 6No. samples do not meet the Inert Waste Landfill criteria as they exceed the criteria for sulphate.

[1] Set out in the Landfill (England and Wales) (Amendment) Regulations 2004

In the event that soils are generated for waste disposal during construction, further WAC testing may be required to decide on whether non-hazardous soil can be disposed as inert material. The number of samples to be tested will depend on the tonnage of material to be disposed of, and samples must be representative of the overall material. Sampling guidelines are identified at https://www.gov.uk/guidance/dispose-of-waste-to-landfill#sampling-frequency. Where material will be disposed of where no (or insufficient) WAC samples were obtained during this ground investigation, additional samples will have to be obtained.

Waste Disposal

The Landfill Directive introduced to the UK via the Landfill Regulations (England and Wales) 2002 aims to reduce reliance on landfill as a disposal option. The Regulations include updated Waste Acceptance Criteria (WAC) as limit values for waste destined for various classes of landfill.

The developer has a statutory responsibility under the Duty of Care Regulations of the Environmental Protection Act 1990 to ensure that contaminated soil and water are disposed of off-site at a suitably licensed waste management facility in a safe and approved manner.

To comply with the Duty of Care all wastes taken off-site, in solid or liquid form, must be handled by a registered waste carrier and be accompanied by a consignment note that describes the waste.

Material Reuse

Any material that is not required or intended to be discarded as waste can be considered for reuse, either as part of the development or on another site. To do so, appropriate, risk-based criteria for re-use should be adopted. Re-use of arisings on site is either a waste management activity requiring an Environmental Permit or an Exemption or an activity that can be self-regulated under the CL: AIRE DoWCoP. Only a registered ‘Qualified Person’ can sign off the required Declaration.

It is anticipated that materials arising from the scheme will comprise mostly Made Ground and clay. It is therefore concluded that, subject to compliance with geotechnical requirements and parameters, and subject to an assessment of environmental suitability, at least some of the materials could be suitable for reuse. Depending, however, on the volumes of material proposed for beneficial reuse and the number of representative samples available for consideration, additional sampling and analysis may be required in order to inform such an approach.

8. Revised Conceptual Model and Risk Assessment (Tier 2 Assessment)

Introduction

The conceptial site model has been updated based on the findings of the intrusive investigation and is summarised below.

Identified Source of Contamination

Table 8-1 shows the contaminants which have been identified at the site. Soil has been removed as a potential source as although Made Ground is present on site there are no exceedances of human health GAC and no asbestos detected.

Table 8-1 Identified Sources

Potential Source	Location	Description
S1	On Site	Made Ground – Building 401 including refrigeration and air-con units, and electrical generators
S2	On Site	Made Ground – former aircraft standings
S3	On Site	Electrical Substation 'Z' and electrical housings
S4	On Site	MAG Bus depot including vehicle wash, and fuel and AdBlue storage tanks.
S5	Off Site	Made Ground – Building 402 site including associated electrical substation, chemical storage, and diesel tank.
S6	Off Site	Made ground associated with current and past land uses of the surrounding airport infrastructure including Hangar 5 and Hangar 3 inc refuelling depot and foul water pump.

Potential Receptors

Potential pathways associated with the proposed development are shown in Table 8-2.

Table 8-2 Potential Receptors

Receptor Reference	Receptor	Description
R1	Human Health: Acute	Future site users – Site visitors.
R2	Human Health: Chronic	Future site users – workers at the site.
R3	Human Health: Acute	Adjacent site users – workers and road users (During construction phase)
R4	Water Environment: Superficial Aquifer	Secondary Undifferentiated Aquifer in the Superficial Glacial Till
R5	Water Environment: Bedrock Aquifer	Secondary B Aquifer in the Bollin Mudstone Member
R6	Water Environment: Surface waters	Cotteril Clough 345m SW of the site
R7	Flora	Plants, trees, and landscaping

Receptor Reference	Receptor	Description
R8	Buildings & Infrastructure: Concrete	Future proposed foundations and services at the site may be impacted by contamination in the ground. Concrete foundations can be corroded if perched groundwaters or leachates have high sulphate levels.
R9	Buildings & Infrastructure: Structures	Proposed structures may be impacted by accumulation of ground gases.
R10	Buildings & Infrastructure: Services	Potable water supply pipes and other service may be impacted by contamination in the ground. Toxic and corrosive contaminants can migrate through water supply pipes
R11	Buildings & Infrastructure: Gas/ damp membranes	Potential for hydrocarbons in soils and ground waters may deteriorate membranes.

Potential Pathways

Potential receptors associated with the potential development are shown in Table 8-3.

Table 8-3 Potential Pathways

Pathway Reference	Receptor	Description
P1	Human Health	Direct Pathway: Direct contact, dermal absorption, or ingestion of soil.
P2	Human Health	Indirect Pathway: Inhalation of soil particulates derived from soils.
P3	Human Health	Indirect Pathway: Inhalation of soil vapour derived from soils or groundwater
P4	Human Health	Indirect Pathway: Migration of hazardous gases/vapours via permeable strata into confined spaces (asphyxiation/ explosion)
P5	Water Environment: Groundwater	Indirect Pathway: Leaching of chemicals and vertical / lateral migration via permeable unsaturated strata to shallow and/ or deep groundwater
P6	Water Environment: Groundwater	Indirect Pathway: Vertical migration of impacted shallow groundwater to the deeper Secondary B aquifer.
P7	Water Environment: Groundwater/ surface water	Indirect Pathway: Lateral migration of impacted groundwater to off-site surface water.
P8	Water environment: Surface water	Indirect pathway: Migration via underground drainage / sewers (including granular backfilling materials), spillage / loss / run-off from the surface direct to receiving water.
P9	Buildings & Infrastructure: Concrete	Direct Pathway: Direct contact of buried concrete with contaminated soils (i.e. hydrocarbons) and aggressive ground conditions (pH and sulphate).
P10	Buildings & Infrastructure: Supply pipes	Direct Pathway: Direct contact of services and supply pipes with contaminated soils.
P11	Buildings & Infrastructure: Structures	Indirect Pathway: Migration of hazardous gases/vapours via permeable strata into enclosed spaces and service/utility trenches
P12	Buildings & Infrastructure: Gas/ damp membranes	Indirect Pathway: Potential for hydrocarbons in soils and ground waters may deteriorate membranes.
P13	Ecosystems: Flora.	Direct pathway: Direct contact with contaminated soils.

Environmental Risk Assessment

Current best practice recommends that the determination of risk due to contaminated land is based on the principle of risk assessment, as outlined in the Environment Agency LCRM guidance (8).

For a risk to be present, there must be a viable contaminant linkage, i.e. a mechanism whereby a source impacts on a sensitive receptor via a pathway.

Assessments of risks associated with each of these contaminant linkages are discussed in the following sections.

Using criteria broadly based on those presented CIRIA C655 the magnitude of the risk associated with potential contamination at the Site has been assessed. To do this an estimate is made of:

- The magnitude of the potential consequence (i.e., severity);
- The magnitude of probability (i.e., likelihood).

The severity of the risk is classified according to the criteria in Table 8-4.

Risk Assessment Framework

Table 8-4 Description of Severity of Risk

Term	Description
Severe	– Acute risks to human health likely to result in "significant harm" (e.g. very high concentrations of contaminants/ground gases) – Catastrophic damage to buildings/property (e.g. by explosion, sites with high gassing potential, extensive VOC contamination) – Major pollution of controlled waters (e.g. surface watercourses or major aquifers/source protection zones) – Short term risk to a particular ecosystem
Medium	– Chronic (long-term) risk to human health likely to result in "significant harm" (e.g. elevated concentration of contaminants/ground gases) – Pollution of sensitive controlled waters (e.g. surface watercourses or major/minor aquifers) – Significant effects on sensitive ecosystems or species
Mild	– Pollution of non-sensitive waters (e.g. smaller surface watercourses or non-aquifers) – Significant damage to crops, buildings, structures or services (e.g. by explosion, sites with medium gassing potential, elevated concentrations of contaminants)
Minor	– Non-permanent human health effects (requirement for protective equipment during site works to mitigate health effects) – Damage to non-sensitive ecosystems or species – Minor (easily repairable) damage to buildings, structures or services (e.g. by explosion, sites with low gassing potential)

The probability of the risk occurring is classified according to the criteria in Table 8-5.

Table 8-5 Likelihood of Risk Occurrence

Likelihood	Explanation
High	Contaminant linkage may be present that appears very likely in the short-term and risk is almost certain to occur in the long term, or there is evidence of harm to the receptor.
Likely	Contaminant linkage may be present, and it is probable that the risk will occur over the long term.
Low	Contaminant linkage may be present and there is a possibility of the risk occurring, although there is no certainty that it will do so.
Unlikely	Contaminant linkage may be present but the circumstances under which harm would occur even in the long-term are improbable.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability, as shown in Table 8-6.

Table 8-6 Risk based on Comparison of Likelihood and Severity

		Severity			
		SEVERE	**MEDIUM**	**MILD**	**MINOR**
Likelihood	**HIGH**	Very High	High	Moderate	Low
	LIKELY	High	Moderate	Moderate/Low	Low
	LOW	Moderate	Moderate/Low	Low	Very Low
	UNLIKELY	Moderate/Low	Low	Very Low	Very Low

LCRM Assessment of Risk

In 2019, the UK government issued new guidance on the evaluation and management of contaminated land, *LCRM*. Current contaminated land guidance in LCRM (19) categorises risk at Stage 1 Tier 2 (i.e. PRA) as follows:

- Acceptable; and
- Unacceptable.

However, no framework for assessing the risk has been published to accompany the guidance, so the CIRIA C552 assessment framework constitutes best practice in this regard. To align the risk rankings in Section 10.2 with the LCRM rankings and with the Part 2A definitions, the following matrix has been utilised. This conversion is demonstrated in Table 8-7 below.

Table 8-7 Conversion to LCRM Risk Categories

	Acceptable	Unacceptable
Very Low		
Low		
Moderate/Low		
Moderate*		
High		
Very High		

* *This risk category spans both acceptable and unacceptable. This is intentional as it is this risk band that tends to have the greatest level of uncertainty associated with it. Acceptability will dependent on site-specific circumstances and level of confidence in the available evidence*
For a risk to be unacceptable, the contaminant linkage should be associated with at least a "medium" severity as defined in Table 6.5 of C552 and the probability should (in the majority of cases) be at least "likely" as defined in Table 6.4 of C552.

These risk categories represent the level of risk as it is currently understood from the information available at this time.

Revised Risk Assessment

Following the ground investigation, the CSM presented in the preliminary risk assessment has been revised and is provided in the Table 8-8. The potential risks are based on the assumption that no additional mitigation measures are introduced for contamination.

The risk assessment undertaken with in this section does not consider acute linkages for construction and maintenance workers. AECOM anticipates that these acute linkages will be managed by appropriate health and safety measures.

Table 8-8 Environmental Risk Assessment

Source	Pathway	Receptor	Initial Risk	Revised Potential Severity	Revised Likelihood of Occurrence	Revised Risk	Potential Risk (LCRM)	Link Reference	Justification
On-Site sources of CoPCs Made Ground and potential contaminants associated with Building 401, former aircraft standings, electrical substation 'Z' and MAG bus depot. (S1, S2, S3, S4)	Direct contact, dermal absorption, or ingestion of soil (P1) Indirect Pathway: Inhalation of soil particulates derived from soils (P2)	Human Health: Acute: Future site visitors (R1) Human Health: Chronic: Future site users (R2)	Low	Mild	Low	Low	Acceptable	1	No exceedances recorded when screening soil samples against criteria protective of Human Health receptors. Any risks during the construction phase are considered to be mitigated with use of appropriate PPE. Hardstanding at surface level in final construction considered to act as a barrier to direct contact. Suitable clean cover layers should be applied over Made Ground in any areas of landscaping. A watching brief should be undertaken during enabling works for unidentified contamination and risk assessment and remediation (if required) applies to remove the risk.
		Adjacent site users – workers and road users (During construction phase) (R3)	Moderate/Low	Mild	Unlikely	Very Low	Acceptable	2	As above. The Principal Contractor should ensure that appropriate measures are undertaken during construction to avoid the spread of dust.
	Inhalation of Soil Vapour (P3)	Human Health: Acute: Future site visitors (R1) Human Health: Chronic: Future site users (R2)	Low	Mild	Unlikely	Very Low	Acceptable	3	Reference to the soils and groundwater testing undertaken during the ground investigation reports that potentially volatile contaminants such as VOC group chemicals, BTEX and lighter fraction TPHs are below the level of detection. PID readings during ground gas monitoring were all <5ppm. As such risk from volatile contaminants is considered unlikely provided that during demolition an inspection and discovery strategy is maintained to remain vigilant and remove any visual/olfactory contamination during clearance works.
		Adjacent site users – workers and road users (During construction phase) (R3)	Moderate/Low	Mild	Unlikely	Very Low	Acceptable	4	As above. The Principal Contractor should ensure that appropriate measures are undertaken during construction to avoid the spread of vapour (if encountered).
	Migration of hazardous gases/vapours into confined spaces (Human Health) (P4)	Human Health: Acute: Future site visitors (R1) Human Health: Chronic: Future site users (R2)	Moderate	Medium	Unlikely	Low	Unacceptable	*5*	The site has been classified as CS1 with respect to CH04 and CI2 ground gas risk. CS2 conditions were encountered in the one area of the site designated for landscaping. Considering inherent protection with a warehouse style building with significant thickness floor slab, lack of gas generating source and probability that building management and operations (e.g. roller doors) will prevent gas build up. The risk of these pathways being realised is considered unlikely.
		Buildings & Infrastructure: Structures, Services & Membranes (R9, R10, R11)	Moderate/Low	Mild	Unlikely	Very Low	Acceptable	6	
	Leaching of chemicals and vertical / lateral migration via permeable unsaturated strata to shallow groundwater (P5)	Shallow groundwater – Secondary un-differentiated Aquifer (R3)	Moderate	Medium	Low	Moderate/Low	Unacceptable	7	Several exceedances have been reported within the groundwater and leachate samples. In the case of groundwater it is expected that the sulphate, sodium and chloride concentrations observed are related to residual solution deposits of gypsum from the glacial erosion of the Mercia Mudstone, i.e. natural conditions. With respect to leachate samples, the conservative nature of the testing combined with the generally low concentrations encountered does not raise concern. Given covering of the site with hardstanding, general permeability of Glacial Till and lack of any other receptor other than the Secondary Undifferentiated Aquifer (i.e., abstractions). Risk to Controlled Waters on this site from migrating groundwater or leaching contaminants is considered to be low.
	Vertical migration of impacted shallow groundwater to the	Deep Groundwater Secondary B aquifer of	Moderate/Low	Medium	Unlikely	Low	Acceptable	8	

Source	Pathway	Receptor	Initial Risk	Revised Potential Severity	Revised Likelihood of Occurrence	Revised Risk	Potential Risk (LCRM)	Link Reference	Justification
	deeper secondary B aquifer (P6)	the Bollin Mudstone Member (R4)							A watching brief should be undertaken during enabling works for unidentified contamination and risk assessment and remediation (if required) applies to remove the risk.
	Lateral migration of impacted groundwater off-site to surface water (P7)	Surface Waters, Cotteril Clough (R5)	Moderate/Low	Medium	Unlikely	Low	Acceptable	9	
	Lateral migration of surface waters / shallow ground waters via underground drainage / sewers (including granular backfilling materials), spillage / loss / run-off from the surface direct to surface water (P8)	Surface Waters, Cotteril Clough (R5)	Low	Medium	Unlikely	Low	Acceptable	10	
	Direct contact of buried concrete with contaminated soils (P9)	Buildings & Infrastructure: Concrete and Services (R8, R10)	Moderate	Mild	Low	Low	Unacceptable	11	Exceedances of United Utility guidance for the selection of water pipes in land potentially affected by contamination only obtained from very shallow soils (<0.2m depth) for EC16-40 range petroleum hydrocarbons have been noted but not from deeper samples or for other contaminants. With appropriate management of the risks from aggressive ground (sulphates – see geotechnical risk assessment) via application of appropriate AC and DS classification for concrete, water supply pipe risk assessment and specification (or deeper placement of pipes, these risks can be mitigated. A watching brief should be undertaken during enabling works for unidentified contamination and risk assessment and remediation (if required) applies to remove the risk.
	Direct contact of services and supply pipes with contaminated soils (P10)		Moderate	Mild	Low	Low		12	
	Indirect Pathway: Migration of hazardous gases/vapours via permeable strata into enclosed spaces and service/utility trenches (P11)	Buildings & Infrastructures (Structures and services (R9, R10)	Moderate	Mild	Unlikely	Very Low	Unacceptable	13	The site has been classified as CS1 with respect to CH04 and CI2 ground gas risk. CS2 conditions were encountered in the one area of the site designated for landscaping. Considering inherent protection with a warehouse style building with significant thickness floor slab, lack of gas generating source and probability that building management and operations (e.g. roller doors) will prevent gas build up. The risk of these pathways being realised is considered unlikely.
	Indirect Pathway: Potential for hydrocarbons in soils and ground waters may deteriorate membranes (P12)	Buildings & Infrastructures (Gas/ damp membranes R11)	Moderate	Mild	Unlikely	Very Low	Unacceptable	14	Significant concentrations of hydrocarbons within soils and groundwater have not been detected.
	P13 – Direct contact with contaminated soils	R7 – Flora & fauna	Low	Mild	Low	Very Low	Acceptable	15	Significant concentrations of contaminants were not observed within soils testing. The results of this ground investigation should be passed to a suitably qualified landscape architect to specify tolerable planting

Source	Pathway	Receptor	Initial Risk	Revised Potential Severity	Revised Likelihood of Occurrence	Revised Risk	Potential Risk (LCRM)	Link Reference	Justification
Off-Site sources of CoPCs Made Ground and contamination associated with current and historic surrounding land uses, including Building 402 and associated diesel tank and substation, and the wider airport infrastructure including Hangar 3 and 5. (S5, S6)	Direct contact, dermal absorption, or ingestion of soil (P1) Indirect Pathway: Inhalation of soil particulates derived from soils (P2)	Human Health: Acute: Future site visitors (R1) Human Health: Chronic: Future site users (R2)	Low	Medium	Unlikely	Low	Acceptable	16	Referring to above linkages significant contamination with soils, groundwater have not been encountered. Additionally ground gas conditions are considered to be classified as a CS1 type situation. There is no evidence of offsite sources influencing the site. It is probable that the permeability of the Glacial Till and Mercia Mudstone are preventing onsite migration. However, during enabling works consideration should be given to incoming service trenches and if these are acting as preferential pathways for migration. A watching brief should be undertaken during enabling works for unidentified contamination and risk assessment and remediation (if required) applies to remove the risk.
	Inhalation of soil vapour (P3)	Human Health: Acute: Future site visitors (R1)	Low	Medium	Unlikely	Low	Acceptable	17	
		Human Health: Chronic: Future site users (R2)	Low	Medium	Unlikely	Low		18	
	Migration of hazardous gases/vapours into confined spaces (P4)	Human Health: Chronic: Future site users (R2)	Moderate/Low	Medium	Low	Low	Acceptable	19	
		Buildings & Infrastructure: Structures, Services & Membranes (R9, R10, R11)	Moderate/Low	Medium	Low	Low	Acceptable	20	
	Leaching of chemicals and vertical / lateral migration via permeable unsaturated strata to shallow and/ or deep groundwater (P5)	Secondary Undifferentiated Aquifer in superficial Glacial Till (R3) Deep Groundwater Secondary B aquifer of the Bollin Mudstone Member (R4)	Moderate/Low	Medium	Low	Low	Acceptable	21	
	Vertical migration of impacted shallow groundwater to the deeper secondary B aquifer (P6)	Deep Groundwater Secondary B aquifer of the Bollin Mudstone Member (R4)	Moderate/Low	Medium	Low	Low	Acceptable	22	

Source	Pathway	Receptor	Initial Risk	Revised Potential Severity	Revised Likelihood of Occurrence	Revised Risk	Potential Risk (LCRM)	Link Reference	Justification
	Indirect Pathway: Migration of hazardous gases/vapours via permeable strata into enclosed spaces and service/utility trenches (P11)	Buildings & Infrastructures (Structures and services (R9, R10)	Moderate/Low	Medium	Low	Low	Acceptable	22	

Discussion of Risks to Construction Workers & Off-site Receptors During Construction Works.

AECOM understands that the proposed development works will be undertaken in compliance with Construction Design and Management (CDM) 2015 regulations.

Prior to work commencing, a health and safety risk assessment should be carried out by the appointed Principal Contractor developed in accordance with current health and safety regulations. This assessment should cover potential risks to construction staff, permanent site staff and the local population. Based on the findings of this risk assessment, appropriate mitigation measures should be implemented during the construction period.

The greatest potential for generation of dust will be during the site works and therefore dust generation should be kept to a minimum in accordance with general best practice, as outlined in, for example, ‘Environmental Good Practice on Site’, CIRIA Publication C692 (21)to reduce this risk.

The risk to construction workers during the excavation and construction phases in terms of potential exposure to high concentrations of contaminants is considered to be low as no exceedances of the GAC have been found.

Asbestos containing material was not identified during the ground investigation.

9. Engineering Assessment

Rockhead Profile

The ground investigation data showed the top of the weathered Mercia Mudstone to be at between 60.30m and 65.24m OD with the unweathered Mercia Mudstone at 56.98m to 63.39m OD. This rockhead profile is shown on Figure 9 and indicates shallower rockhead towards the north of the site at approximately 63m OD compared to 57m to 60m OD at the southern end of the site.

Groundwater

The depth at which groundwater was encountered during the investigation was found to be variable across the Site. Groundwater monitoring noted the groundwater level at approximately 66m OD at the locations BH101, BH102 and BH103 whereas at BH104, BH105 and BH106 the groundwater was noted at approximately 64m OD. This suggests a higher groundwater level to the north east of the site.

Where groundwater is encountered in excavations in cohesive Glacial Till during construction, sump pumping should be adequate to drain the excavations. Where water bearing granular Glacial Till is present it may be necessary to dewater to below the proposed excavation depth prior to excavation. If the excavations are to remain open prior to laying foundations or installing services or drainage measures, they should be maintained to keep the excavations dry and prevent softening of clay or loosening of sand in the base. Buried concrete should be designed to withstand the ground and groundwater aggressivity based on the findings of Section 5.

Six falling head permeability tests were undertaken, one in each of BH101 to BH106, at depths of between 1m and 4m bgl. All tests failed to determine a value for the permeability as they did not reach the required H/Ho value of 0.37. The H/Ho is the ratio between the measured groundwater ‘Head’ above baseline conditions at any time during the test to the same ‘Head’ following the addition of water at the start of the test, in accordance with BS5930.

Foundations

The depth to the Mercia Mudstone at the north of the Site is approximately 3m bgl, this increases to 6m bgl towards the south. Therefore, shallow pad foundations may be suitable to the north of the Site, with mass concrete used to achieve the founding level where required. However, the use of shallow foundations is also dependent on the loading and settlement requirements of the structure which will be required to be assessed during detailed design. To the south, where Mercia Mudstone occurs at a deeper depth, shallow foundations are unlikely to be practical. In this southern area deeper foundations comprising piles or ground improvement such as vibro-stone columns would be required.

Some buried foundations were encountered during the ground investigation which could pose an obstruction to installing piles or stone columns. No significant boulders were encountered in the Glacial Till, but hard driving conditions could be anticipated in the Mercia Mudstone which could also affect the driveability of the stone columns. Advice should be sought from a specialist contractor on the suitability of vibro-stone columns as a method to support the foundation loads to achieve the required performance criteria. For the deeper foundations the settlement limits (both total and differential) for the structure should be reviewed before selecting the foundation method. Piles tend to have the best performance in minimising settlement and derive capacity from a combination of skin friction and end bearing in the superficial soils and in rock. Pile diameters and lengths will be dictated by design loads.

Subgrade Conditions

Lightweight deflectometer tests were undertaken at 0.30m intervals in hand dug inspection pits to determine equivalent California Bearing Ratio (CBR) values to a maximum depth of 0.90m bgl due to constraints operating the equipment. These are summarised in Table 9-1.

Table 9-1 Lightweight Deflectometer Testing Result Summary

Stratum	Depth (m bgl)	CBR (%) Location					
		DS101	BH102	BH103	BH104	BH105	BH106
Made Ground	0.30	8	33	26	21	11	-
	0.60	-	23	-	-	-	-
Glacial Till - Cohesive	0.30	-	-	-	-	-	6
	0.60	10	-	3	9	4	15
	0.90	6	11	5	4	7	4

CBR values of between 8% and 33% were recorded in the Made Ground. The Made Ground encountered in DS101, with a CBR of 8%, was described as a gravelly sandy silt, unlike the other locations which described the Made Ground as sub-base which is likely to have affected this result. The CBR in the cohesive Glacial Till was recorded as between 3% and 15%.

Natural subgrade soils will be predominantly cohesive Glacial Till of low to intermediate plasticity with an average plasticity index of 15%. A correlation with undrained shear strength, c_u, of CBR=c_u/23 is commonly cited in subgrade assessment for short term CBR values. Based on the undrained shear strength of 40kPa to a depth of 66m OD for the cohesive Glacial Till, a short term CBR of 1.7% is recommended.

As the design is yet to be finalised, neither a thick nor thin construction has been selected. For a 'thin' design, defined as where the depth to subgrade is 300mm, the plasticity data for the cohesive Glacial Till suggests a CBR value for natural sub-grade soil of 3.5%. For a 'thick' layered construction, defined as a depth to subgrade of 1200mm, a design CBR of 5.5% may be adopted. These values are both at the lower end of the range achieved for the strata during the ground investigation. These values are based on Interim Advice Note 73/06 Rev 1 (2009) and assume that for design, in-situ undrained shear strengths will be checked at the time of excavation.

Depending on final founding levels, subgrade soils may also comprise granular soils as granular layers are situated within the Glacial Till at depths of between 1m and 5m bgl. This is unlikely to be detrimental to the performance of the subgrade, provided the granular material does not contain perched groundwater which could soften the cohesive material. If groundwater is encountered the granular material must be drained. Where granular Glacial Till is present, a CBR of 6% can be used for design, however this unlikely based on the layer thicknesses encountered during the investigation. This value assumes that during construction the formation level and any loose ground is carefully compacted, and any soft spots dug out and replaced with well compacted engineered granular fill.

Earthworks & Re-use of Site Won Materials

The Mercia Mudstone will not be suitable for reuse on site and the Glacial Till will require re-classification beforehand. The Made Ground may also be suitable for reuse, provided sufficient compaction can be achieved to obtain the required strength and provided that it is not contaminated. The Glacial Till and Made Ground would need to undergo general classification testing to ensure they are acceptable for reuse. Compaction may be sensitive to water content and groundwater levels, and therefore due consideration of these factors should be considered and implemented during construction. If compaction is not achieved a coarse grained granular fill should be used in its place.

Where filling is required, these operations should be carried out in a controlled manner, in accordance with current design standards. At this preliminary stage, recompaction should be carried out to at least 95% of the material's maximum dry density to reduce long term settlement under paved areas. If final plot levels are to be reduced or an excess of site won material is generated during construction works, the site won material should be managed in accordance with the Client's duties under waste regulations.

Following excavation, the natural foundation level shall be proof rolled, given the shallow water table and high fines content of the Glacial Sand a vibrating roller should not be used.

10. Conclusions

The ground investigation encountered up to 1m of Made Ground which generally comprised sub-base material. A 0.7m thick concrete former loading dock was encountered at BH101. The Made Ground was underlain by Glacial Till, primarily cohesive with some granular layers up to 2m thick. The cohesive Glacial Till was described as firm to very stiff clay whilst the granular Glacial Till was dense to very dense sand. Underlying the Glacial Till is Mercia Mudstone, a weathered layer of very weak to extremely weak Mercia Mudstone, recovered as clay, up to 5m thick was found at the top the Mercia Mudstone. The Mudstone was described as weak to extremely weak with distinct weathering noted. The weathered grade varied from Grade IVa & IVb to II, with both Grade IVa and IVb encountered at depth. Groundwater was encountered through both strikes and monitoring at between 61m and 66m OD, within the cohesive Glacial Till.

Tests for aggressiveness to concrete of the soils have been undertaken. A Design Sulphate Class of DS-5 and Aggressive Chemical Environment Classification of AC-5 has been identified for both the weathered and unweathered Mercia Mudstone. DS-3 and AC-3 are recommended for the cohesive and granular Glacial Till.

The Mercia Mudstone was found to be shallower at the north of the Site, approximately 3m bgl, compared to the south, where it is 6m bgl. Therefore, shallow foundations may be suitable at the north of the Site however at the south they are not suitable and deeper foundations such as piles or ground improvement such as vibro-stone columns will be required. Advice should be sought from a specialist contractor on the suitability of vibro-stone columns. Buried foundations were encountered during the ground investigation which could obstruct either stone columns or piles. No significant boulders were encountered in the Glacial Till, but hard driving conditions could be encountered in the Mercia Mudstone.

The Mercia Mudstone material will not be suitable for re-use on site. The Glacial Till and Made Ground may be suitable providing they are re-classified beforehand to prove their suitability.

A design CBR of 3.5% and 5.5% is recommended for a thin and thick construction respectively for the cohesive Glacial Till. A value of 6% is recommended for the granular Glacial Till. Any Made Ground should be removed prior to pavement construction.

No exceedances of assessment criteria for human health have been obtained and no asbestos was detected within the soil samples screened by the laboratory. Therefore, the risk to human health from soil contamination is considered to be low.

Soils results were screened against criteria protective of water pipes. Localised exceedances of threshold values for polyethylene pipes were recorded in shallow Made Ground samples.

No exceedances of the assessment criteria for potentially phytotoxic metals (copper, nickel and zinc) in topsoil or subsoil have been identified.

The majority of results for ground gas are consistent with CS1, although the gas screening values from two rounds of monitoring from BH106 installed in shallow glacial deposits are within a CS2 classification for carbon dioxide. The highest overall concentrations of carbon dioxide were obtained from BH106 (3.8% to 12.1%) which along with the highest flow rates (0.9 and 2.6 litres/hour) from monitoring at the site resulted in the CS2 classification. No potentially significant sources for ground gas generation have been identified and the risks to future development are likely to be low particularly given the nature of the proposed development and where no preferential pathways are introduced.

The controlled waters assessment highlighted exceedances of the Drinking Water Standard derived Water Target Values for sodium, sulphate and chloride. It is probable that these relate to solution of halite and gypsum within the Glacial Tills which derive from the Merica Mudstone (also indicated as having gypsum bands and strings throughout). As there are no potable or trade groundwater abstractions in the area, this observation is not indicated to identify a significant geo-environment risk or anthropogenic contamination.

The controlled waters assessment also determined limited exceedances for metals within leachate samples taken from natural soils in BH104 (1.3m bgl) and Made Ground in DS101 (0.3m bgl). Sulphate was exceeding the WTV for the sample taken from Glacial Till in BH101 (2.2m bgl). It is expected that this is due to the conservative nature of the testing. If excavated materials are handled appropriately during construction to prevent run-off and leaching

to soils, groundwater and drains then the concentrations observed identified are not expected pose a significant risk and are likely representative of background conditions.

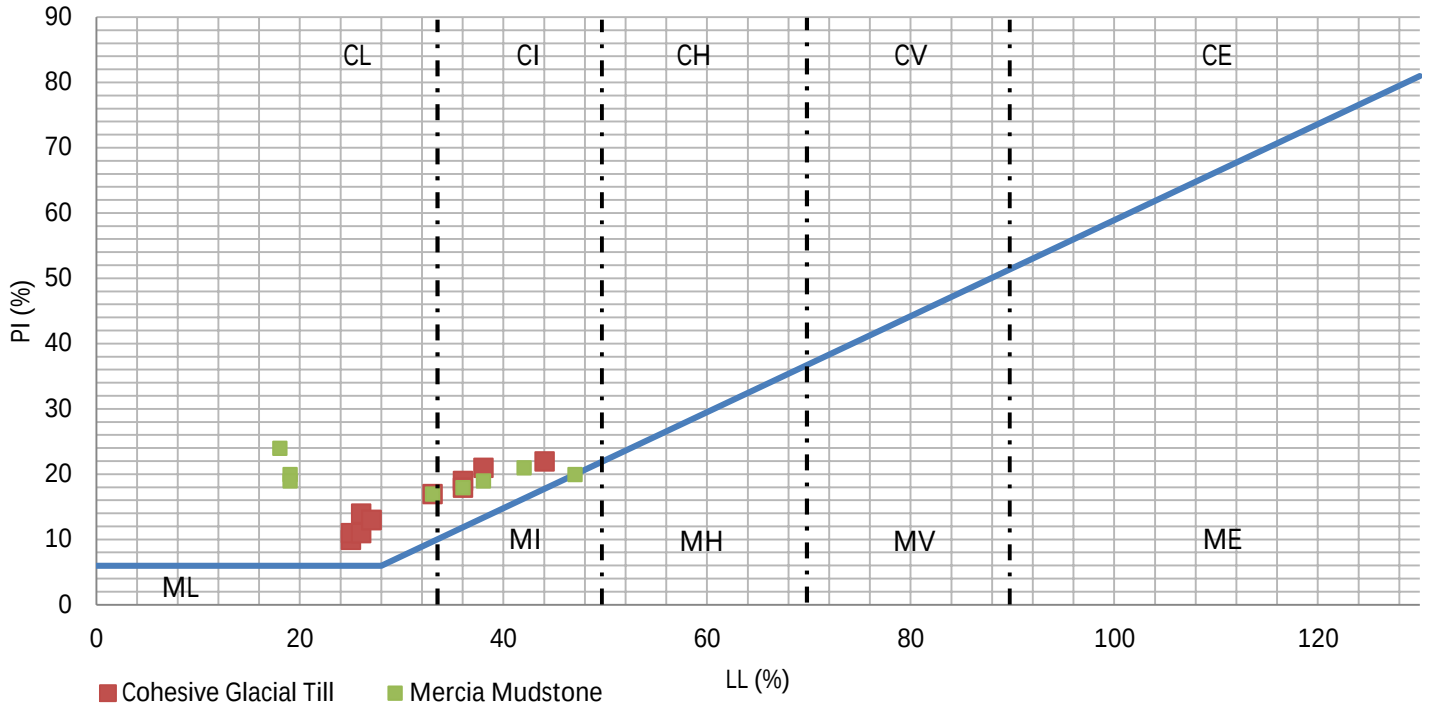
The two soil samples classified as Hazardous BH102 (0.15-0.30m) and BH103 (0.14-0.40m) have been identified as Hazardous for petroleum hydrocarbons and also pH in BH102 (0.15-0.3m). Both samples were collected from Made Ground layers where tarmacadam fragments which had fallen in from breaking out the surface above. WAC analysis was also undertaken and despite the sample from BH101 being identified as non-hazardous it did not meet the inert waste criteria due to sulphate exceedances.

Recommendations

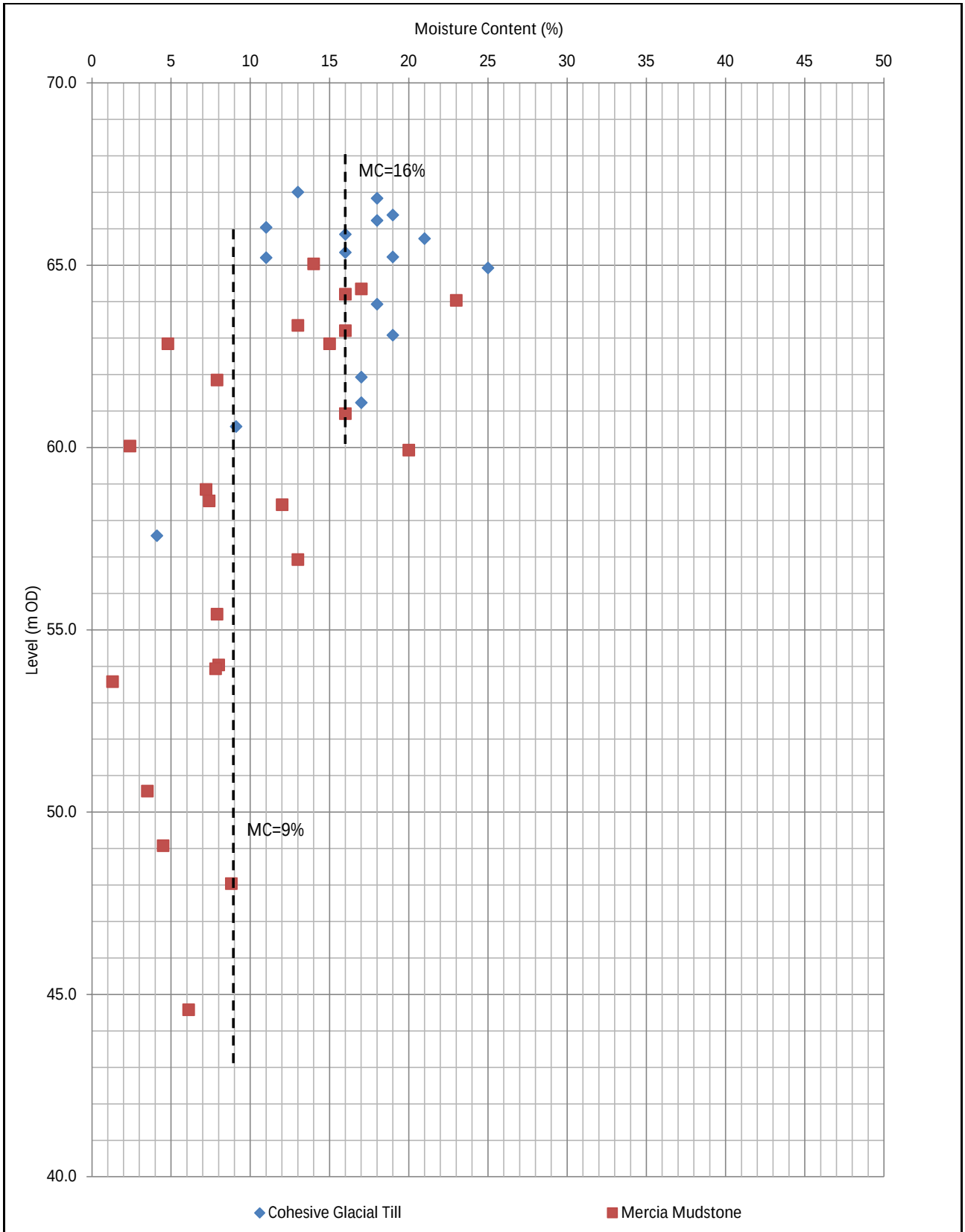
- The foundation solution should be selected following a review of structural loads and settlement criteria.
- The design of ground improvement such as stone columns or deep foundations such as piles should consider the potential for buried obstructions or hard driving conditions. Advice from a specialist vibro-stone column contractor should be sought regarding their suitability.
- Merica Mudstone material should not be re-used and Made Ground and Glacial Till should only be reused following re-classification and testing.
- The Design Sulphate and Aggressive Chemical Environment classification should be used (DS-5 and AC-5 for Merica Mudstone, DS-3 and AC-3 for Glacial Till) for buried concrete. The design The CBR values stated above should also be used for either a thin or thick construction and cohesive of granular Glacial Till.
- An inspection and discovery strategy should be maintained during enabling works for any visual/olfactory contamination evidence of contamination. If encountered risk assessment should be undertaken to determine the appropriate remedial action to eliminate source receptor pathways.
- The future development should utilise the appropriate specification of materials for buried drinking water supply pipes which will need to be agreed with the water authority.
- The risks to controlled waters are considered to be low based on the existing site but it will be necessary to consider potential risks if new preferential pathways could be introduced as part of the development as to whether these could increase the potential for contaminant migration.
- The overall results from the ground gas monitoring, in addition to no potentially significant sources of gas having been identified, do not indicate that gas protection measures should be required for the proposed development as the warehouse is likely to include an inherent level of gas protection particularly where floor joints and penetrations are sealed. Further consideration could be required where preferential pathways are introduced to ensure the risks remain low. In addition, BH106 is not located within the proposed building footprint.
- Where possible excavated material should be re-used in the construction works as the most sustainable approach. However, where material is not suitable for re-use or is surplus to requirements, this will need to be removed off-site to a licensed facility for disposal or recycling. It will still be necessary for the Contractor to confirm the waste classification of any materials removed off-site for disposal.

11. Figures

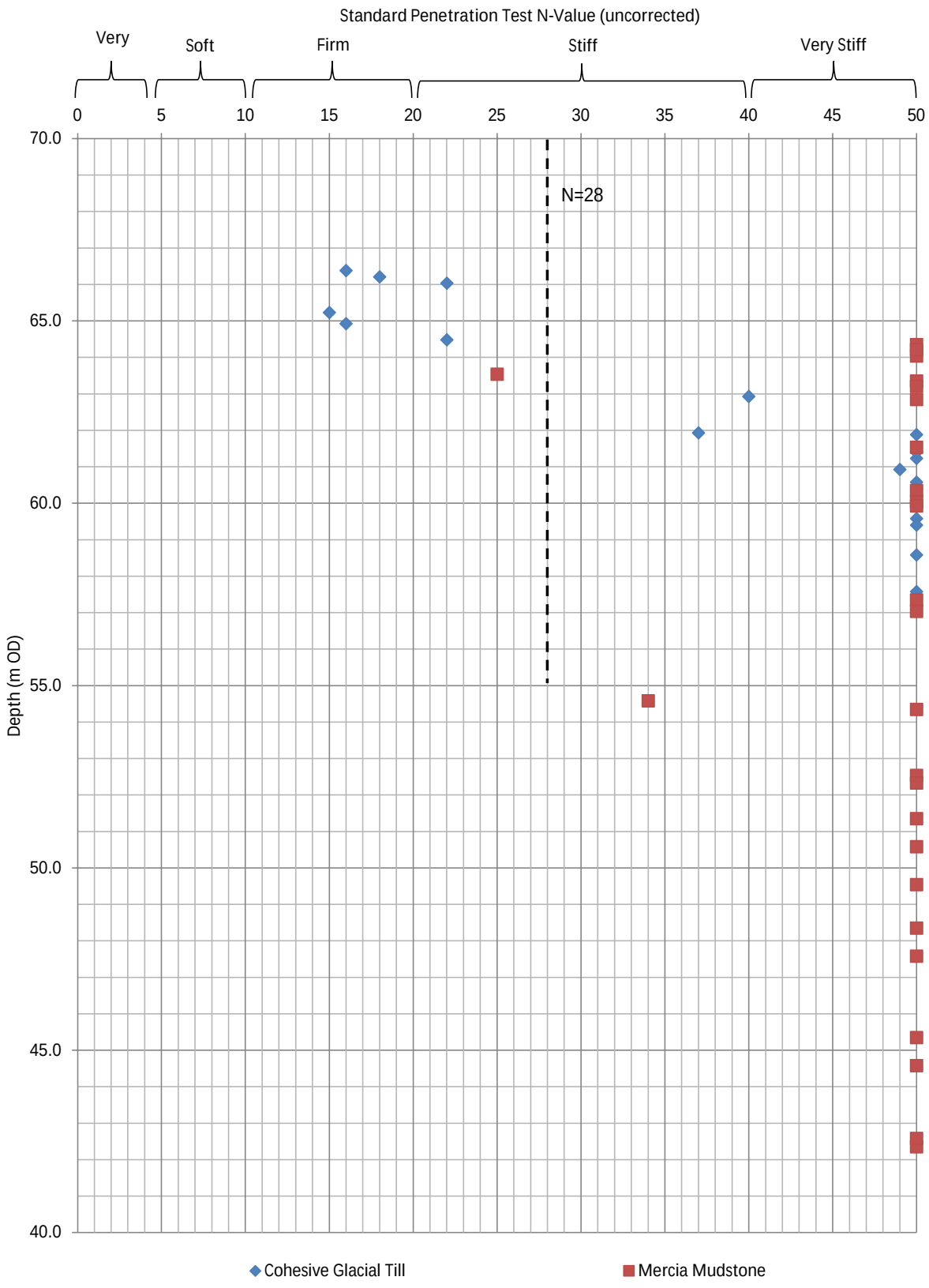
1. Atterberg Limit Plot
2. Moisture Content vs Level Plot
3. SPT vs Level Plot (Cohesive)
4. SPT vs Level Plot (Granular)
5. Cu vs Level Plot
6. UCS vs Level Plot
7. PSD Plot
8. Dry Density vs Level Plot
9. Rockhead Profile Section
10. SPT Profile Section



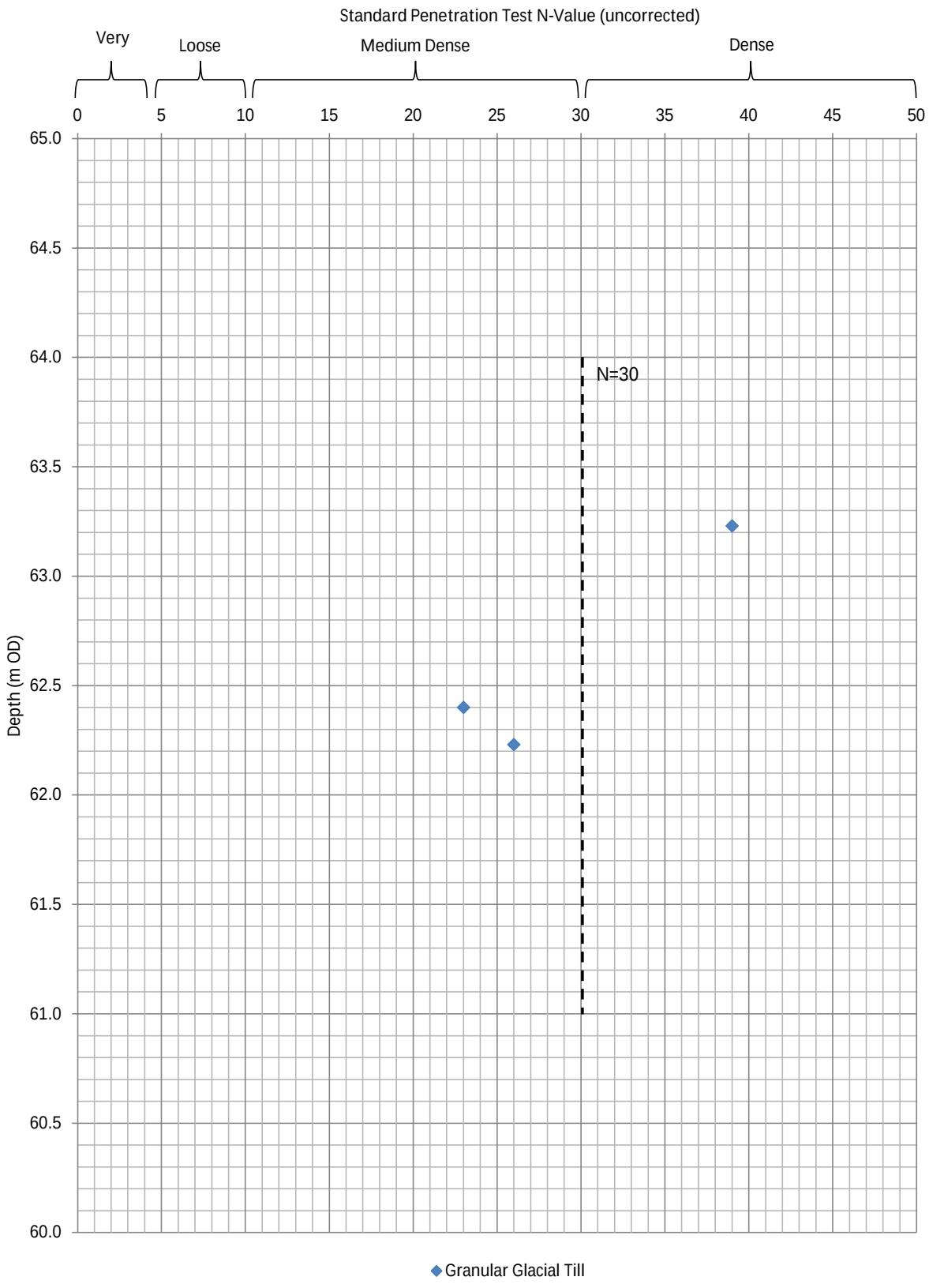
Title: Atterberg Limit Plot		AECOM	
Project: Manchester Airport Building 401			
Number: 60663052	Figure No. 1	Designed: JM	Checked: AA
		Date: 02/08/2022	



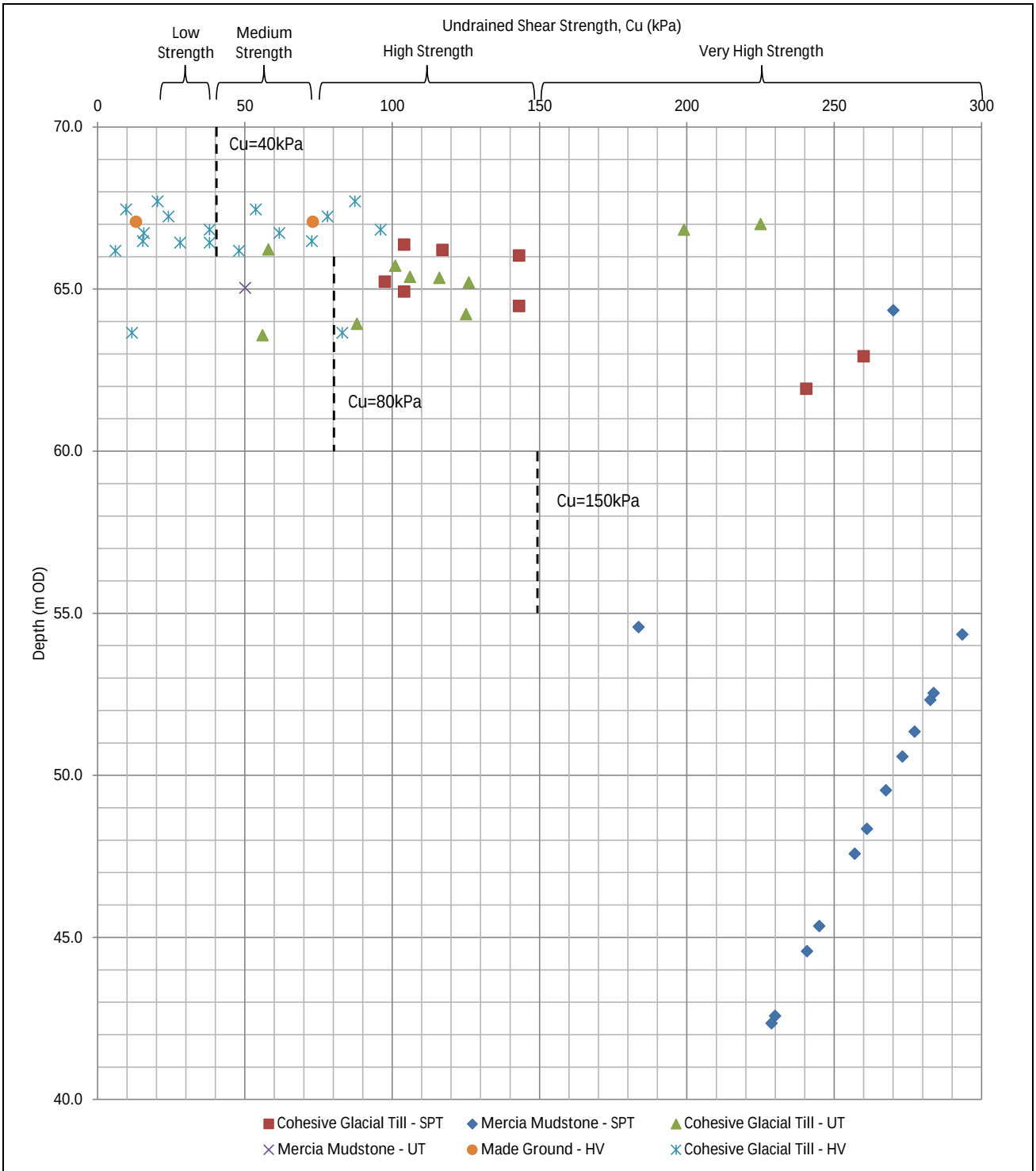
Title: MC (%) vs Level (m OD) Plot				AECOM
Project: Manchester Airport Building 401				
Number: 60663052	Figure No. 2		Designed: JM	Checked: AA
			Date: 02/08/2022	



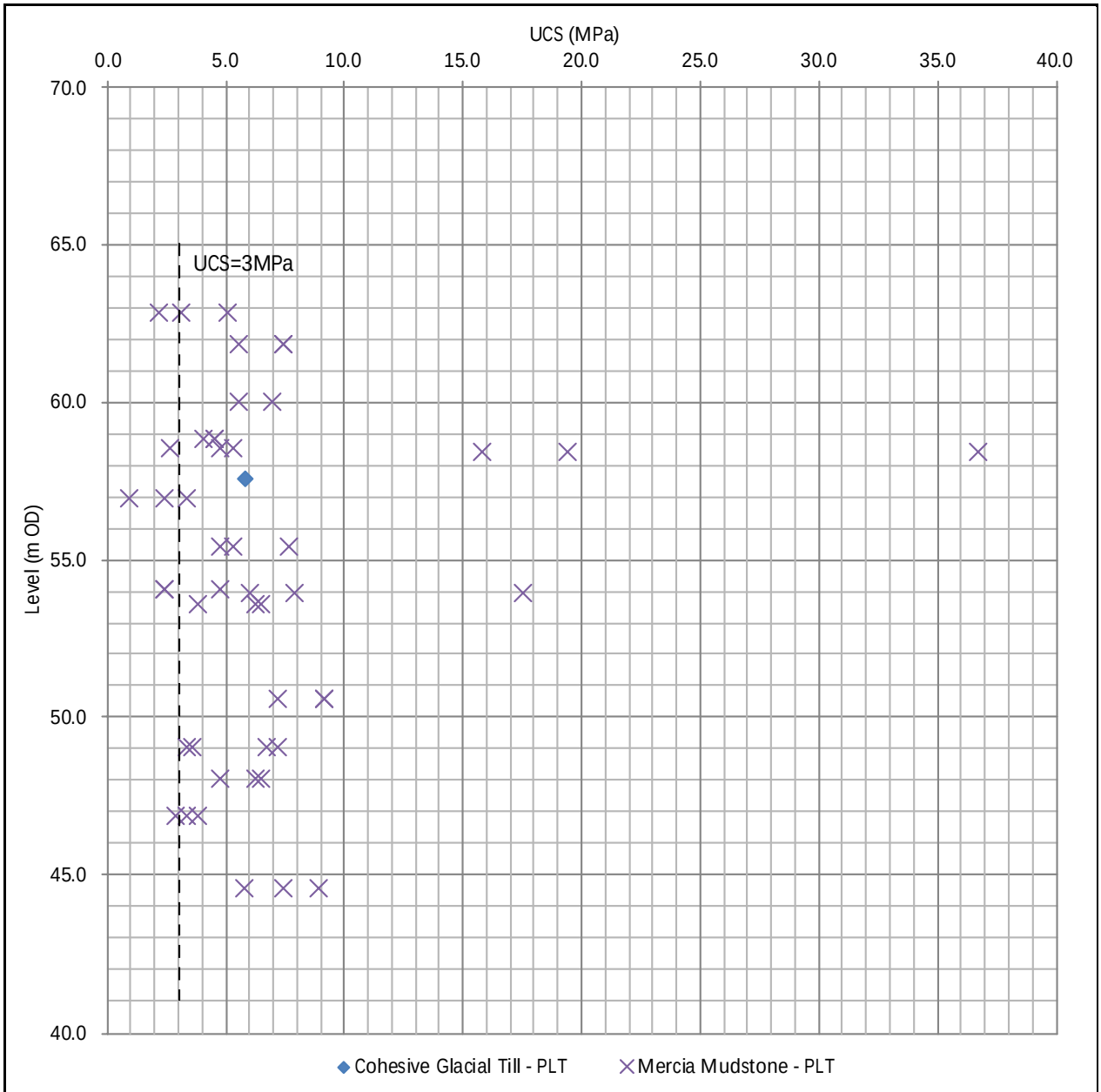
Title: SPT vs Depth (m AOD) Plot				
Project: Manchester Airport Building 401				
Number: 60663052	Figure No. 3		Designed: JM	Checked: AA
			Date: 02/08/2022	



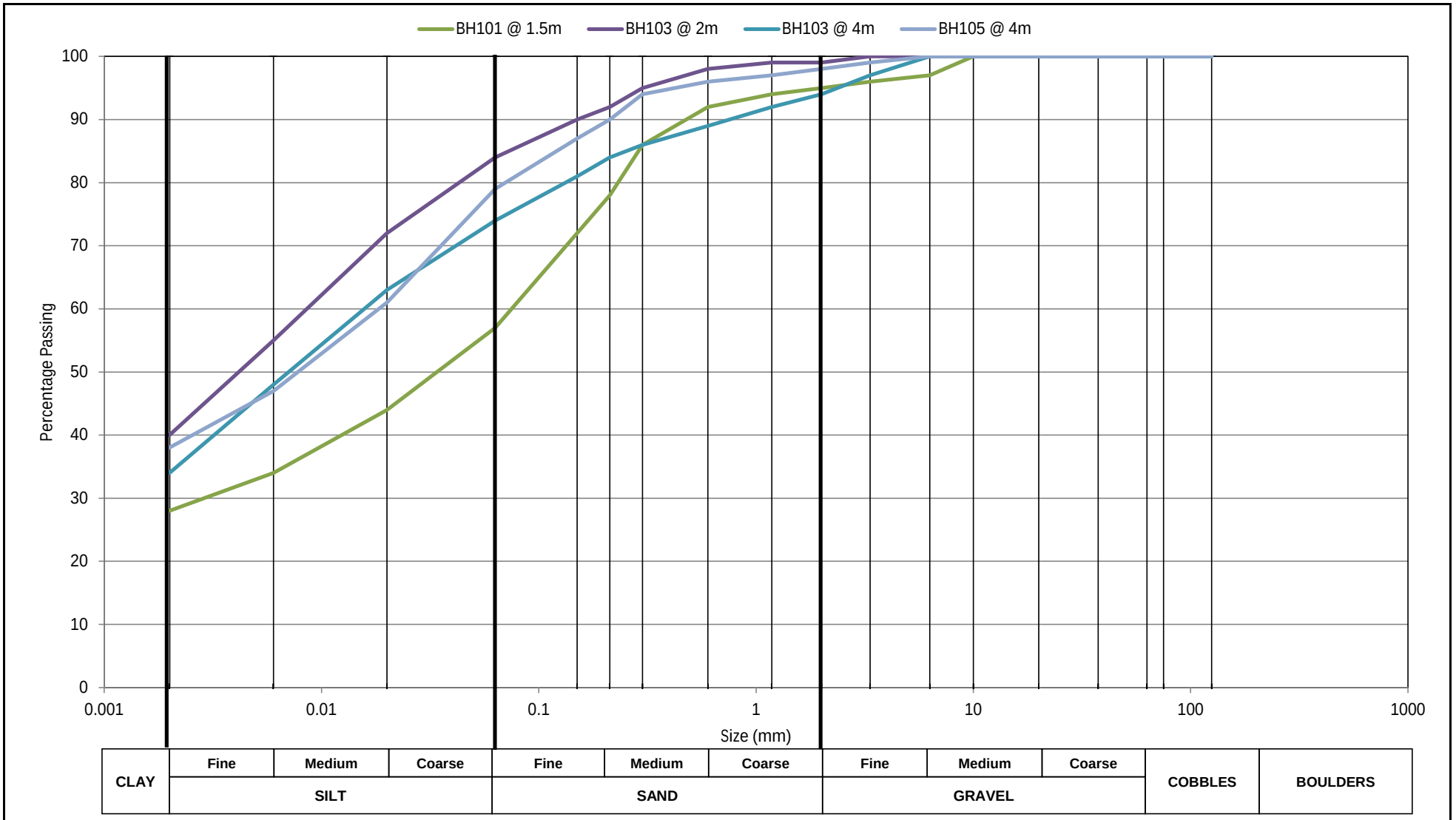
Title: SPT vs Depth (m AOD) Plot				
Project: Manchester Airport Building 401				
Number: 60663052	Figure No. 4		Designed: JM	Checked: AA
			Date: 02/08/2022	



Title: Undrained Shear Strength vs Depth (m AOD) Plot			
Project: Manchester Airport Building 401			
Number: 60663052	Figure No: 5	Designed: JM	Checked: AA
		Date: 02/08/2022	

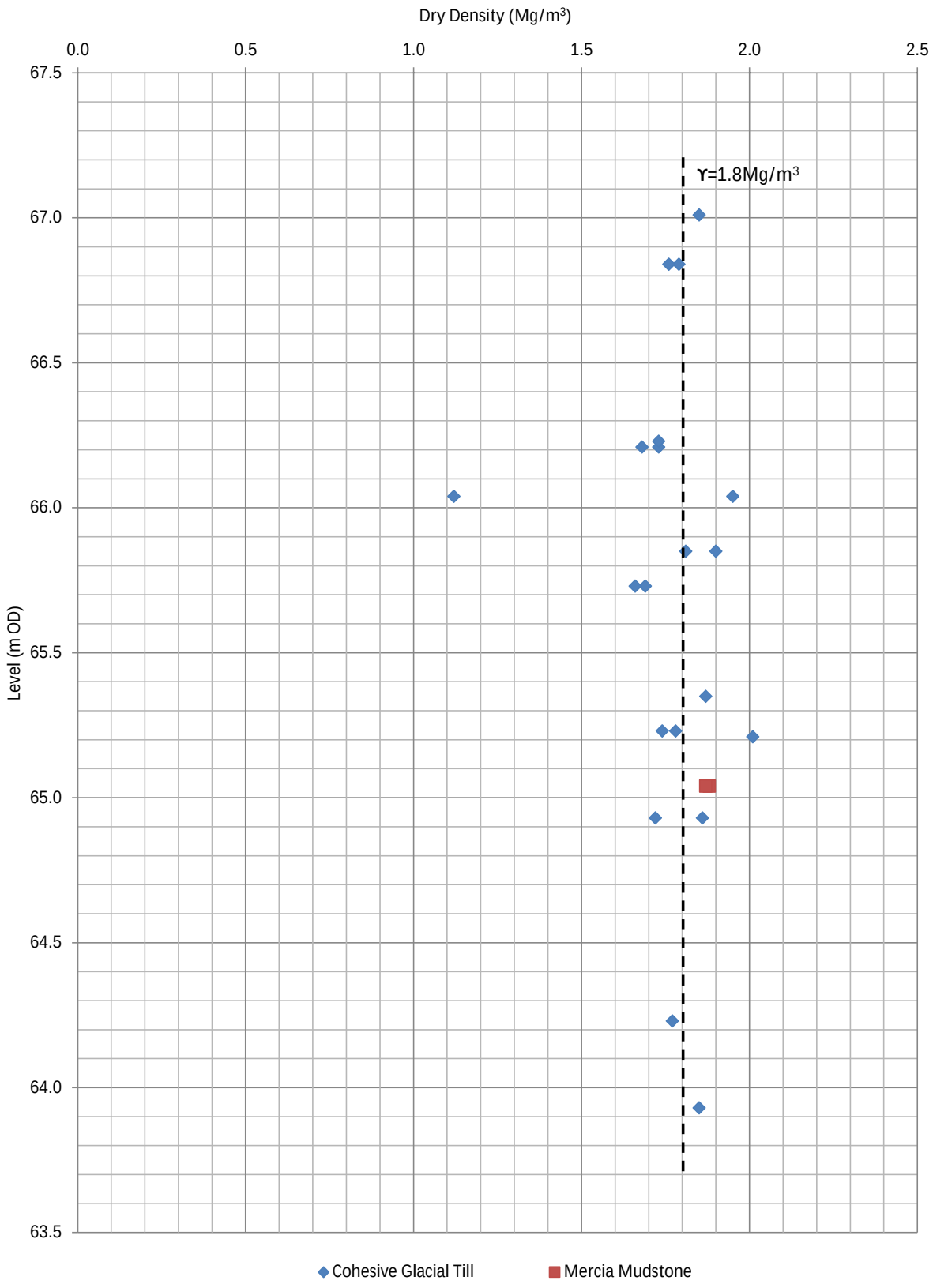


Title: UCS (MPa) vs Level (m OD) Plot			AECOM
Project: Manchester Airport Building 401			
Number: 60663052	Figure No: 6	Designed: JM	Checked: AA
		Date: 02/08/2022	



Title:	PSD Results - Glacial Till	Figure No.	7
Project:	Manchester Airport Building 401	Designed: JM	Date: 02/08/2022
Number:	60663052	Approved: AA	

AECOM



Title:	Dry Density (Mg/m^3) vs Level (m OD) Plot			
Project:	Manchester Airport Building 401			
Number: 60663052		Figure No. 8	Designed: JM	Checked: AA
			Date: 02/08/2022	

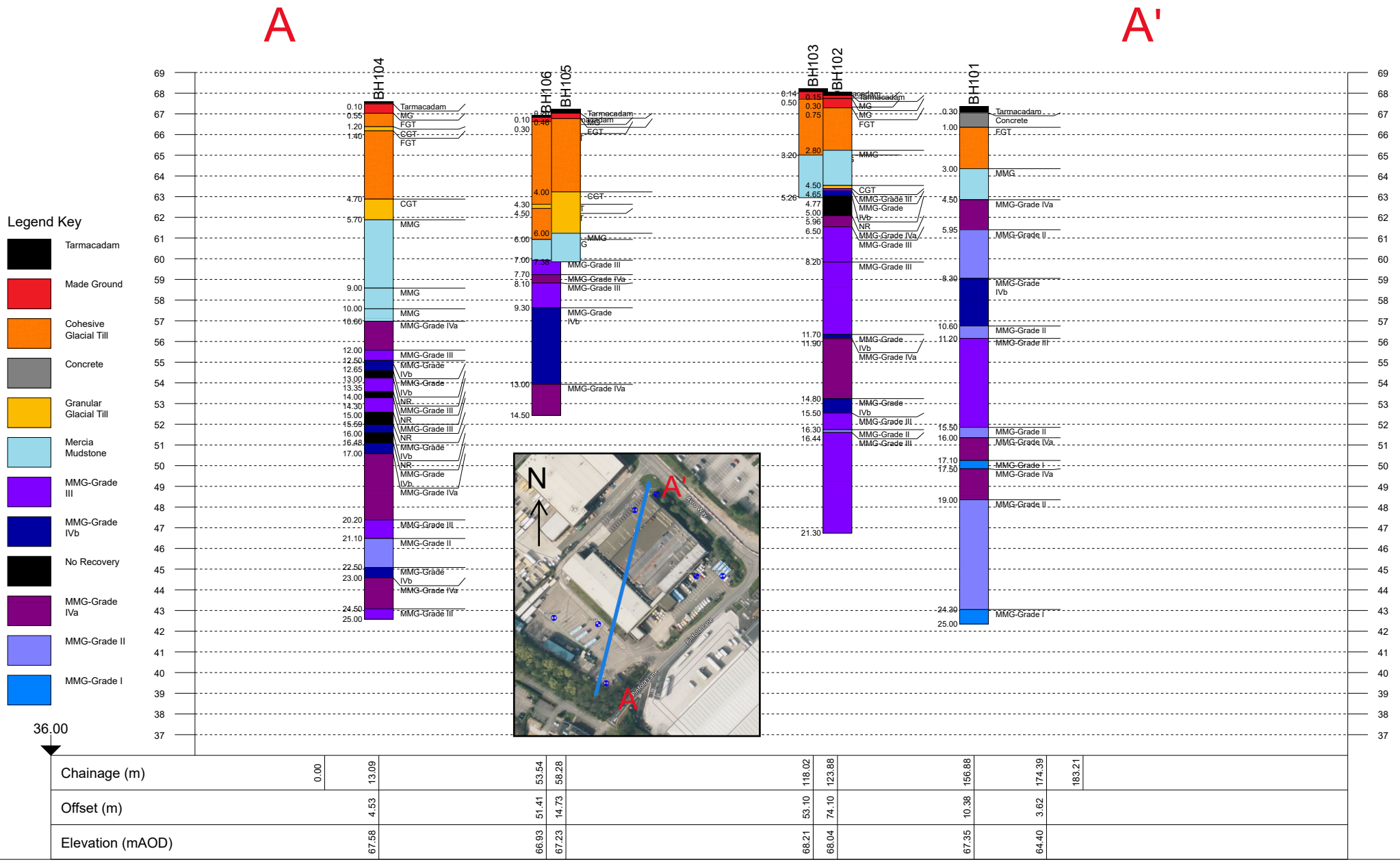
Project No: 60663052
Location: Manchester Airport

Figure 9 Rockhead Profile Section

Engineer: AECOM

Scale
Vertical: 1:250
Horizontal: 1:1250

AECOM



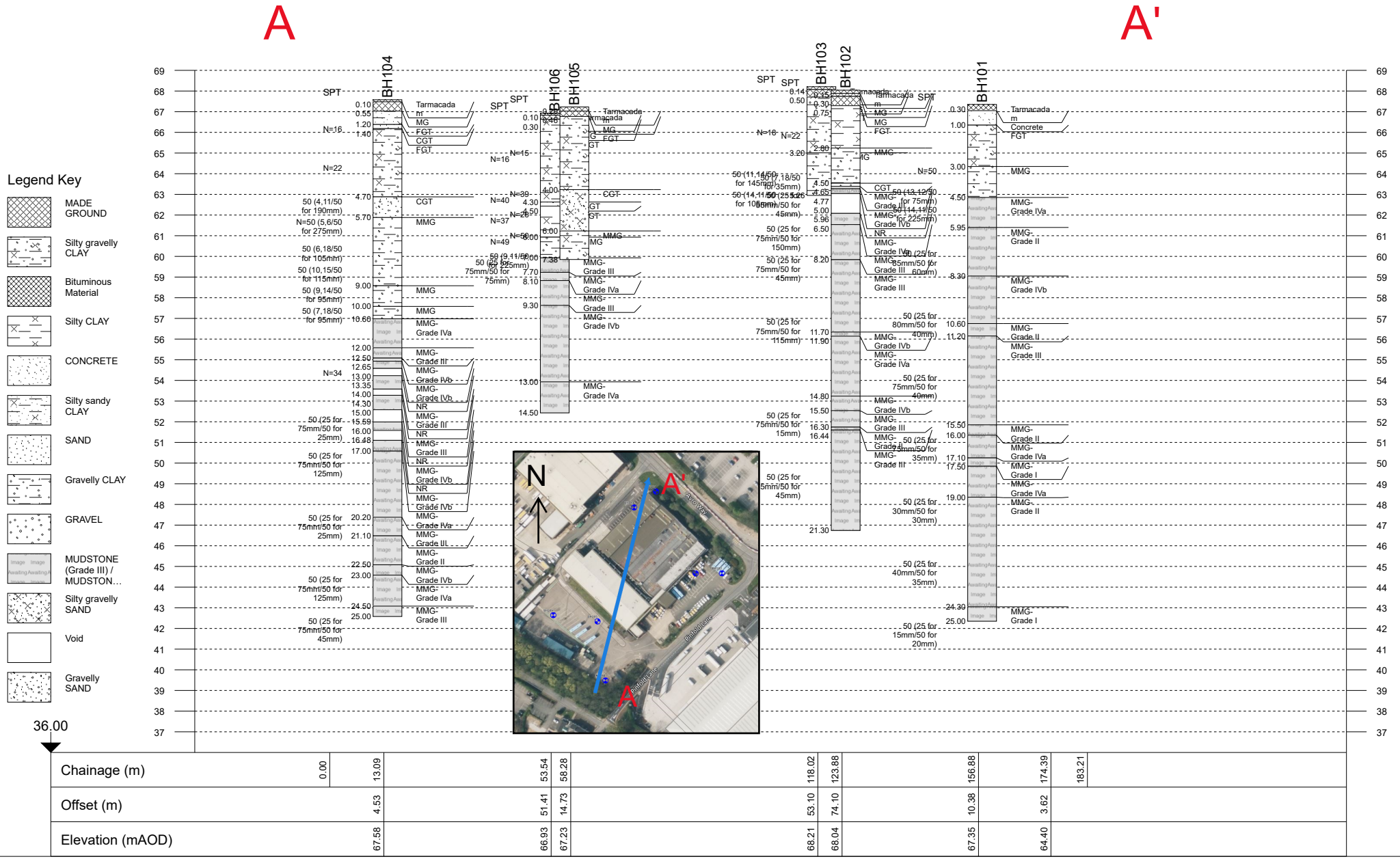
Project No: 60663052
Location: Manchester Airport

Figure 10 SPT Profile Section

Engineer: AECOM

Scale
Vertical: 1:250
Horizontal: 1:1250

AECOM



12. References

1. **AECOM.** *Manchester Airport Building 401 Phase 1 Tier 1 Geo-Environmentla and Geotechnical Assessment .* 2021.
2. —. *Project Quantum (AECOM) Report No: MAN-19-60592411.* 2019.
3. **ESG.** *Manchester Airport Bus Depot Relocation, Wilmslow: Factual Report on Ground Investigation (Report No: F6042-16).* 2017.
4. **BGS.** *Sheet 98 Stockport Drift and and Solid 1:50,000 series.* 1977.
5. **BSI.** *Code of Practice for Foundations.* s.l. : BSI, 2020. BS 8004:2015+A1:2020.
6. **CIRIA.** *Report 143 The Standard Penetration Test (SPT): methods and use.* 1995.
7. **BRE.** *Concrete in Aggressive Ground (Special Digest 1).* 2005. BRE SD1:2005.
8. **Environment Agency.** *Land Contamination: Risk Management (LC:RM).* 2020.
9. —. *Derivation and use of soil screening values for assessing ecological risks.* s.l. : Environment Agency, 2022.
10. —. *mpilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values.* 2008.
11. —. *Human health toxicological assessment of contaminants in soil (SR2).* 2009.
12. **Environment Agerncy.** *Remedial Targets Methodology, Hydrogeological Risk Assessment for Land Contamination.* 2006.
13. **BSI.** *Guidance on Investigations for Ground Gas.* 2013. BS 8576:2013.
14. —. *Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.* s.l. : BSI, 2019. BS 8485:2015+A1:2019 .
15. **Institute, British Standards.** *BS 8485:2015 “Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.* s.l. : BSI, 2015. BS8485: 2015.
16. **HSE.** *Eh40/2005 Workplace Exposure Limits.* 2005.
17. **Health and Safety Executive.** *EH40/2005 Workplace exposure limits.* s.l. : HSE, 2018.
18. **Environment Agency.** *Technical Guidance WM3: Waste Ca=kassufucautib - Guidance on the classification and assessment of waste.* 2021.
19. —. Land contamination risk management. [Online] 2020. [Cited: 22 November 2019.] https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.
20. **Health and Safety Executive .** *The Construction (Design and Management) Regulations .* 2015.
21. **CIRIA.** *Environmental good practice on site (third edition) C692.* 2010.
22. **CIRA.** *Contaminated land risk assessment. A guide to good practice (C552).* 2001.
23. **CIRIA.** *Assessing risks posed by hazardous ground gases to buildings (C665).* 2007.
24. **CIRIA.** *Engineering in glacial tills (C504)*. 1999.
25. **CIRIA.** *Engineering in mercia mudstone (C570)*. 2001.
26. **The Coal Authority.** British Geological Survey. *The Coal Authority Interactive Map Viewer.* [Online] BGS, 02 09 2022. [Cited: 02 09 2022.] https://mapapps2.bgs.ac.uk/coalauthority/home.html.
27. **CL:AIRE.** *Definition of Waste: Industry Code of Practice (DoW:CoP).* London : CL:AIRE, 2011.

Appendix A Proposed Development Plan

© 2021 RPS Group

Notes

1. This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purposes for which it was prepared and provided.
2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.
3. This drawing should be read in conjunction with all other relevant drawings and specifications.

Building 402

Junction adjusted to allow HGV Access

Avro Way

New Car Park access

New Substation Location

32 spaces (inc. 2 acc)

4 Level Access

18 spaces (inc. 1 acc)

Cycles

2 Level Access

3 Level Access

16 spaces (inc. 1 acc)

35000

Unit 2

20k

40000

42000

Offices (1st)

Unit 1a

36k

54000

Offices (1st)

Unit 1b

21k

32000

126000

Level Access Door

Gas

Cycles

22 spaces (inc. 1 acc)

Unit 1c

26k

40000

56000

Landscaping

Pinfold Lane

N

10m

SCALE 1:500

Rev	Description	By	Ckd	Date
P01	First Issue	LL	MJH	02/08/21

MAKING COMPLEX EASY

Sherwood House, Sherwood Avenue,
Newark, Nottinghamshire, NG24 1QQ
T: 01636 605 700 E: rpsnewark@rpsgroup.com

Client: MAGPROPERTY

Project: MAG, Building 401, Manchester Airport

Title: Masterplan Option 16B

RPS Project Number	Scale @ A1	Date Created
NK020598	1:500	02/08/21
Task Team Manager	**Information Author**	**Task Information Manager**
KRP	LL	MJH

Status: S2 (Suitable for Information)

Document Number: 020598-RPS-SI-XX-DR-A-9030

Revision: P01

Project Code - Originator - Zone - Level - Type - Role - Drawing Number

rpsgroup.com

Appendix B Groundsure Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo
Insight

AVRO WAY, MANCHESTER, M90 5PY

Order Details

Date: 26/08/2021

Your ref: MAG_Building_401

Our Ref: GS-8153066

Client: Aecom Infrastructure and Environment UK Ltd

Site Details

Location: 380906 384825

Area: 2.11 ha

Authority: Manchester City Council



Summary of findings p. 2

OS MasterMap site plan p.13

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	Historical industrial land uses	3	3	6	7	-
15	1.2	Historical tanks	0	0	13	24	-
17	1.3	Historical energy features	1	0	6	4	-
18	1.4	Historical petrol stations	0	0	0	0	-
18	1.5	Historical garages	0	0	0	0	-
18	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
19	2.1	Historical industrial land uses	3	5	6	9	-
20	2.2	Historical tanks	0	0	41	45	-
24	2.3	Historical energy features	1	0	12	4	-
25	2.4	Historical petrol stations	0	0	0	0	-
25	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
26	3.1	Active or recent landfill	0	0	0	0	-
26	3.2	Historical landfill (BGS records)	0	0	0	0	-
27	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
27	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
27	3.5	Historical waste sites	0	0	0	0	-
27	3.6	Licensed waste sites	0	0	0	0	-
27	3.7	Waste exemptions	0	1	4	4	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
29	4.1	Recent industrial land uses	1	0	61	-	-
33	4.2	Current or recent petrol stations	0	0	0	1	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-

34	**4.6**	**Control of Major Accident Hazards (COMAH)**	0	0	1	0	-
35	4.7	Regulated explosive sites	0	0	0	0	-
35	**4.8**	**Hazardous substance storage/usage**	0	0	2	1	-
36	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
36	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
36	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	2	2	-
37	4.12	Radioactive Substance Authorisations	0	0	0	0	-
37	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	11	-
39	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
39	4.15	Pollutant release to public sewer	0	0	0	0	-
39	4.16	List 1 Dangerous Substances	0	0	0	0	-
39	4.17	List 2 Dangerous Substances	0	0	0	0	-
40	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
40	4.19	Pollution inventory substances	0	0	0	0	-
40	4.20	Pollution inventory waste transfers	0	0	0	0	-
40	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
41	**5.1**	**Superficial aquifer**	Identified (within 500m)				
43	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
45	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
46	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
46	5.5	Groundwater vulnerability- local information	None (within 0m)				
47	5.6	Groundwater abstractions	0	0	0	0	0
48	**5.7**	**Surface water abstractions**	0	0	0	0	5
49	5.8	Potable abstractions	0	0	0	0	0
49	5.9	Source Protection Zones	0	0	0	0	-
50	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
51	6.1	Water Network (OS MasterMap)	0	0	0	-	-

51	6.2	Surface water features	0	0	0	-	-
52	**6.3**	**WFD Surface water body catchments**	2	-	-	-	-
52	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
53	**6.5**	**WFD Groundwater bodies**	2	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
54	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
54	7.2	Historical Flood Events	0	0	0	-	-
54	7.3	Flood Defences	0	0	0	-	-
54	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
56	7.6	Flood Zone 2	None (within 50m)				
56	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
57	**8.1**	**Surface water flooding**	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
59	**9.1**	**Groundwater flooding**	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
60	**10.1**	**Sites of Special Scientific Interest (SSSI)**	0	0	0	1	1
61	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
61	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
61	10.4	Special Protection Areas (SPA)	0	0	0	0	0
61	10.5	National Nature Reserves (NNR)	0	0	0	0	0
62	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
62	**10.7**	**Designated Ancient Woodland**	0	0	1	0	9
63	10.8	Biosphere Reserves	0	0	0	0	0
63	10.9	Forest Parks	0	0	0	0	0
63	10.10	Marine Conservation Zones	0	0	0	0	0
63	**10.11**	**Green Belt**	0	0	0	1	2
64	10.12	Proposed Ramsar sites	0	0	0	0	0

64	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
64	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
64	10.15	Nitrate Sensitive Areas	0	0	0	0	0
65	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
66	**10.17**	**SSSI Impact Risk Zones**	3	-	-	-	-
68	**10.18**	**SSSI Units**	0	0	0	1	1
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
70	11.1	World Heritage Sites	0	0	0	-	-
70	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
70	11.3	National Parks	0	0	0	-	-
70	11.4	Listed Buildings	0	0	0	-	-
71	11.5	Conservation Areas	0	0	0	-	-
71	11.6	Scheduled Ancient Monuments	0	0	0	-	-
71	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
72	**12.1**	**Agricultural Land Classification**	Grade 3 (within 250m)				
73	12.2	Open Access Land	0	0	0	-	-
73	12.3	Tree Felling Licences	0	0	0	-	-
73	12.4	Environmental Stewardship Schemes	0	0	0	-	-
73	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
74	**13.1**	**Priority Habitat Inventory**	3	3	3	-	-
75	13.2	Habitat Networks	0	0	0	-	-
75	13.3	Open Mosaic Habitat	0	0	0	-	-
75	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
76	**14.1**	**10k Availability**	Identified (within 500m)				
77	14.2	Artificial and made ground (10k)	0	0	0	0	-
78	**14.3**	**Superficial geology (10k)**	1	0	1	0	-

79	14.4	Landslip (10k)	0	0	0	0	-
80	14.5	Bedrock geology (10k)	1	0	3	0	-
81	14.6	Bedrock faults and other linear features (10k)	0	0	2	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
82	15.1	50k Availability	Identified (within 500m)				
83	15.2	Artificial and made ground (50k)	0	0	0	0	-
83	15.3	Artificial ground permeability (50k)	0	0	-	-	-
84	15.4	Superficial geology (50k)	1	0	0	0	-
85	15.5	Superficial permeability (50k)	Identified (within 50m)				
85	15.6	Landslip (50k)	0	0	0	0	-
85	15.7	Landslip permeability (50k)	None (within 50m)				
86	15.8	Bedrock geology (50k)	1	0	1	0	-
87	15.9	Bedrock permeability (50k)	Identified (within 50m)				
87	15.10	Bedrock faults and other linear features (50k)	0	0	1	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
88	16.1	BGS Boreholes	9	4	27	-	-
Page	Section	Natural ground subsidence					
91	17.1	Shrink swell clays	Very low (within 50m)				
92	17.2	Running sands	Very low (within 50m)				
93	17.3	Compressible deposits	Negligible (within 50m)				
94	17.4	Collapsible deposits	Very low (within 50m)				
95	17.5	Landslides	Very low (within 50m)				
96	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
97	18.1	Natural cavities	0	0	0	0	-
98	18.2	BritPits	0	0	0	0	-
98	18.3	Surface ground workings	0	0	1	-	-
98	18.4	Underground workings	0	0	0	0	0
98	18.5	Historical Mineral Planning Areas	0	0	0	0	-

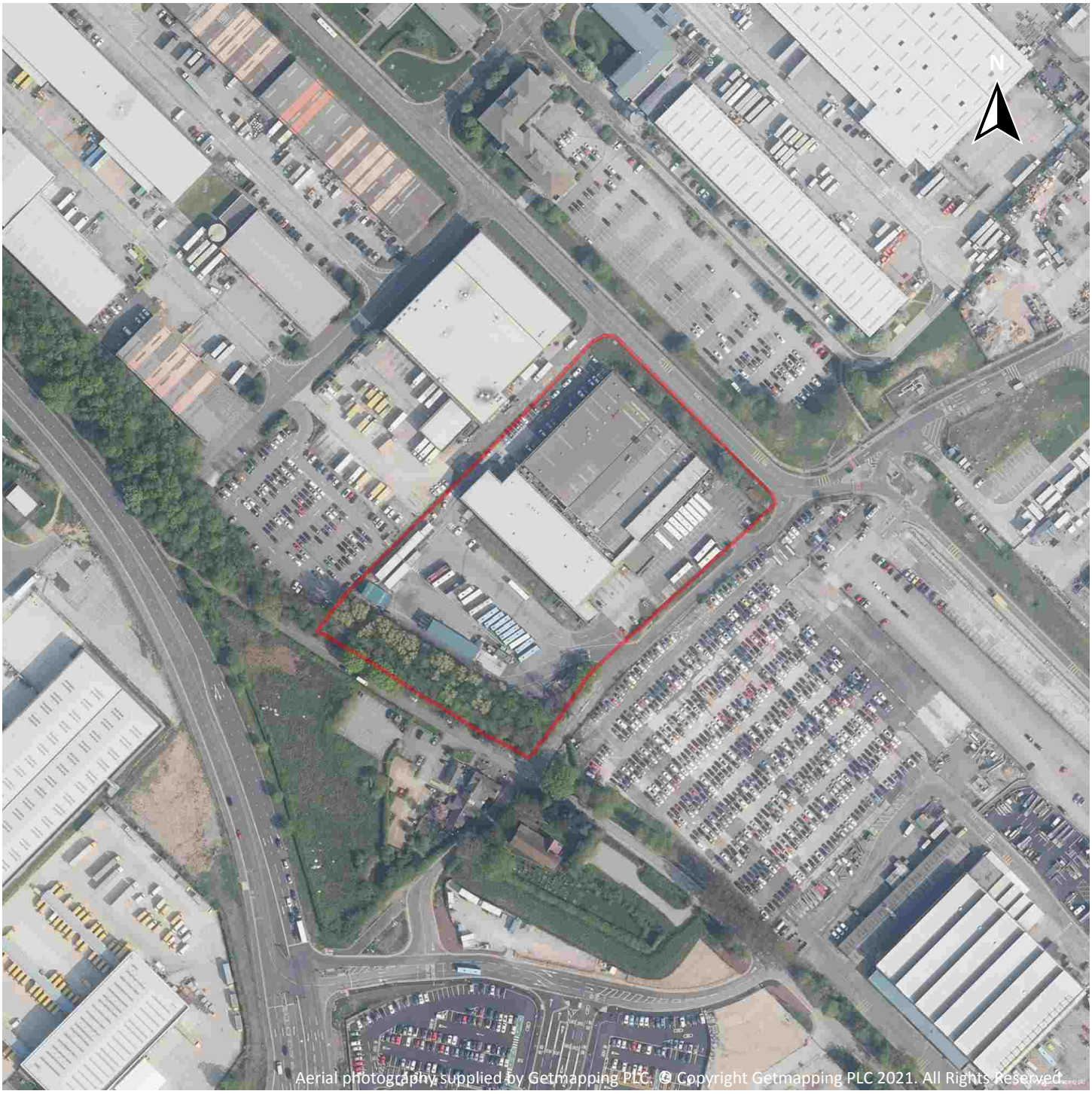
99	18.6	Non-coal mining	0	0	0	0	0
99	18.7	Mining cavities	0	0	0	0	0
99	18.8	JPB mining areas	None (within 0m)				
99	18.9	Coal mining	None (within 0m)				
99	**18.10**	**Brine areas**	Identified (within 0m)				
100	18.11	Gypsum areas	None (within 0m)				
100	18.12	Tin mining	None (within 0m)				
100	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
101	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
102	**20.1**	**BGS Estimated Background Soil Chemistry**	3	0	-	-	-
102	20.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
102	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
103	21.1	Underground railways (London)	0	0	0	-	-
103	21.2	Underground railways (Non-London)	0	0	0	-	-
103	21.3	Railway tunnels	0	0	0	-	-
103	21.4	Historical railway and tunnel features	0	0	0	-	-
103	21.5	Royal Mail tunnels	0	0	0	-	-
104	21.6	Historical railways	0	0	0	-	-
104	21.7	Railways	0	0	0	-	-
104	21.8	Crossrail 1	0	0	0	0	-
104	21.9	Crossrail 2	0	0	0	0	-
104	21.10	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 22/04/2019

Site Area: 2.11ha

Recent site history - 2016 aerial photograph



Capture Date: 21/04/2016

Site Area: 2.11ha

Recent site history - 2010 aerial photograph



Capture Date: 17/10/2010

Site Area: 2.11ha

Recent site history - 2005 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2021. All Rights Reserved.

Capture Date: 02/09/2005

Site Area: 2.11ha

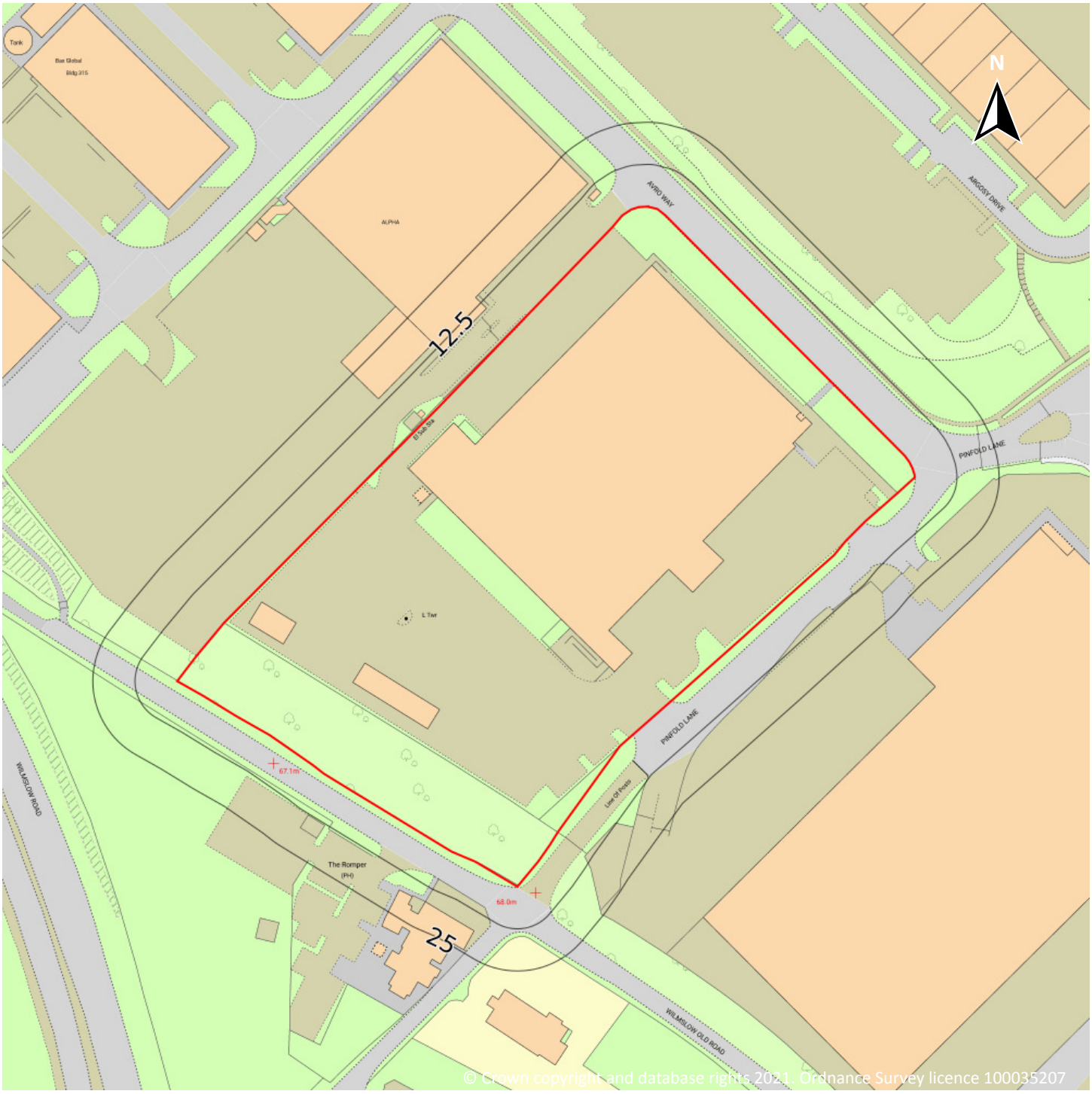
Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

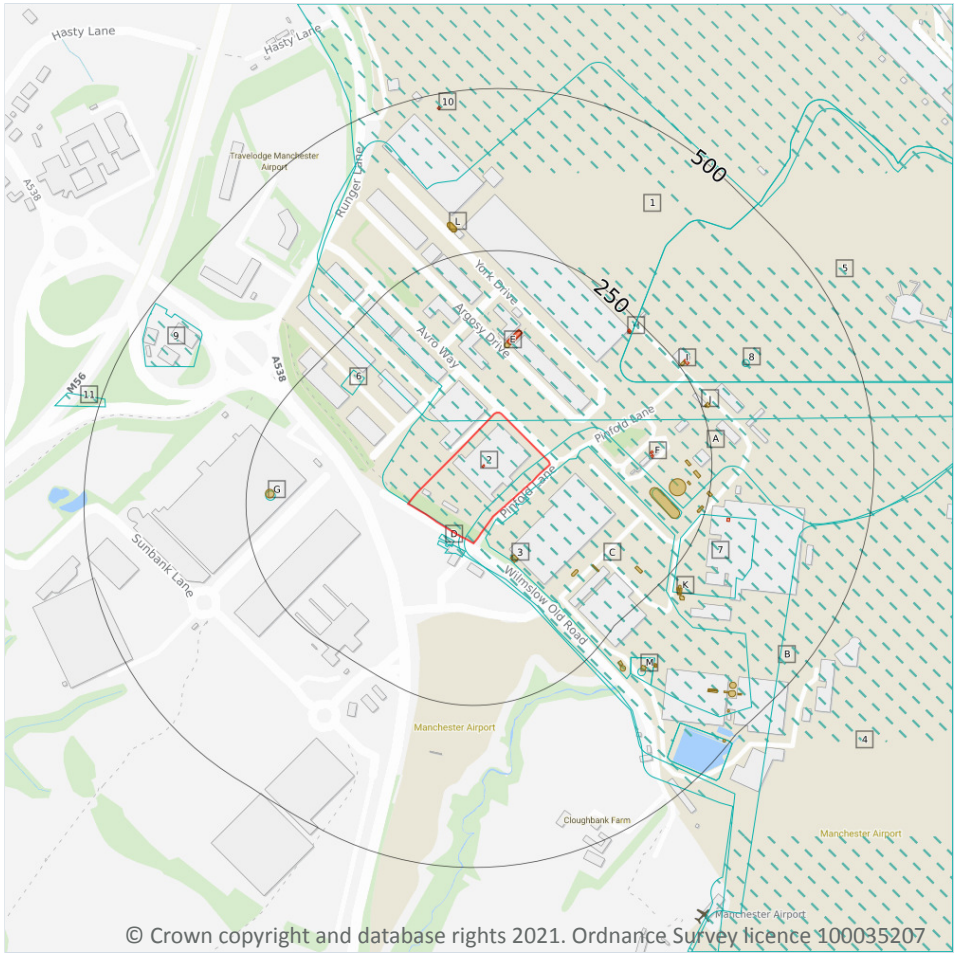
Site Area: 2.11ha

OS MasterMap site plan



Site Area: 2.11ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

1.1 Historical industrial land uses

Records within 500m	19

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Airport**	**1995**	**845359**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Airport**	**1989**	**878654**
B	**On site**	**Airport**	**1953**	**989364**
C	6m SE	Unspecified Commercial/Industrial	1974	796960
D	11m SW	Smithy	1938	943361
D	17m SW	Smithy	1899 - 1910	885346
A	164m E	Unspecified Tanks	1989	815435
4	175m NE	Airport	1974 - 1975	897813
5	175m NE	Airport	1967	844689
6	177m NW	Wireless Station	1989	802256
G	205m W	Unspecified Tank	1989	825000
7	231m SE	Unspecified Works	1974	830660
M	299m SE	Sewage Works	1974	811850
M	320m SE	Unspecified Tank	1974	824998
8	334m NE	Unspecified Tank	1975	824999
9	392m NW	Unspecified Depot	1989 - 1995	914596
B	422m SE	Unspecified Pit	1989	853250
B	422m SE	Unspecified Pit	1974	950609
11	490m W	Cuttings	1995	963338

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**37**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
3	59m SE	Unspecified Tank	1968 - 1987	126292
E	101m N	Unspecified Tank	1987 - 1995	146099
C	146m SE	Tanks	1995 - 1996	126339
C	158m SE	Tanks	1995 - 1996	142707
A	159m E	Tanks	1987 - 1996	137116
A	187m E	Unspecified Tank	1995 - 1996	131170
C	206m SE	Unspecified Tank	1987 - 1996	128311
G	207m W	Unspecified Tank	1987	114872
A	209m E	Unspecified Tank	1987 - 1996	143016
A	214m E	Unspecified Tank	1995 - 1996	143549
A	222m E	Unspecified Tank	1987 - 1996	125562
A	238m E	Unspecified Tank	1987 - 1996	147552
A	246m E	Unspecified Tank	1987 - 1996	148025
I	252m NE	Unspecified Tank	1987 - 1992	125764
J	255m E	Unspecified Tank	1995 - 1996	131304
J	257m E	Unspecified Tank	1987 - 1990	149283
K	273m SE	Tanks	1968	125152
K	273m SE	Tanks	1968	136089
K	276m SE	Unspecified Tank	1987	114873
K	285m SE	Unspecified Tank	1987 - 1996	129923
L	286m N	Tanks	1995	136308
L	287m N	Tanks	1990 - 1991	135148
M	289m SE	Unspecified Tank	1995 - 1996	139784
M	296m SE	Unspecified Tank	1995 - 1996	145845
M	321m SE	Unspecified Tank	1987 - 1996	149270
M	334m SE	Unspecified Tank	1987 - 1990	127696
M	336m SE	Unspecified Tank	1995	128767
B	419m SE	Unspecified Tank	1987 - 1990	133887

ID	Location	Land use	Dates present	Group ID
B	420m SE	Unspecified Tank	1995	143162
B	421m SE	Unspecified Tank	1987 - 1995	130265
B	436m SE	Unspecified Tank	1995 - 1996	123647
B	438m SE	Unspecified Tank	1987	136269
B	444m SE	Unspecified Tank	1995 - 1997	127078
B	455m SE	Unspecified Tank	1968	141112
B	456m SE	Unspecified Tank	1968	139281
B	464m SE	Unspecified Tank	1995 - 1997	129845
B	490m SE	Unspecified Tank	1995 - 1997	147089

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**11**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
2	**On site**	**Electricity Substation**	**1987**	**61802**
E	106m N	Electricity Substation	1995	66850
E	106m N	Electricity Substation	1987 - 1991	78382
F	156m E	Electricity Substation	1987 - 1996	67847
F	156m E	Electricity Substation	1987 - 1990	73083
H	228m NE	Electricity Substation	1992	68947
H	229m NE	Electricity Substation	1987	64893
I	259m NE	Electricity Substation	1992	64065
I	259m NE	Electricity Substation	1987	79361

ID	Location	Land use	Dates present	Group ID
A	286m E	Electricity Substation	1987	61807
10	476m N	Electricity Substation	1990	61816

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

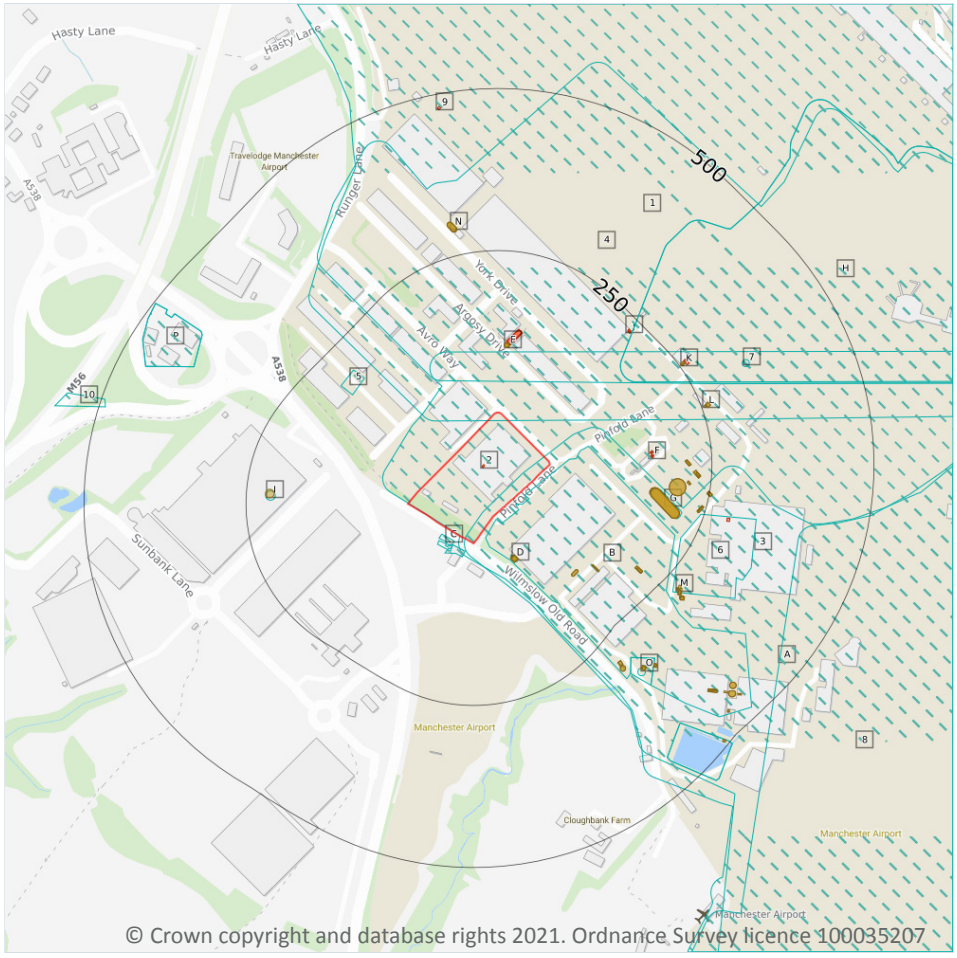
1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

2.1 Historical industrial land uses

Records within 500m	23

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
1	**On site**	**Airport**	**1995**	**845359**
3	**On site**	**Airport**	**1989**	**878654**
A	**On site**	**Airport**	**1953**	**989364**

ID	Location	Land Use	Date	Group ID
B	6m SE	Unspecified Commercial/Industrial	1974	796960
C	11m SW	Smithy	1938	943361
C	17m SW	Smithy	1910	885346
C	20m SW	Smithy	1899	885346
4	48m N	Airport	1989	878654
G	164m E	Unspecified Tanks	1989	815435
H	175m NE	Airport	1967	844689
H	175m NE	Airport	1975	897813
5	177m NW	Wireless Station	1989	802256
I	205m W	Unspecified Tank	1989	825000
6	231m SE	Unspecified Works	1974	830660
O	299m SE	Sewage Works	1974	811850
O	320m SE	Unspecified Tank	1974	824998
7	334m NE	Unspecified Tank	1975	824999
P	392m NW	Unspecified Depot	1995	914596
P	392m NW	Unspecified Depot	1989	914596
8	400m E	Airport	1974	897813
A	422m SE	Unspecified Pit	1989	853250
A	422m SE	Unspecified Pit	1974	950609
10	490m W	Cuttings	1995	963338

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**86**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
D	59m SE	Unspecified Tank	1987	126292
D	60m SE	Unspecified Tank	1968	126292
D	60m SE	Unspecified Tank	1973	126292
D	60m SE	Unspecified Tank	1968	126292
E	101m N	Unspecified Tank	1995	146099
E	101m N	Unspecified Tank	1987	146099
E	101m N	Unspecified Tank	1990	146099
E	101m N	Unspecified Tank	1991	146099
B	146m SE	Tanks	1995	126339
B	146m SE	Tanks	1996	126339
B	158m SE	Tanks	1995	142707
B	158m SE	Tanks	1996	142707
G	159m E	Tanks	1987	137116
G	159m E	Tanks	1990	137116
G	161m E	Tanks	1995	137116
G	161m E	Tanks	1996	137116
G	187m E	Unspecified Tank	1995	131170
G	187m E	Unspecified Tank	1996	131170
B	206m SE	Unspecified Tank	1987	128311
B	206m SE	Unspecified Tank	1990	128311
I	207m W	Unspecified Tank	1987	114872
G	209m E	Unspecified Tank	1987	143016
G	209m E	Unspecified Tank	1990	143016
B	209m SE	Unspecified Tank	1995	128311
B	209m SE	Unspecified Tank	1996	128311
G	209m E	Unspecified Tank	1995	143016
G	209m E	Unspecified Tank	1996	143016
G	214m E	Unspecified Tank	1995	143549

ID	Location	Land Use	Date	Group ID
G	214m E	Unspecified Tank	1996	143549
G	222m E	Unspecified Tank	1987	125562
G	222m E	Unspecified Tank	1990	125562
G	226m E	Unspecified Tank	1995	125562
G	226m E	Unspecified Tank	1996	125562
G	238m E	Unspecified Tank	1987	147552
G	238m E	Unspecified Tank	1990	147552
G	239m E	Unspecified Tank	1995	147552
G	239m E	Unspecified Tank	1996	147552
G	246m E	Unspecified Tank	1987	148025
G	246m E	Unspecified Tank	1990	148025
G	247m E	Unspecified Tank	1995	148025
G	247m E	Unspecified Tank	1996	148025
K	252m NE	Unspecified Tank	1992	125764
K	253m NE	Unspecified Tank	1987	125764
L	255m E	Unspecified Tank	1995	131304
L	255m E	Unspecified Tank	1996	131304
L	257m E	Unspecified Tank	1987	149283
L	257m E	Unspecified Tank	1990	149283
M	273m SE	Tanks	1968	136089
M	273m SE	Tanks	1968	125152
M	273m SE	Tanks	1968	136089
M	276m SE	Unspecified Tank	1987	114873
M	277m SE	Tanks	1968	125152
M	285m SE	Unspecified Tank	1987	129923
M	285m SE	Unspecified Tank	1990	129923
N	286m N	Tanks	1995	136308
M	287m SE	Unspecified Tank	1995	129923

ID	Location	Land Use	Date	Group ID
M	287m SE	Unspecified Tank	1996	129923
N	287m N	Tanks	1990	135148
N	287m N	Tanks	1991	135148
O	289m SE	Unspecified Tank	1995	139784
O	289m SE	Unspecified Tank	1996	139784
O	296m SE	Unspecified Tank	1995	145845
O	296m SE	Unspecified Tank	1996	145845
O	321m SE	Unspecified Tank	1987	149270
O	321m SE	Unspecified Tank	1990	149270
O	323m SE	Unspecified Tank	1995	149270
O	323m SE	Unspecified Tank	1996	149270
O	334m SE	Unspecified Tank	1987	127696
O	334m SE	Unspecified Tank	1990	127696
O	336m SE	Unspecified Tank	1995	128767
A	419m SE	Unspecified Tank	1987	133887
A	419m SE	Unspecified Tank	1990	133887
A	420m SE	Unspecified Tank	1995	143162
A	421m SE	Unspecified Tank	1987	130265
A	422m SE	Unspecified Tank	1995	130265
A	436m SE	Unspecified Tank	1995	123647
A	436m SE	Unspecified Tank	1996	123647
A	438m SE	Unspecified Tank	1987	136269
A	444m SE	Unspecified Tank	1995	127078
A	444m SE	Unspecified Tank	1997	127078
A	455m SE	Unspecified Tank	1968	141112
A	456m SE	Unspecified Tank	1968	139281
A	464m SE	Unspecified Tank	1995	129845
A	464m SE	Unspecified Tank	1997	129845

ID	Location	Land Use	Date	Group ID
A	490m SE	Unspecified Tank	1995	147089
A	490m SE	Unspecified Tank	1997	147089

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**17**

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 19**

ID	Location	Land Use	Date	Group ID
2	**On site**	**Electricity Substation**	**1987**	**61802**
E	106m N	Electricity Substation	1995	66850
E	106m N	Electricity Substation	1987	78382
E	106m N	Electricity Substation	1990	78382
E	106m N	Electricity Substation	1991	78382
F	156m E	Electricity Substation	1987	67847
F	156m E	Electricity Substation	1990	67847
F	156m E	Electricity Substation	1987	73083
F	156m E	Electricity Substation	1990	73083
F	156m E	Electricity Substation	1995	67847
F	156m E	Electricity Substation	1996	67847
J	228m NE	Electricity Substation	1992	68947
J	229m NE	Electricity Substation	1987	64893
K	259m NE	Electricity Substation	1992	64065
K	259m NE	Electricity Substation	1987	79361
G	286m E	Electricity Substation	1987	61807
9	476m N	Electricity Substation	1990	61816

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	0

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	0

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

Landfill sites identified from Local Authority records and high detail historical mapping.

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	0

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	0

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	9

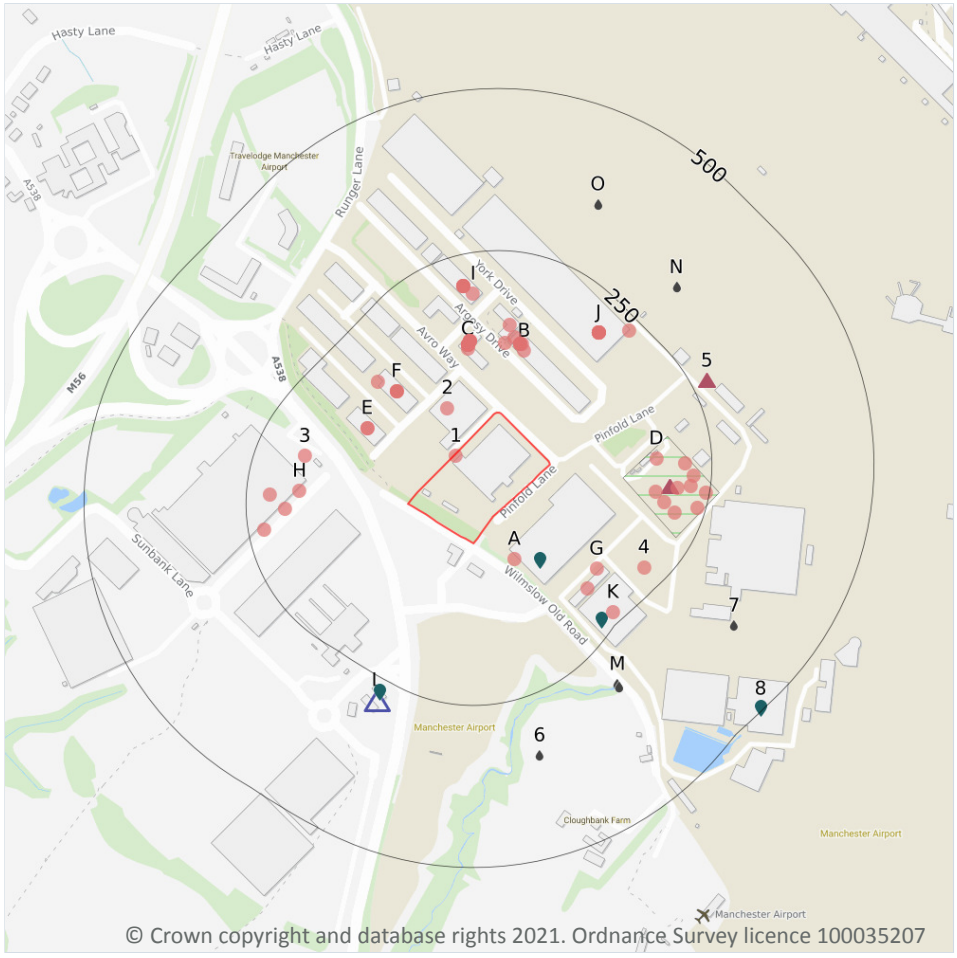
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 26**

ID	Location	Site	Reference	Category	Sub-Category	Description
1	43m NW	BAM Construction, Pinfold Lane, Avro Way, World Freight Terminal, Manchester Airport, Manchester, M90 5AF	WEX089429	Using waste exemption	Not on a farm	Use of waste in construction
A	126m SE	Hanger 3 Fuelling Farm Olympic House MANCHESTER M90 1QX	EPR/UE5840MZ/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
A	126m SE	Materials Innovation Factory University of Liverpool Grove Street Liverpool L69 7ZJ	EPR/HE5744GP/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
A	126m SE	Materials Innovation Factory University of Liverpool Grove Street Liverpool L69 7ZJ	EPR/HE5744GP/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
2	213m SW	MAG DHL Warehouse Sunbank Lane	EPR/JE5382DE/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
3	282m E	Manchester Airport, Pinfold Lane, off Avro Way, Manchester, M90 5XA	WEX162999	Using waste exemption	Not on a Farm	Use of waste in construction
B	473m NW	Hale Depot, M56 Hunction 6, Wilmslow Road Roundabout, Hale, Altrincham, WA15 8XL	WEX164848	Treating waste exemption	Not on a Farm	Treatment of waste aerosol cans
B	473m NW	Hale Motorway Maintenance Compound, Wilmslow Road Roundabout, Hale, Altrincham, WA15 8XL	WEX168955	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	473m NW	Hale Motorway Maintenance Compound, Wilmslow Road Roundabout, Hale, Altrincham, WA15 8XL	WEX168955	Storing waste exemption	Not on a farm	Storage of waste in a secure place

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

Control of Major Accident Hazards

Hazardous substance storage/usage

Licensed pollutant release (Part A(2)/B)

Licensed Discharges to controlled waters

4.1 Recent industrial land uses

Records within 250m	62

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	Activity	Category
1	**On site**	**Electricity Sub Station**	**Greater Manchester, M90**	**Electrical Features**	**Infrastructure and Facilities**
2	58m NW	Alpha LSG	402 Avro Way, Manchester Airport, Manchester, Greater Manchester, M90 5AF	Aeroplanes	Industrial Products
A	65m SE	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
B	103m N	Air Canada	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UY	Distribution and Haulage	Transport, Storage and Delivery
B	108m N	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
C	108m NW	Supply 2 Order	Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Container and Storage	Transport, Storage and Delivery
B	111m N	N N R Global Logistics	Unit 2 Building 301, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UX	Distribution and Haulage	Transport, Storage and Delivery
B	111m N	Warme Heating Ltd	Unit 6 Building 301, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UX	Industrial Repairs and Servicing	Repair and Servicing
B	111m N	Davies Turner Plc	Unit 10 Building 301, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UX	Distribution and Haulage	Transport, Storage and Delivery
B	111m N	T Q Express	Unit 7 Building 301, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UX	Airlines and Airline Services	Transport, Storage and Delivery
B	112m N	Select Euro Transport	Unit 11 Building 301, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UX	Distribution and Haulage	Transport, Storage and Delivery
C	114m N	R & M Developments Ltd	Room 212, Building 308 World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Civil Engineers	Engineering Services
C	114m N	A Z Freight Services Ltd	Building 308 Room 5 Manchester Airport, Ringway Road, Manchester, Greater Manchester, M90 5PZ	Airlines and Airline Services	Transport, Storage and Delivery
C	114m N	Noatum Logistics Ltd	Room 219 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	114m N	E M S Cargo Ltd	Room 11-14 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	114m N	Atlantic Pacific Global Logistics	Room 201-202 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	114m N	Evolution Logistics	Room 108-110 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery

ID	Location	Company	Address	Activity	Category
C	114m N	Air Sea Worldwide	Room 101-102 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Airlines and Airline Services	Transport, Storage and Delivery
C	118m N	Future Forwarding	Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	118m N	Puma Cargo Ltd	Room 11-14 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	118m N	C B I Global Freight Management	Room 213-214 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
C	118m N	A I T Worldwide Logistics Ltd	Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Airlines and Airline Services	Transport, Storage and Delivery
C	118m N	Maurice Ward Group	Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
B	119m N	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
E	125m NW	Mapcargo	1st Floor Building 314, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5EX	Distribution and Haulage	Transport, Storage and Delivery
E	125m NW	Air Menzies International	Building 314, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5EX	Distribution and Haulage	Transport, Storage and Delivery
F	133m NW	D B Schenker	Building 315 World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5BG	Distribution and Haulage	Transport, Storage and Delivery
F	133m NW	Tranzfast Logistica UK Ltd	Building 315, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5BG	Airlines and Airline Services	Transport, Storage and Delivery
F	133m NW	Red Head International	Building 315, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5BG	Distribution and Haulage	Transport, Storage and Delivery
B	136m N	Vantec World Transport Manchester	Room 117-119 Building 308, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5PZ	Distribution and Haulage	Transport, Storage and Delivery
F	164m NW	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
D	164m E	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
G	166m SE	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
D	168m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
H	169m W	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
3	176m NW	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
G	180m SE	Airline Services Ltd	Hangar 4, Pinfold Lane, Manchester Airport, Manchester, Greater Manchester, M90 5YF	Aeroplanes	Industrial Products
D	186m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
I	187m N	A F I	Unit 1/A Building 303, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UJ	Airlines and Airline Services	Transport, Storage and Delivery
H	190m W	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
J	194m NE	Airline Cargo Management Ltd	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5BA	Airlines and Airline Services	Transport, Storage and Delivery
J	194m NE	Dunwoody Airline	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UY	Distribution and Haulage	Transport, Storage and Delivery
J	194m NE	Air Liaison	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UY	Airlines and Airline Services	Transport, Storage and Delivery
J	194m NE	Singapore Airlines Cargo	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UY	Distribution and Haulage	Transport, Storage and Delivery
J	194m NE	Omni Airline Services	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5BA	Distribution and Haulage	Transport, Storage and Delivery
J	194m NE	Globe Air Cargo	Building 300, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UY	Airlines and Airline Services	Transport, Storage and Delivery
D	200m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features

ID	Location	Company	Address	Activity	Category
I	202m N	Trilogy Freight	Unit 1a Building 303, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UJ	Distribution and Haulage	Transport, Storage and Delivery
I	202m N	S O S Air Cargo Ltd	Unit 1a Building 303, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UJ	Distribution and Haulage	Transport, Storage and Delivery
I	202m N	Blacksmith Freight Services	Unit 5 Building 303, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UJ	Distribution and Haulage	Transport, Storage and Delivery
I	202m N	Fedex Trade Networks	Unit 2 Building 303, World Freight Terminal, Manchester Airport, Manchester, Greater Manchester, M90 5UJ	Airlines and Airline Services	Transport, Storage and Delivery
D	207m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
D	209m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
H	214m W	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
4	215m SE	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
D	219m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
D	223m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
H	225m W	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
J	231m NE	Electricity Sub Station	Greater Manchester, M90	Electrical Features	Infrastructure and Facilities
K	233m SE	Aeroco Group	Hangar 4 Western Maintenance Area, Manchester Airport, Manchester, Greater Manchester, M90 5YP	Aviation Engineers	Engineering Services
D	238m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features
D	244m E	Tank	Greater Manchester, M90	Tanks (Generic)	Industrial Features

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**1**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	LPG	Status
L	284m SW	BP	Wilmslow Road, Icon Manchester Airport, Altrincham, Greater Manchester, WA15 0PT	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	1

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Company	Address	Operational status	Tier
D	115m E	Air BP Limited	Air BP Limited, Manchester Airport, Pinfold Lane, Manchester, Greater Manchester, M90 5AX	Current COMAH Site	COMAH Lower Tier Operator

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	3

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Details	
D	187m E	Application reference number: 065383/HSC/SOUTH2/02 Application status: Approved Application date: 03/10/2002 Address: Air BP Ltd, c/o Manchester Airport Storage and Hydrant Company Ltd, Pinfold Lane, Manchester Airport, Manchester, Greater Manchester, England, M90 5XA	Details: Storage Of Jet A1 Fuel Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
D	187m E	Application reference number: 065383/HSC/SOUTH2/02 Application status: Historical Consent Application date: 03/10/2002 Address: Pinfold Lane, Manchester Airport, Manchester, M90 5XA	Details: Storage Of Jet A1 Fuel Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
5	273m NE	Application reference number: 059375/HSC/SOUTH2/00 Application status: Unknown Application date: 31/01/2001 Address: Shell UK Ltd, Pinfold Lane, Manchester Airport, Ringway, M90 5XR	Details: Hazardous Substances Consent For Storage Of Aviation AVGAS Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	4

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Address	Details	
A	98m SE	Fls Aerospace Ltd, Runger Lane, M90 5FL	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
K	229m SE	Airline Services Limited, Hanger 4, Western Maintenance Area, Manchester Airport M90 5YP	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
L	270m SW	BP Airport City, BP Airport City SF Connect, Airport City South, Wilmslow Road, Manchester, WA15 0PT	Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

ID	Location	Address	Details	
8	496m SE	Air Livery Plc, Off Pinfold Lane, Hanger 2, Manchester Airport, Manchester, M90 5BA	Process: Respraying of Road Vehicles Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	**0**

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	**11**

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 29**

ID	Location	Address	Details	
M	310m SE	MANCHESTER AIRPORT DOUBLEWOOD BROOK, DOUBLE WOOD BROOK OUTFALL, MANCHESTER AIRPORT, MANCHESTER, GREATER MANCHESTER, M90 1QX	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016992832 Permit Version: 1 Receiving Water: COTTERIL CLOUGH BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 30/09/1994 Revocation Date: 16/11/2015
M	314m SE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 1 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: NEW ISSUED UNDER EPR 2010 Issue date: 30/10/2015 Effective Date: 16/11/2015 Revocation Date: 14/02/2019
M	314m SE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 1 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: NEW ISSUED UNDER EPR 2010 Issue date: 30/10/2015 Effective Date: 16/11/2015 Revocation Date: 14/02/2019

ID	Location	Address	Details	
M	314m SE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 2 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: VARIED UNDER EPR 2010 Issue date: 15/02/2019 Effective Date: 15/02/2019 Revocation Date: -
M	314m SE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 2 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: VARIED UNDER EPR 2010 Issue date: 15/02/2019 Effective Date: 15/02/2019 Revocation Date: -
N	328m NE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 1 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: NEW ISSUED UNDER EPR 2010 Issue date: 30/10/2015 Effective Date: 16/11/2015 Revocation Date: 14/02/2019
N	328m NE	MANCHESTER AIRPORT: SITE DRAINAGE, AND CONTAINMENT SYSTEM, OLYMPIC HOUSE, OFF THE DOMESTIC APPROACH ROAD, MANCHESTER, M90 1QX	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRCB3299EN Permit Version: 2 Receiving Water: RIVER BOLLIN & NEARBY TRIBS	Status: VARIED UNDER EPR 2010 Issue date: 15/02/2019 Effective Date: 15/02/2019 Revocation Date: -
6	342m S	THE ROMPER PS, THE ROMPER PUBLIC HOUSE, WILMSLOW ROAD, ALTRINCHAM, GREATER MANCHESTER, WA15 8XJ	Effluent Type: SEWAGE & TRADE COMBINED - UNSPECIFIED Permit Number: 016993171 Permit Version: 1 Receiving Water: COTERILL CLOUGH	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: 20/03/1997 Effective Date: 20/03/1997 Revocation Date: -
O	355m NE	AIRCRAFT STANDS SWO, MANCHESTER AIRPORT PLC, RINGWAY	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991392 Permit Version: 1 Receiving Water: RIVER BOLLIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/10/1994 Revocation Date: 31/10/1994
O	355m NE	AIRCRAFT STANDS SWO, MANCHESTER AIRPORT PLC, RINGWAY	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991392 Permit Version: 2 Receiving Water: RIVER BOLLIN	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/11/1994 Revocation Date: 02/12/1994

ID	Location	Address	Details	
7	377m SE	MANCHESTER AIRPORT DOUBLEWOOD BROOK, DOUBLE WOOD BROOK OUTFALL, MANCHESTER AIRPORT, MANCHESTER, GREATER MANCHESTER, M90 1QX	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016990207 Permit Version: 1 Receiving Water: COTTERILL CLOUGH BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/06/1980 Revocation Date: 26/04/1991

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

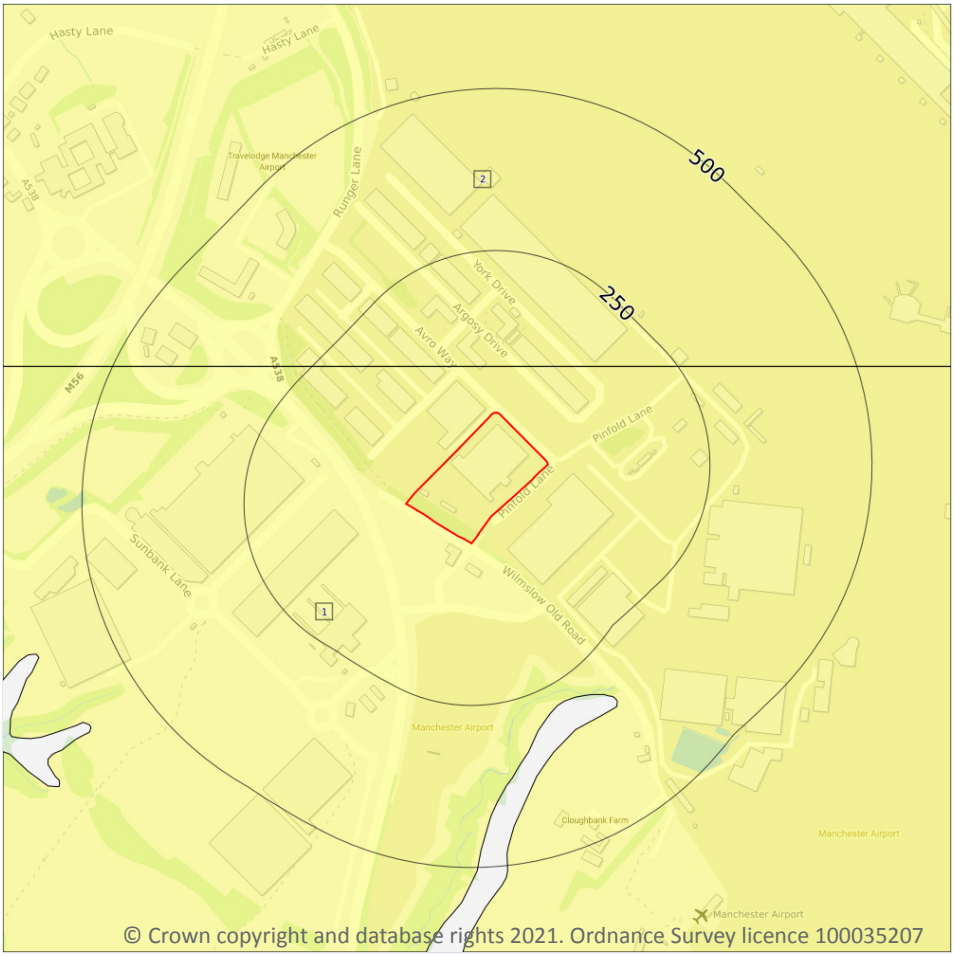
4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	2

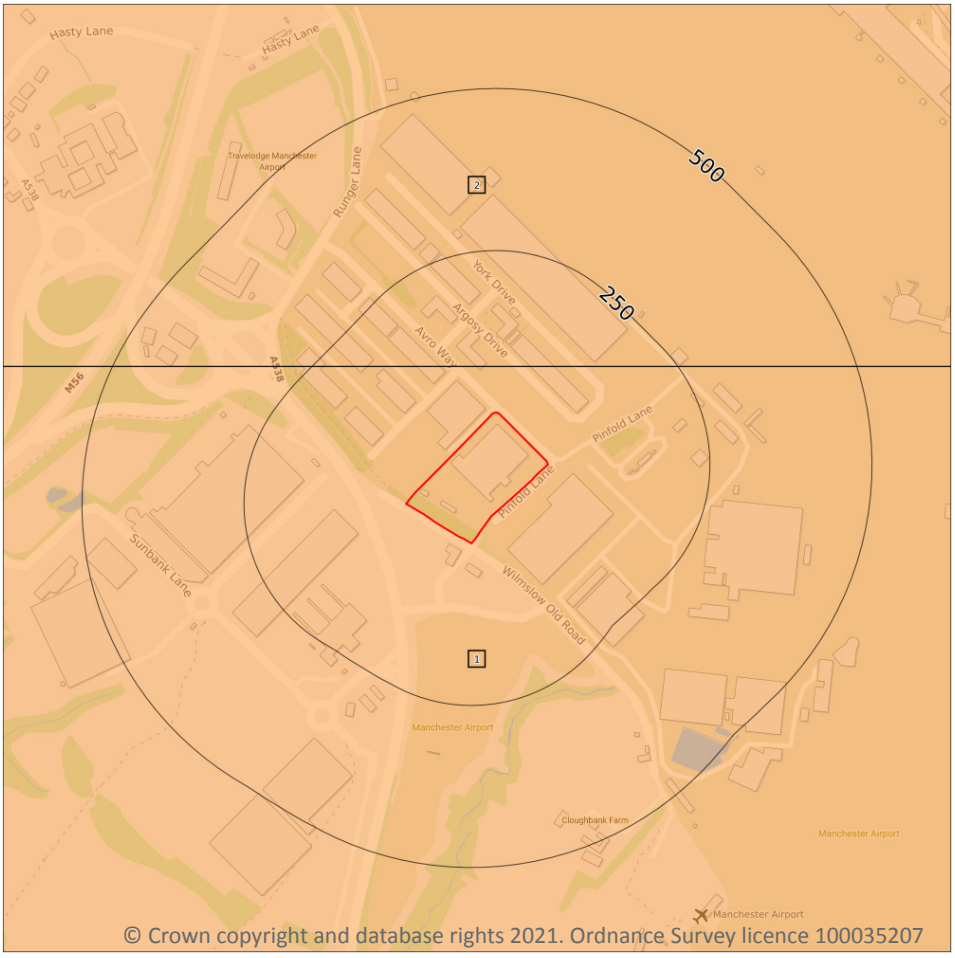
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 41**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**
2	71m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

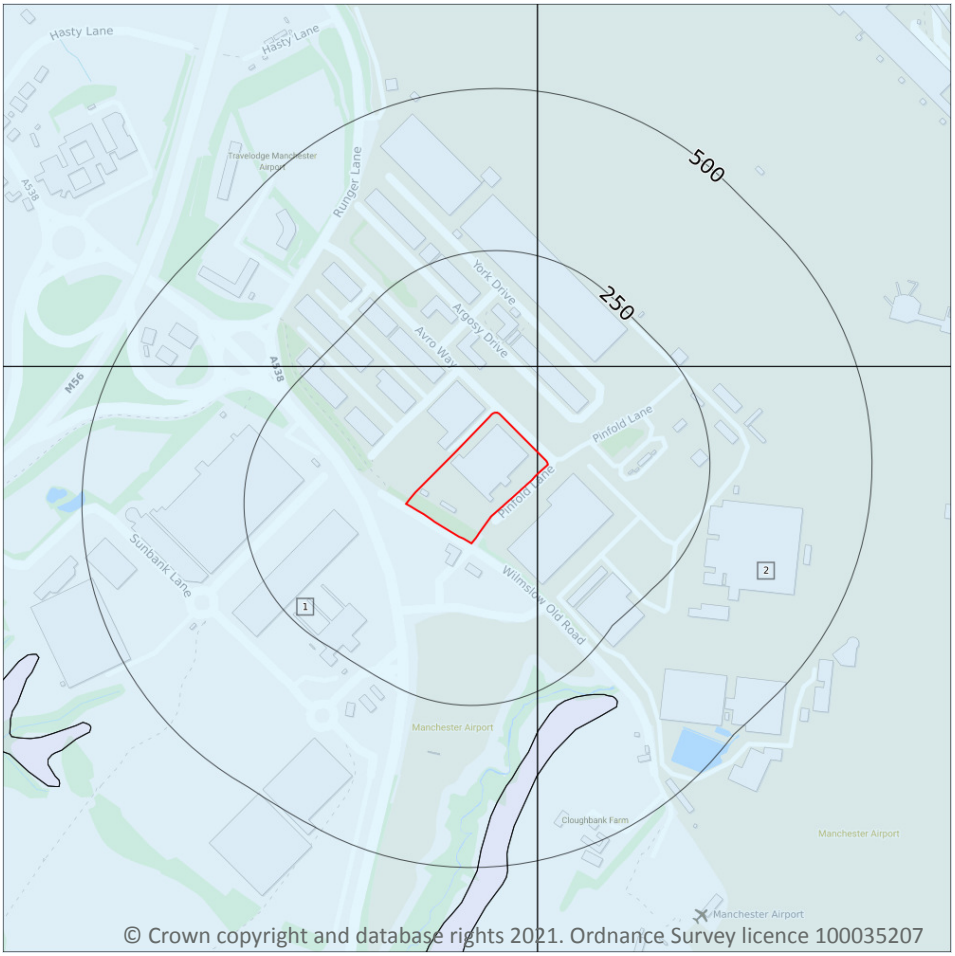
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 43**

ID	Location	Designation	Description
1	**On site**	**Secondary B**	**Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers**
2	71m N	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 45**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	On site	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

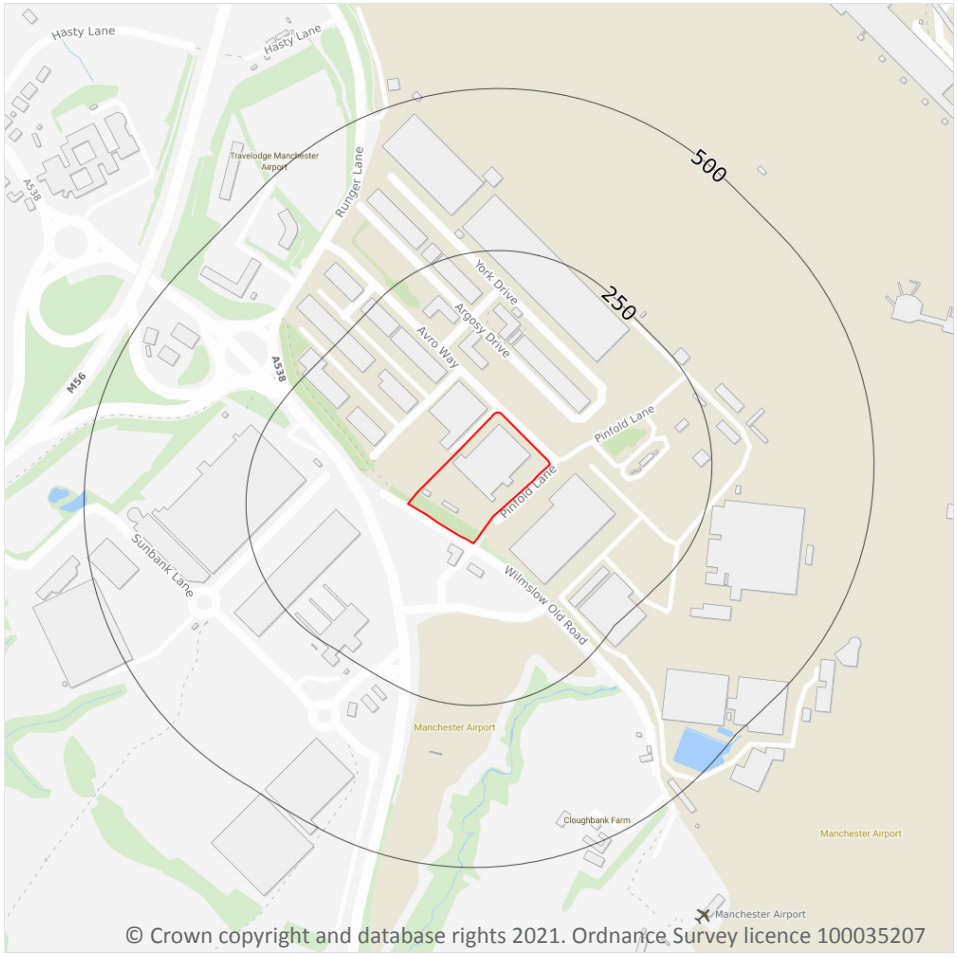
5.5 Groundwater vulnerability- local information

Records on site	0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	0

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	5

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 47**

ID	Location	Details	
-	1827m NW	Status: Historical Licence No: 2569017036/R1 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNDERGROUND STORAGE TANK FED BY LOCAL SURFACE DRAINAGE Data Type: Point Name: RINGWAY GOLF CLUB LIMITED Easting: 379536 Northing: 386114	Annual Volume (m^3): 5000 Max Daily Volume (m^3): 71.5 Original Application No: - Original Start Date: 28/04/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 28/04/2004 Version End Date: -
-	1827m NW	Status: Active Licence No: 2569017036/R02 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNDERGROUND STORAGE TANK FED BY LOCAL SURFACE DRAINAGE Data Type: Point Name: RINGWAY GOLF CLUB LIMITED Easting: 379536 Northing: 386114	Annual Volume (m^3): 5,000 Max Daily Volume (m^3): 60 Original Application No: - Original Start Date: 01/04/2018 Expiry Date: 31/03/2030 Issue No: 1 Version Start Date: 01/04/2018 Version End Date: -
-	1842m NW	Status: Historical Licence No: 2569017036 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNDERGROUND STORAGE TANK FED BY LOCAL SURFACE DRAINAGE Data Type: Point Name: THE SECRETARY Easting: 379500 Northing: 386100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 13/07/1999 Expiry Date: 12/07/2004 Issue No: 1 Version Start Date: 13/07/1999 Version End Date: -

ID	Location	Details	
-	1842m NW	Status: Historical Licence No: 2569017036/R1 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNDERGROUND STORAGE TANK FED BY LOCAL SURFACE DRAINAGE Data Type: Point Name: RINGWAY GOLF CLUB LIMITED Easting: 379500 Northing: 386100	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 28/04/2004 Version End Date: -
-	1842m NW	Status: Historical Licence No: 2569017036/R1 Details: Spray Irrigation - Direct Direct Source: Surface, Non-Tidal - North West Region Point: UNDERGROUND STORAGE TANK FED BY LOCAL SURFACE DRAINAGE Data Type: Point Name: RINGWAY GOLF CLUB LIMITED Easting: 379500 Northing: 386100	Annual Volume (m^3): 5000 Max Daily Volume (m^3): 71.5 Original Application No: - Original Start Date: 28/04/2004 Expiry Date: 31/03/2018 Issue No: 1 Version Start Date: 28/04/2004 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	2

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 51**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River WB catchment**	**Timperley Brook**	**GB112069061260**	**Bollin, Dean, Upper Mersey**	**Upper Mersey**
2	**On site**	**River WB catchment**	**Bollin (River Dean to Ashley Mill)**	**GB112069061381**	**Bollin, Dean, Upper Mersey**	**Upper Mersey**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	2

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 51**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
3	259m S	River	Bollin (River Dean to Ashley Mill)	GB112069061381	Moderate	Good	Moderate	2016
-	2314m NW	River	Timperley Brook	GB112069061260	Moderate	Good	Moderate	2016

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	2

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 51**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Weaver and Dane Quaternary Sand and Gravel Aquifers**	**GB41202G991700**	**Poor**	**Poor**	**Good**	**2015**
A	**On site**	**Weaver and Dane Quaternary Sand and Gravel Aquifers**	**GB41202G991700**	**Poor**	**Poor**	**Good**	**2016**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

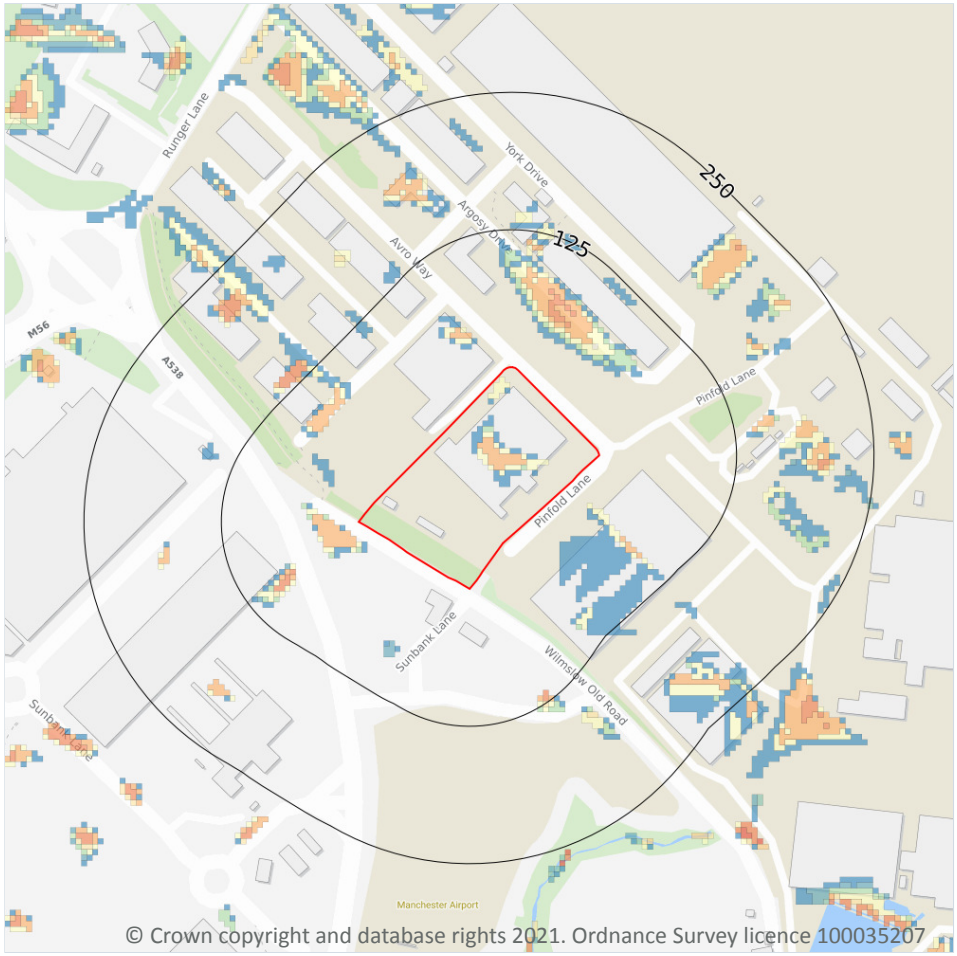
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.1m - 0.3m**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 57**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.3m and 1.0m
1 in 100 year	Between 0.3m and 1.0m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Low**
Highest risk within 50m	**Low**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 59**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Sites of Special Scientific Interest (SSSI)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	2

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Data source
A	345m S	Cotteril Clough	Natural England

ID	Location	Name	Data source
B	720m S	Cotteril Clough	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	10

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Woodland Type
A	210m SE	Cotterill Clough	Ancient & Semi-Natural Woodland
2	519m SW	Sunbank Wood	Ancient & Semi-Natural Woodland
B	720m S	Cotterill Clough	Ancient & Semi-Natural Woodland
4	1093m SW	Bollin Bank	Ancient & Semi-Natural Woodland
5	1112m N	Davenport Green Wood	Ancient & Semi-Natural Woodland
-	1259m W	Hennersley Bank	Ancient & Semi-Natural Woodland
8	1512m SE	Oversley Farm Wood	Ancient & Semi-Natural Woodland
-	1513m W	Warburton Wood	Ancient & Semi-Natural Woodland
-	1877m SW	Unknown	Ancient Replanted Woodland
-	1889m S	Unknown	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	3

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 60**

ID	Location	Name	Local Authority name
1	344m S	Merseyside and Greater Manchester	Manchester
3	542m NW	Merseyside and Greater Manchester	Trafford
6	1224m SW	Merseyside and Greater Manchester	Cheshire East

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or ‘classified’) under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

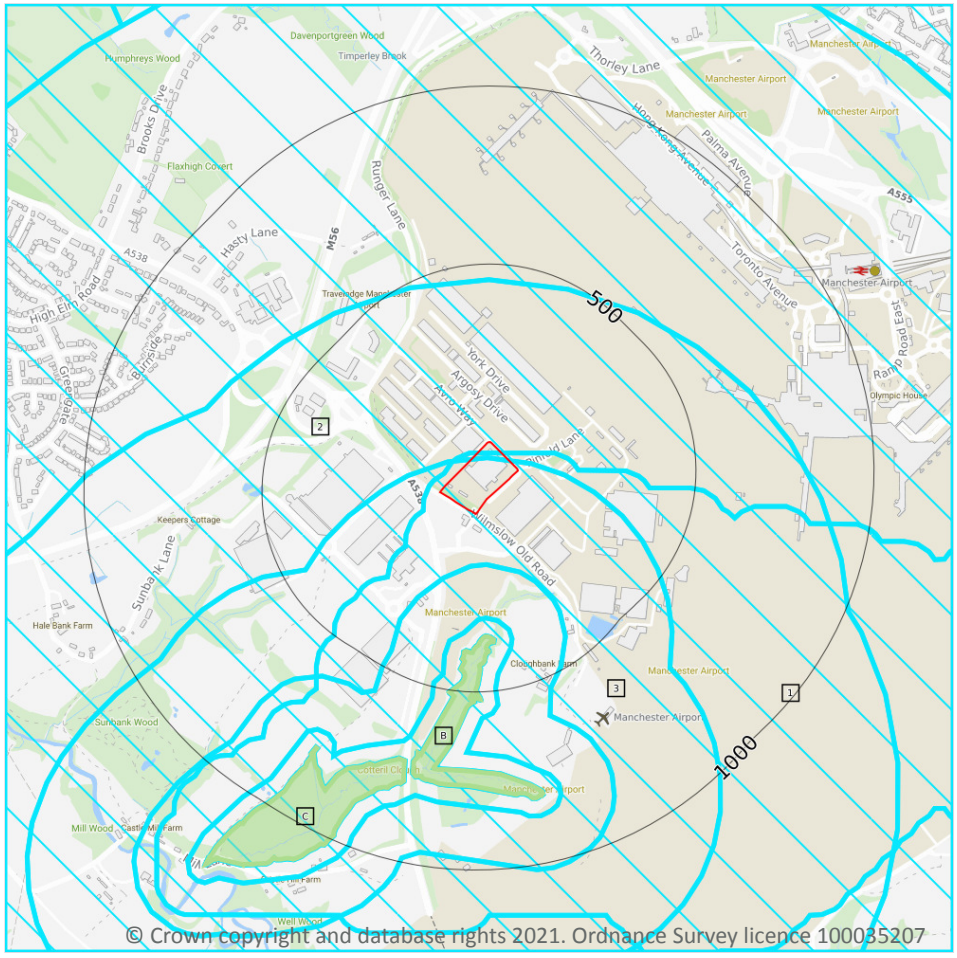
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site	3

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 66**

ID	Location	Type of developments requiring consultation
1	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Discharges - Any discharge of water or liquid waste of more than 2m³/day to ground (ie to seep away) or to surface water, such as a beck or stream (NB This does not include discharges to mains sewer which are unlikely to pose a risk at this location). Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply**
2	On site	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction. Residential - Residential development of 100 units or more. Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas. Air pollution - Any industrial/agricultural development that could cause AIR POLLUTION (incl: industrial processes, livestock & poultry units with floorspace > 500m², slurry lagoons > 200m² & manure stores > 250t). Combustion - General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion Waste - Landfill. Incl: inert landfill, non-hazardous landfill, hazardous landfill. Composting - Any composting proposal with more than 500 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management. Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply**

ID	Location	Type of developments requiring consultation
3	**On site**	**Infrastructure - Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals** **Minerals, Oil and Gas - Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.** **Rural non-residential - Large non residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m² or footprint exceeds 0.2ha** **Residential - Residential development of 100 units or more.** **Rural residential - Any residential development of 50 or more houses outside existing settlements/urban areas.** **Air pollution - Any development that could cause AIR POLLUTION (incl: industrial/commercial processes, livestock & poultry units, slurry lagoons/manure stores).** **Combustion - All general combustion processes. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.** **Waste - Mechanical and biological waste treatment, inert landfill, non-hazardous landfill, hazardous landfill, household civic amenity recycling facilities construction, demolition and excavation waste, other waste management** **Composting - Any composting proposal. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.** **Discharges - Any discharge of water or liquid waste that is discharged to ground (ie to seep away) or to surface water, such as a beck or stream (NB this does not include discharges to mains sewer which are unlikely to pose a risk at this location).** **Water supply - Large infrastructure such as warehousing / industry where net additional gross internal floorspace is > 1,000m² or any development needing its own water supply**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	**2**

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on **page 66**

ID:	B
Location:	345m S
SSSI name:	Cotteril Clough
Unit name:	Eastern Woodland
Broad habitat:	Broadleaved, Mixed And Yew Woodland - Lowland
Condition:	Favourable
Reportable features:	

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	13/06/2013
Wet woodland	Favourable	13/06/2013

ID: C
Location: 720m S
SSSI name: Cotteril Clough
Unit name: Western Woodland
Broad habitat: Broadleaved, Mixed And Yew Woodland - Lowland
Condition: Favourable
Reportable features:

Feature name	Feature condition	Date of assessment
Lowland mixed deciduous woodland	Favourable	30/05/2014
Wet woodland	Favourable	30/05/2014

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

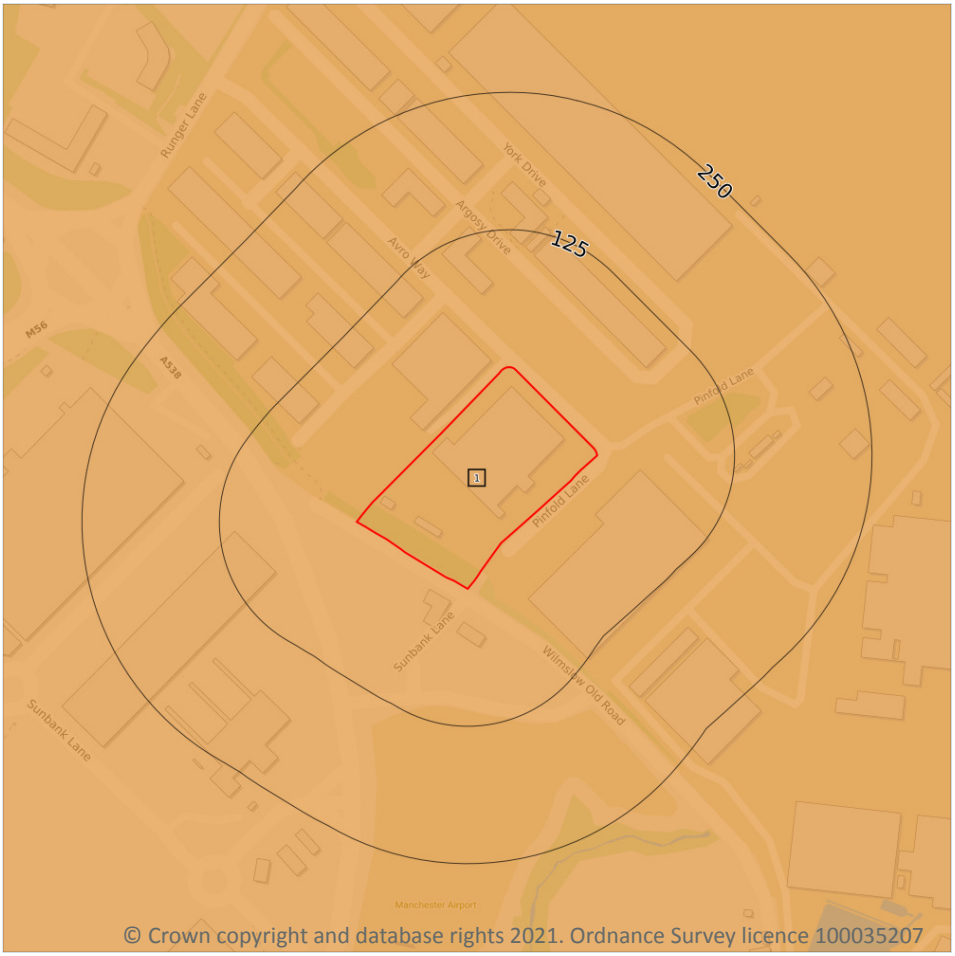
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 72**

ID	Location	Classification	Description
1	On site	Grade 3	Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks

Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	9

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 74**

ID	Location	Main Habitat	Other habitats
1	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
A	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
A	**On site**	**Deciduous woodland**	**Main habitat: DWOOD (INV > 50%)**
2	37m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

ID	Location	Main Habitat	Other habitats
B	40m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
B	41m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	77m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
C	80m NW	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	210m SE	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	**0**

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	**0**

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

This data is sourced from Natural England.

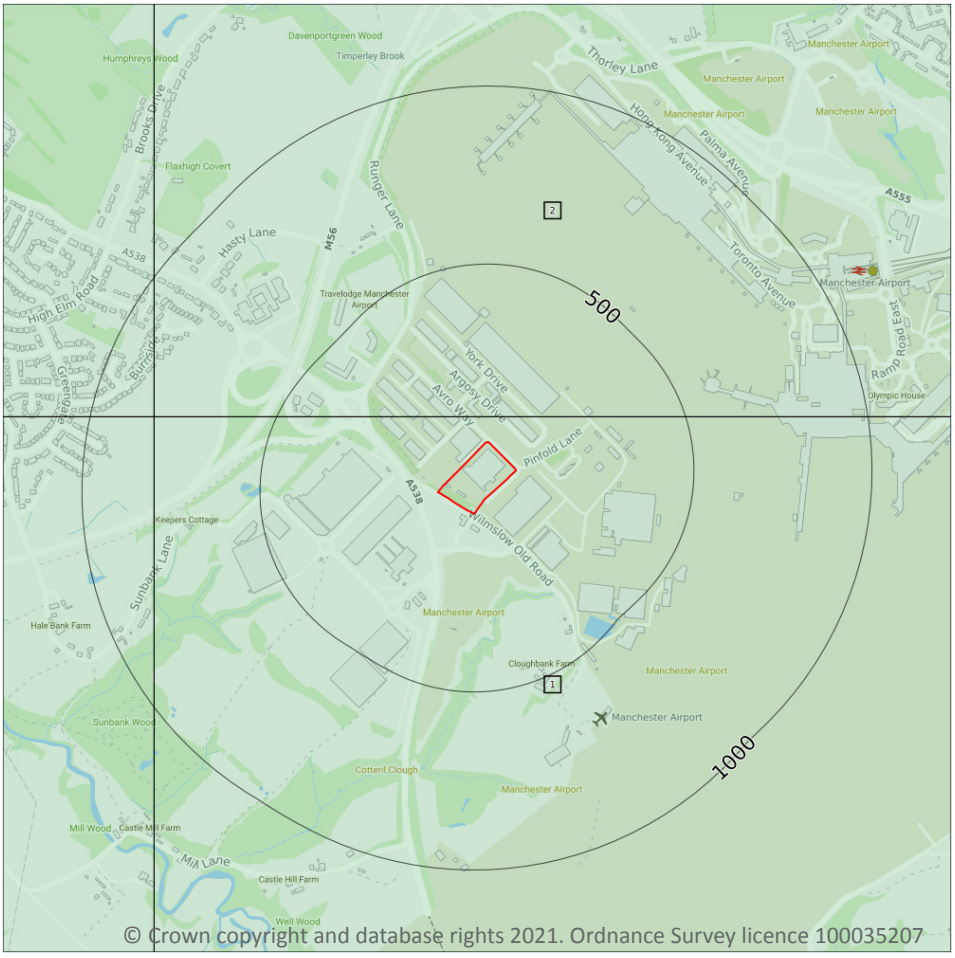
13.4 Limestone Pavement Orders

Records within 250m	**0**

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 76**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**SJ88SW**
2	71m N	No coverage	Full	Full	No coverage	SJ88NW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

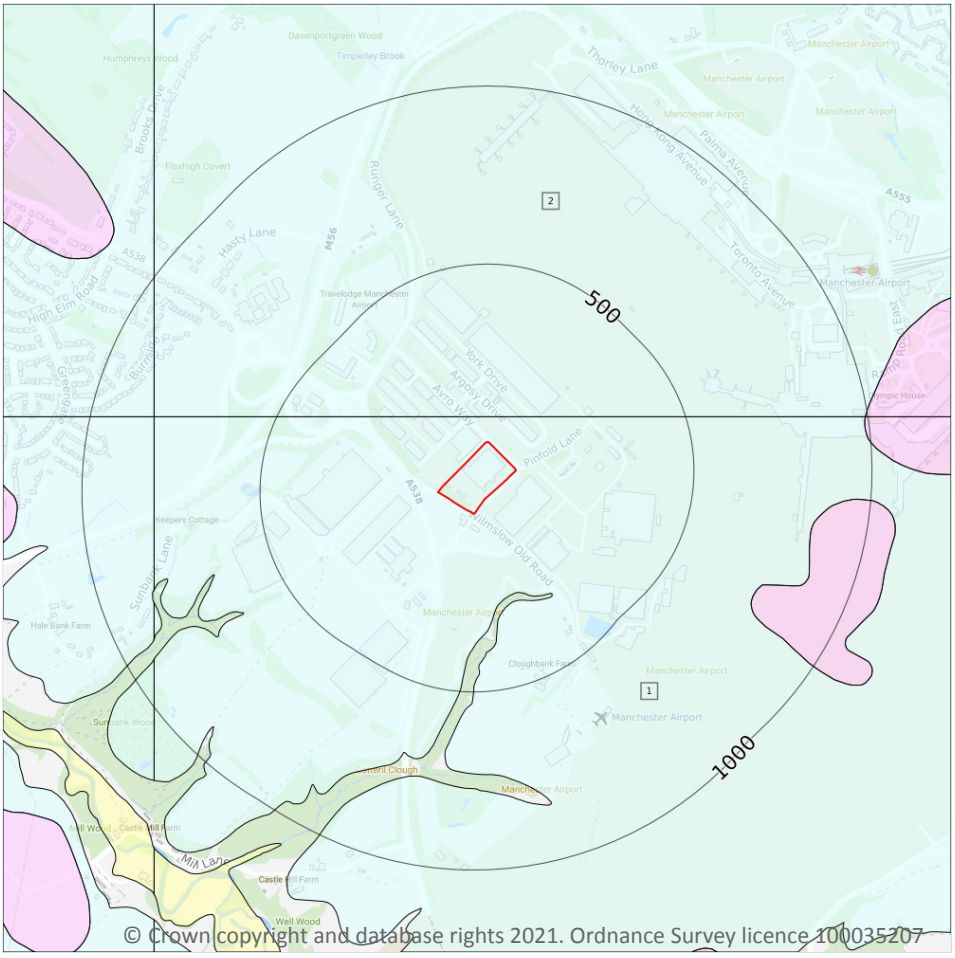
14.2 Artificial and made ground (10k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m **2**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 78**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
2	71m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

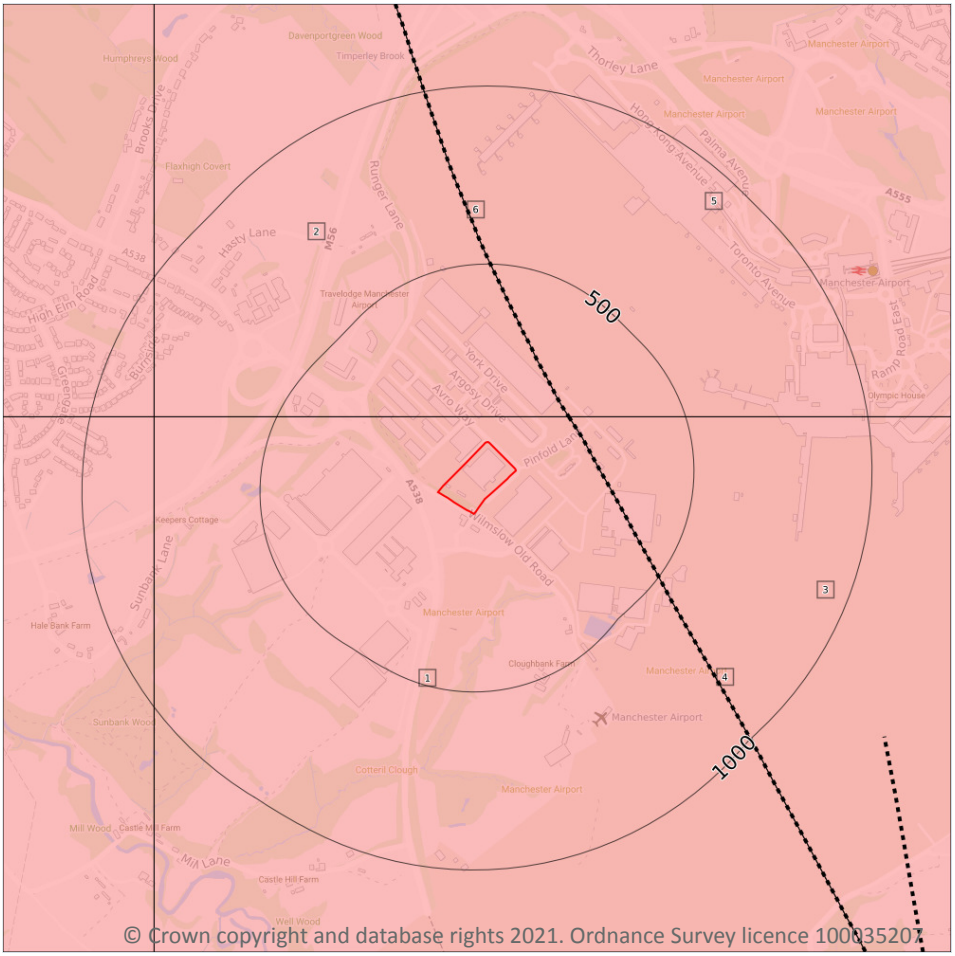
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m **4**

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 80**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BOM-MDST**	**Bollin Mudstone Member - Mudstone**	**Anisian Age**
2	71m N	BOM-MDST	Bollin Mudstone Member - Mudstone	Anisian Age
3	206m NE	BOM-MDST	Bollin Mudstone Member - Mudstone	Anisian Age
5	210m NE	BOM-MDST	Bollin Mudstone Member - Mudstone	Anisian Age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**2**

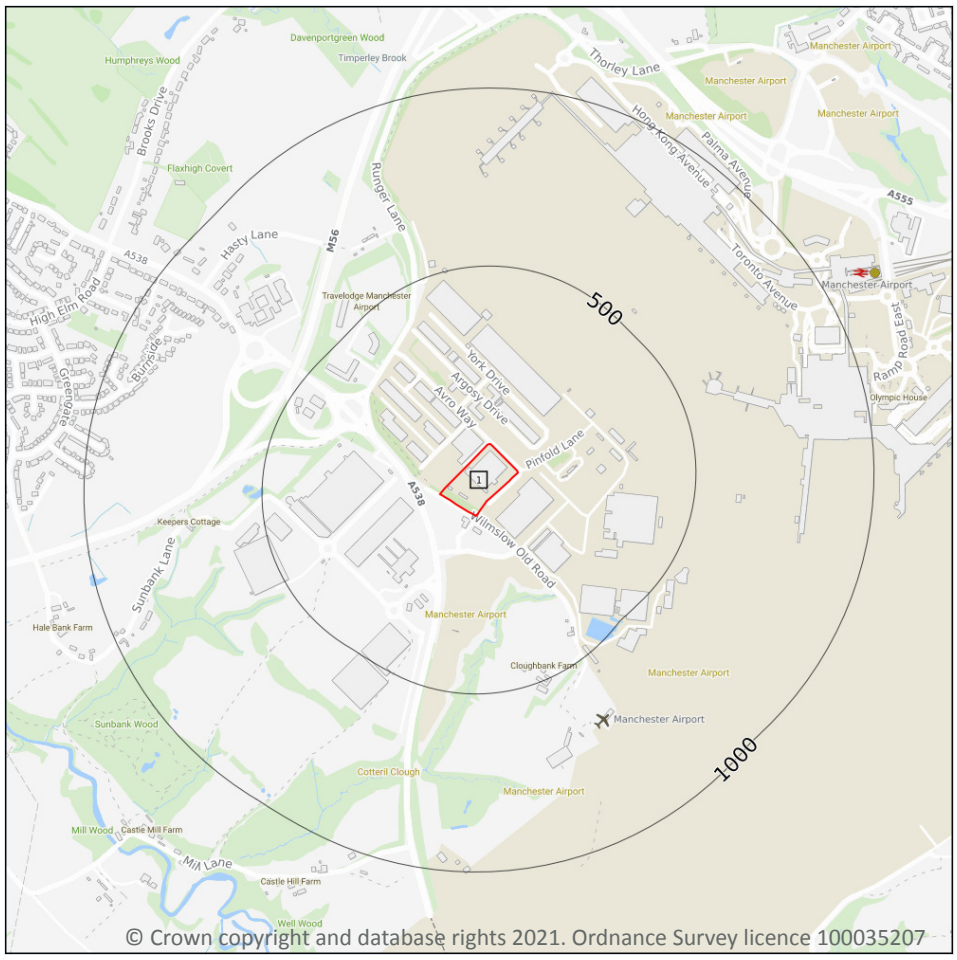
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 80**

ID	Location	Category	Description
4	206m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
6	210m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 82**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**Full**	**EW098_stockport_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground

15.2 Artificial and made ground (50k)

Records within 500m	0

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

This data is sourced from the British Geological Survey.

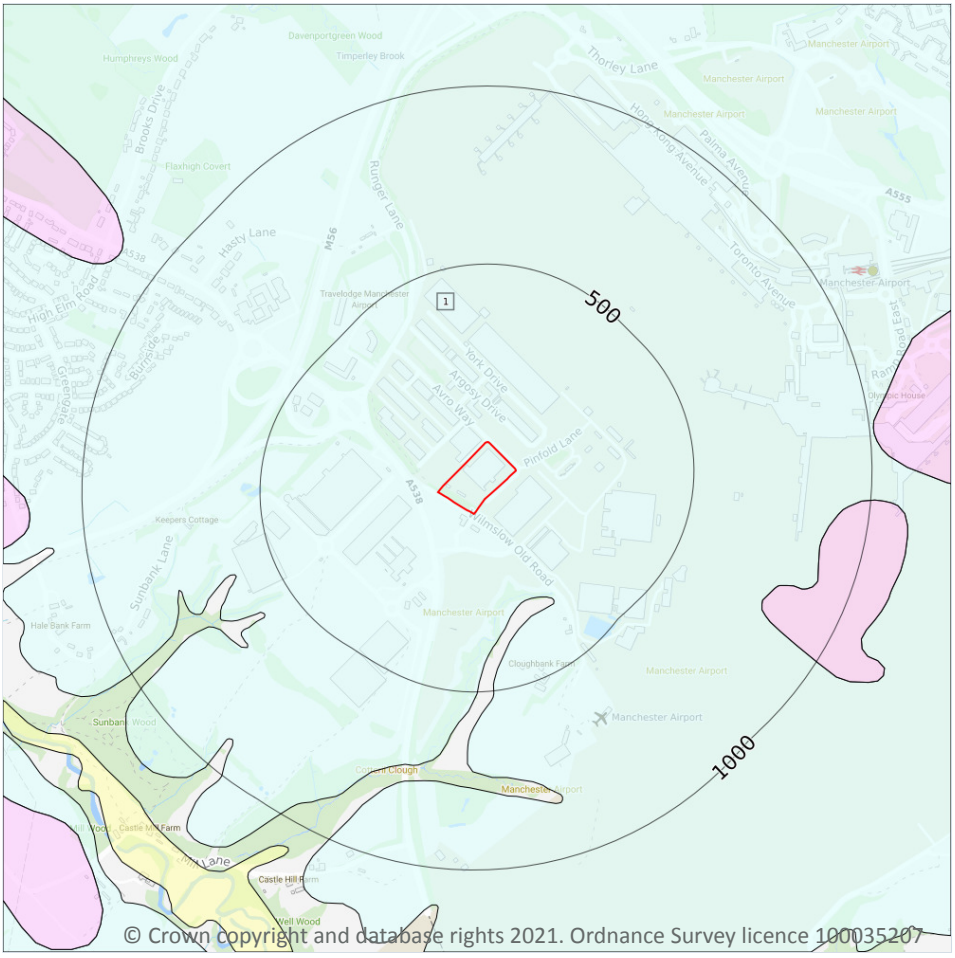
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m **1**

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 84**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

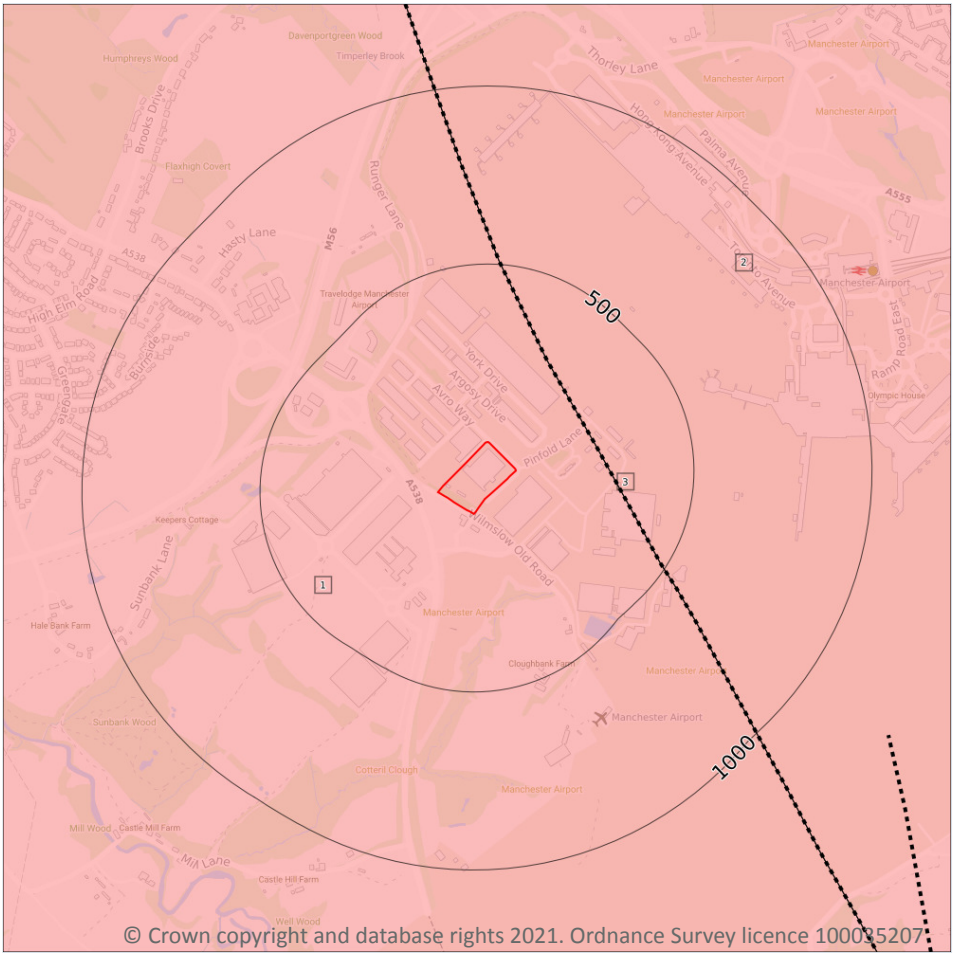
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m **2**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 86**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**BOM-MDST**	**BOLLIN MUDSTONE MEMBER - MUDSTONE**	**ANISIAN**
2	229m NE	BOM-MDST	BOLLIN MUDSTONE MEMBER - MUDSTONE	ANISIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Low**	**Low**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	1

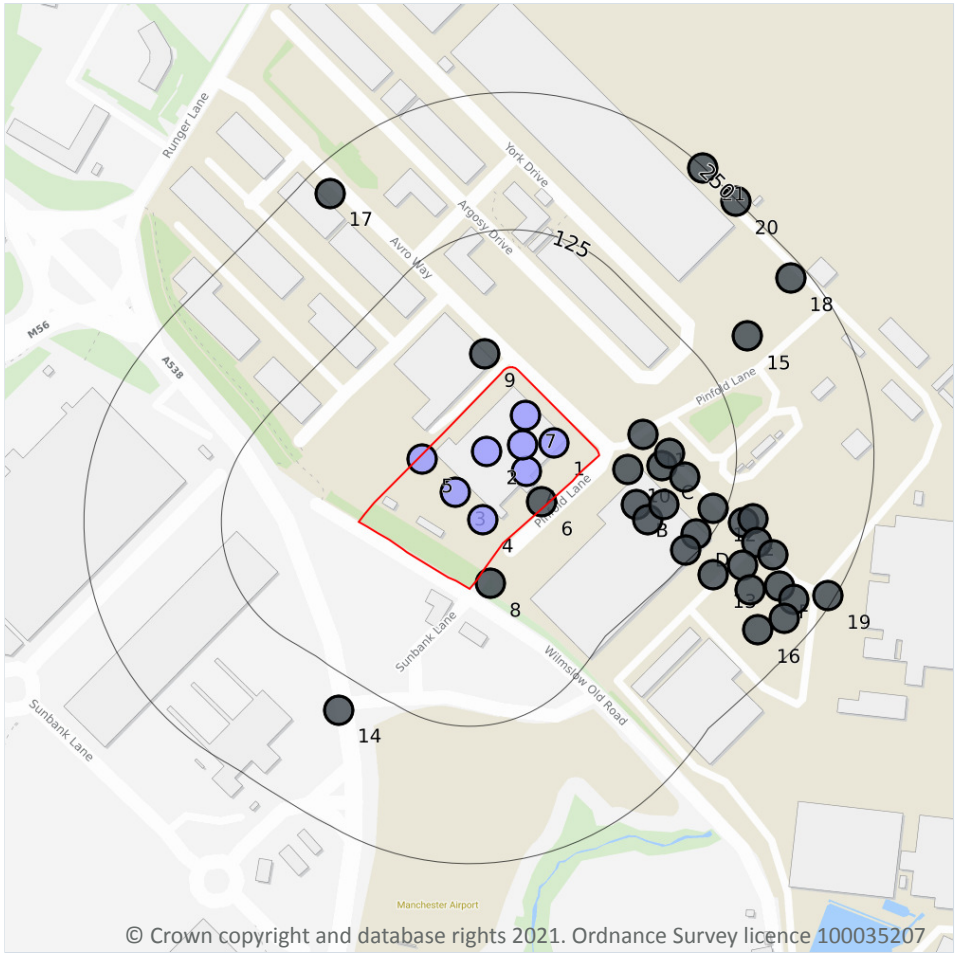
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 86**

ID	Location	Category	Description
3	229m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	40

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 88**

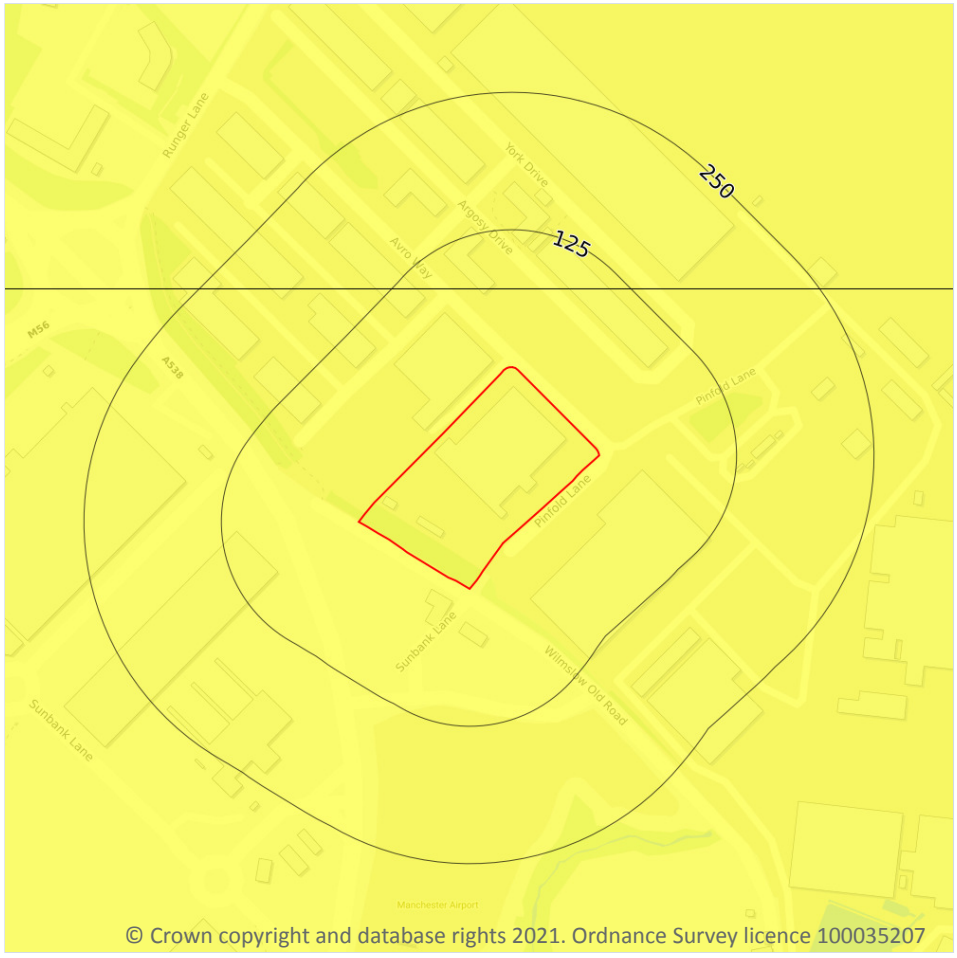
ID	Location	Grid reference	Name	Length	Confidential	Web link
1	On site	380975 384860	MARRIOTT IN-FLITE SERVICES LTD, MANCHESTER AIRPORT 4	4.0	N	17877423
2	On site	380914 384852	MARRIOTT IN-FLITE SERVICES LTD, MANCHESTER AIRPORT 1	4.0	N	17877420

ID	Location	Grid reference	Name	Length	Confidential	Web link
3	**On site**	**380885 384815**	**CATERAIR INTERNATIONAL, MANCHESTER AIRPORT BH7.**	**4.0**	**N**	**18525494**
4	**On site**	**380910 384790**	**CATERAIR INTERNATIONAL, MANCHESTER AIRPORT BH8.**	**4.0**	**N**	**18525495**
5	**On site**	**380855 384845**	**CATERAIR INTERNATIONAL, MANCHESTER AIRPORT BH6.**	**4.0**	**N**	**18525493**
6	**On site**	**380964 384806**	**SURFACE WTR OUTFALL R BOLLIN**	**-**	**Y**	**N/A**
7	**On site**	**380949 384885**	**MARRIOTT IN-FLITE SERVICES LTD, MANCHESTER AIRPORT 2**	**4.0**	**N**	**17877421**
A	**On site**	**380950 384834**	**MARRIOTT IN-FLITE SERVICES LTD, MANCHESTER AIRPORT 3**	**4.0**	**N**	**17877422**
A	**On site**	**380946 384858**	**MARRIOTT IN-FLITE SERVICES LTD, MANCHESTER AIRPORT 5**	**4.5**	**N**	**17877424**
8	12m SE	380917 384732	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
9	23m NW	380912 384941	CARGO PHASE 4 DEVELOPMENT 1	-	Y	N/A
10	29m SE	381042 384836	MTMF RINGWAY 1	-	Y	N/A
11	44m E	381056 384868	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
B	56m SE	381050 384804	MTMF RINGWAY TP 2	-	Y	N/A
C	58m E	381073 384839	MTMF RINGWAY TP 1	-	Y	N/A
C	64m E	381080 384850	HANGAR 5 MANCHESTER AIRPORT H5WS1	-	Y	N/A
B	73m SE	381060 384790	HANGAR 5 MANCHESTER AIRPORT H5WS2	-	Y	N/A
B	74m SE	381075 384804	MTMF RINGWAY TP 3	-	Y	N/A
C	80m E	381094 384829	MTMF RINGWAY 2	-	Y	N/A
D	113m SE	381104 384777	MTMF RINGWAY TP 4	-	Y	N/A
12	115m SE	381120 384800	HANGAR 5 MANCHESTER AIRPORT H5WS3	-	Y	N/A
D	117m SE	381095 384762	MTMF RINGWAY 3	-	Y	N/A
E	145m SE	381147 384787	MTMF RINGWAY TP 5	-	Y	N/A
13	150m SE	381120 384740	HANGAR 5 MANCHESTER AIRPORT H5WS4	-	Y	N/A
E	151m E	381156 384791	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
14	155m SW	380779 384617	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
E	164m SE	381159 384769	MTMF RINGWAY 4	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
E	164m SE	381146 384749	MTMF RINGWAY TP 7	-	Y	N/A
15	172m NE	381151 384957	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
E	182m SE	381174 384758	MTMF RINGWAY TP 6	-	Y	N/A
E	184m SE	381153 384726	MTMF RINGWAY TP 8	-	Y	N/A
F	202m SE	381180 384730	HANGAR 5 MANCHESTER AIRPORT H5WS5	-	Y	N/A
16	214m SE	381160 384690	HANGAR 5 MANCHESTER AIRPORT H5WS6	-	Y	N/A
F	220m SE	381193 384718	MTMF RINGWAY TP 9	-	Y	N/A
F	224m SE	381184 384700	MTMF RINGWAY 5	-	Y	N/A
17	226m NW	380771 385087	CARGO PHASE 4 DEVELOPMENT 2	-	Y	N/A
18	235m NE	381190 385010	AIRCRAFT WASTE DISPOSAL 1	-	Y	N/A
19	244m SE	381224 384721	SURFACE WTR OUTFALL R BOLLIN	-	Y	N/A
20	249m NE	381140 385080	INTERNATIONAL APRON EXTENSION PHASE II TP3	-	Y	N/A
21	249m NE	381110 385110	INTERNATIONAL APRON EXTENSION PHASE II TP2	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

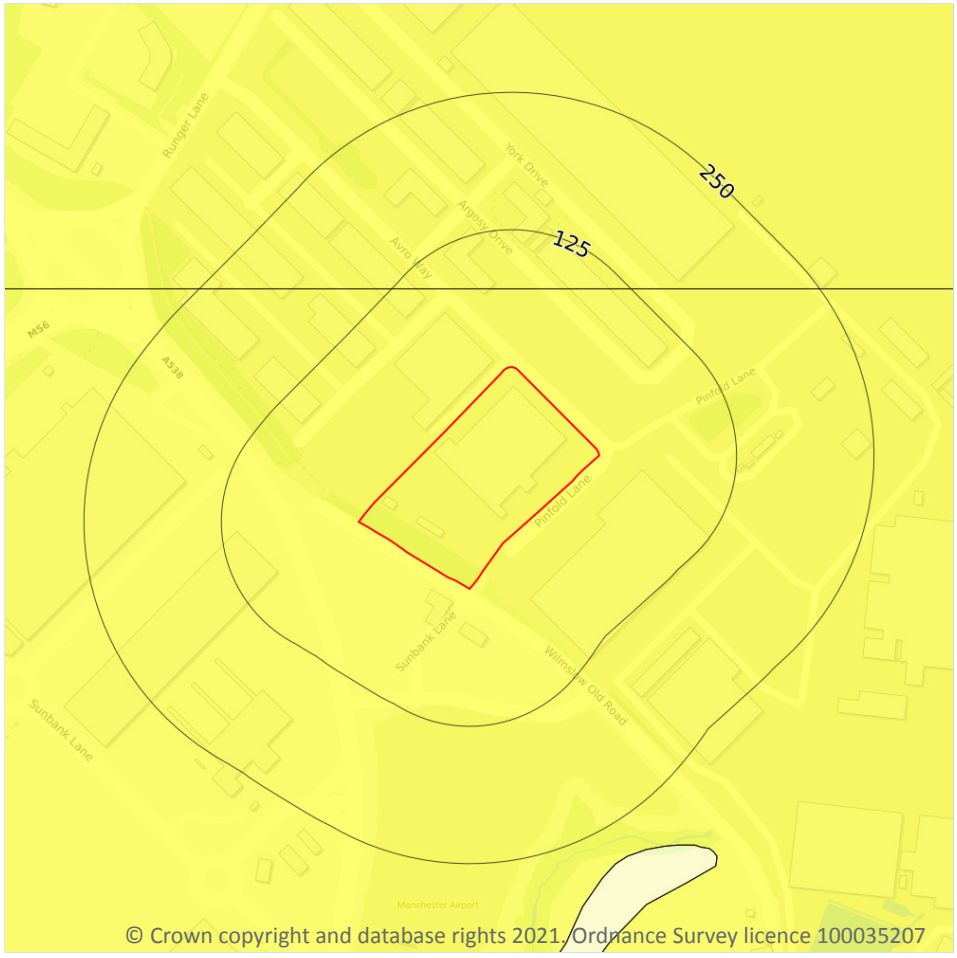
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 91**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

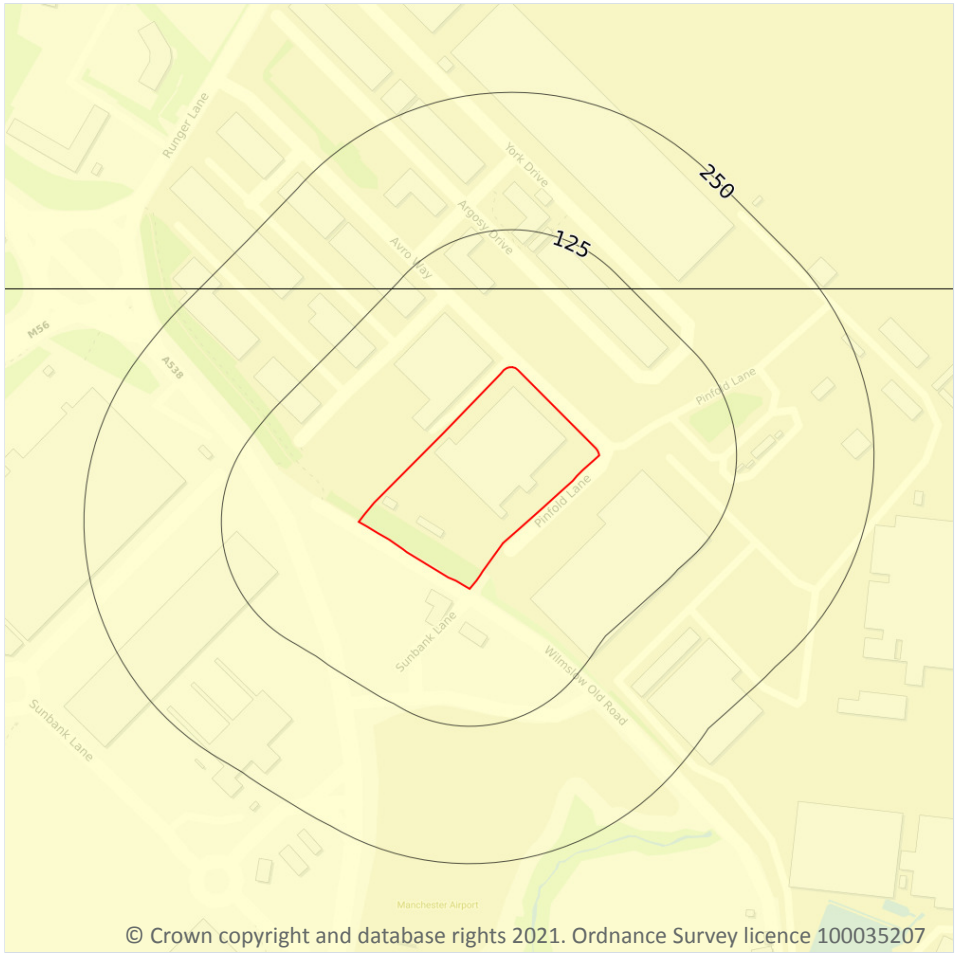
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 92**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

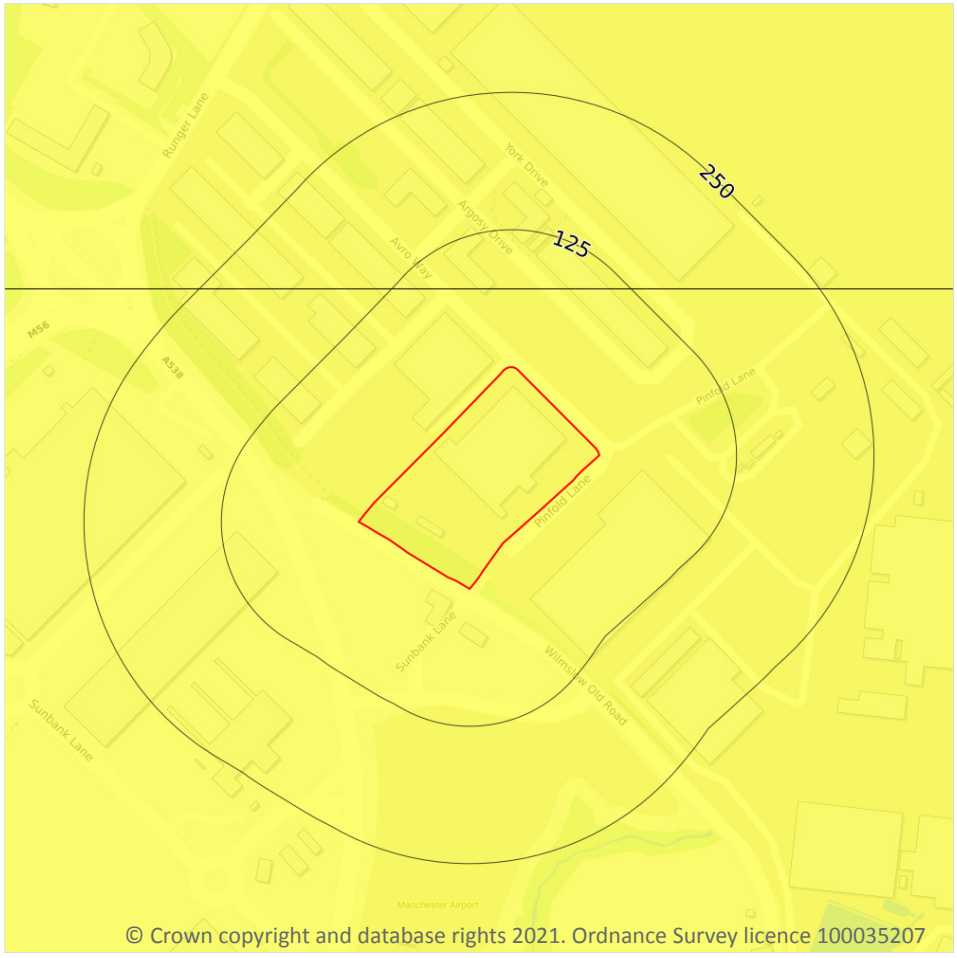
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 93**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

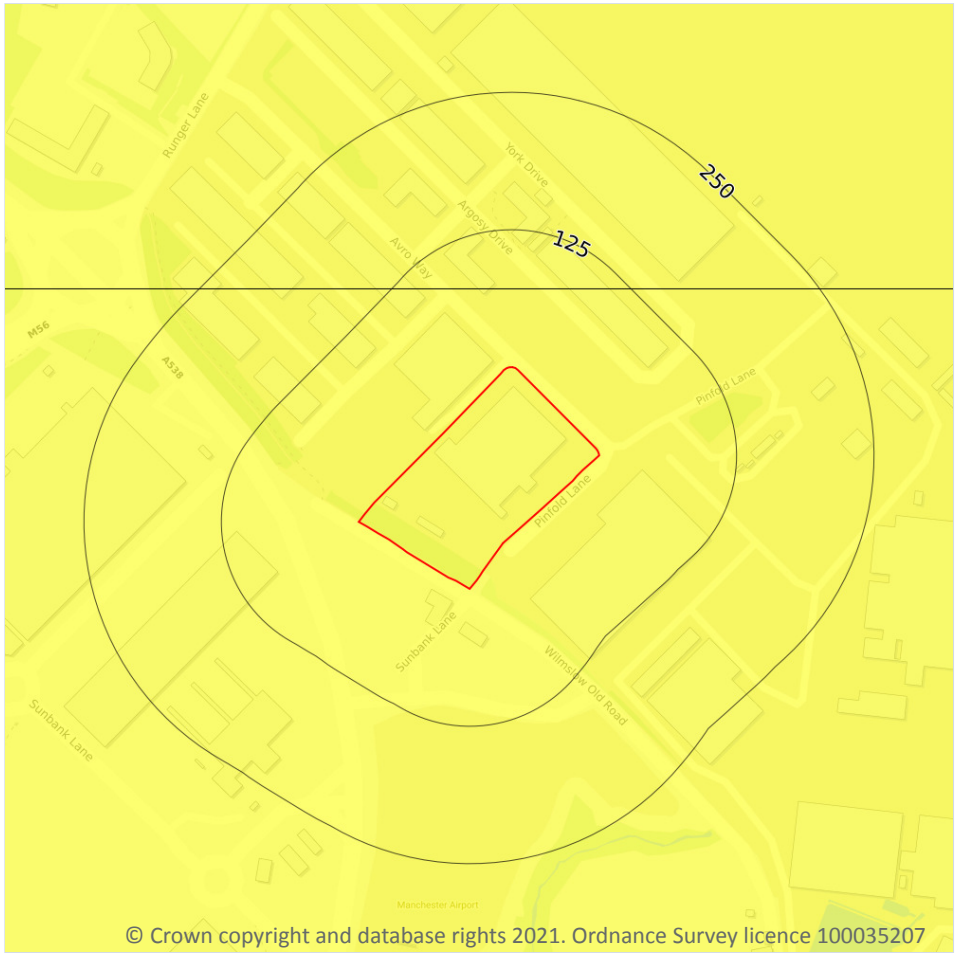
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 94**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

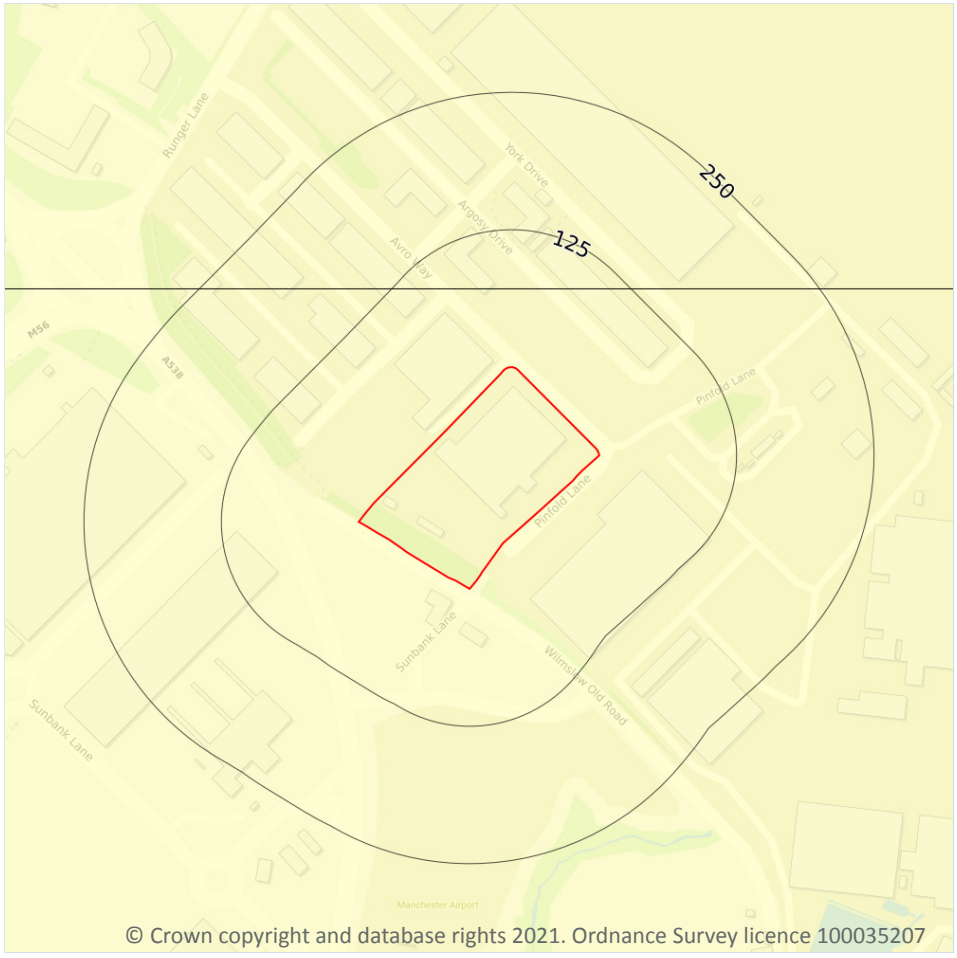
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 95**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

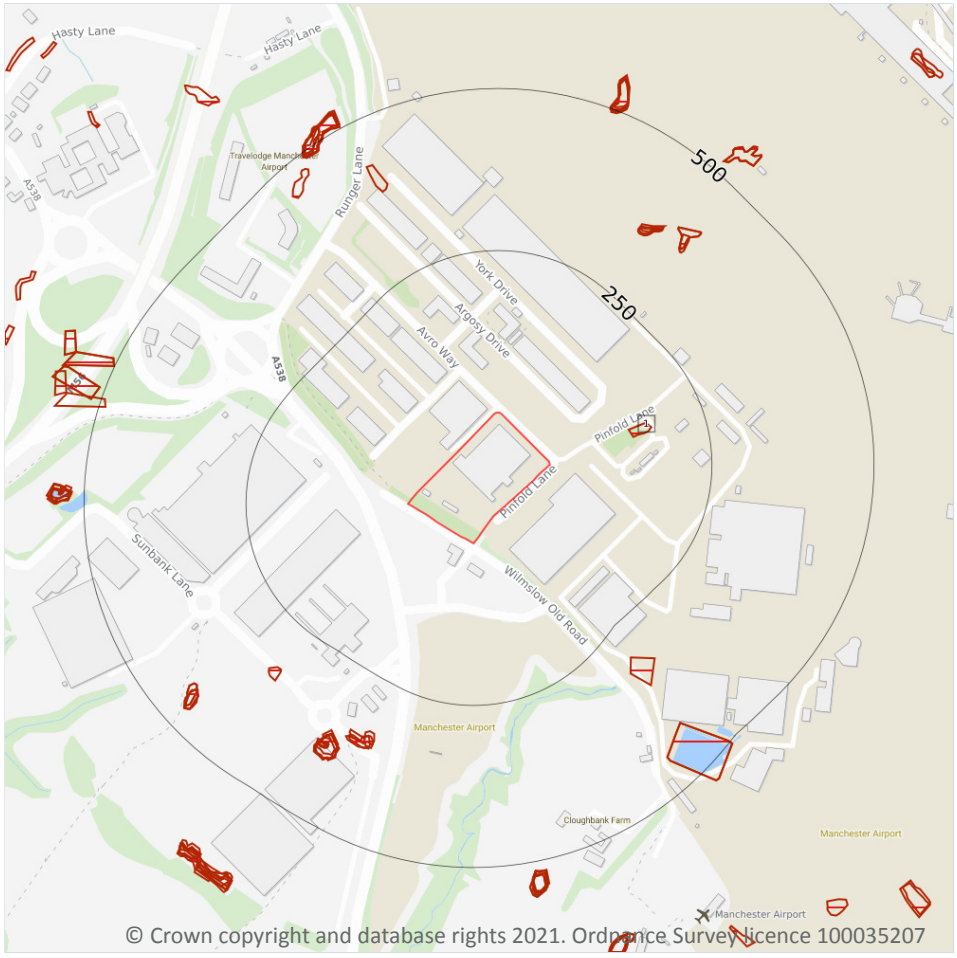
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 96**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m	0

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	1

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 97**

ID	Location	Land Use	Year of mapping	Mapping scale
1	133m NE	Pond	1974	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	1

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

Location	Details
On site	**The site is located within the Cheshire Brine Compensation District. The extraction of brine over many years has caused some properties within the Cheshire area to be at risk of subsidence. This subsidence can occur a considerable distance from the location of the extraction and further assessment is recommended. A Cheshire Salt search can be obtained direct from Groundsure or your preferrred search provider.**

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.11 Gypsum areas

Records on site	**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

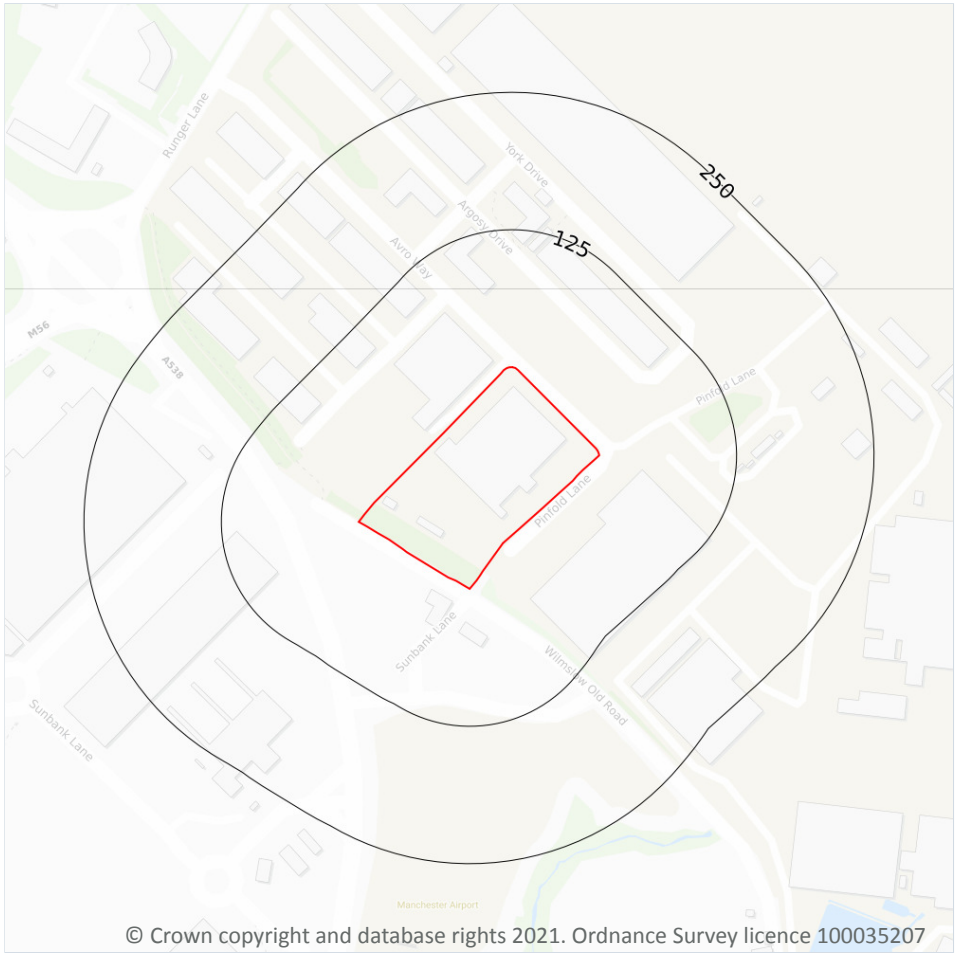
18.13 Clay mining

Records on site	**0**

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Radon



© Crown copyright and database rights 2021. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 101**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**
On site	**15 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 mg/kg**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

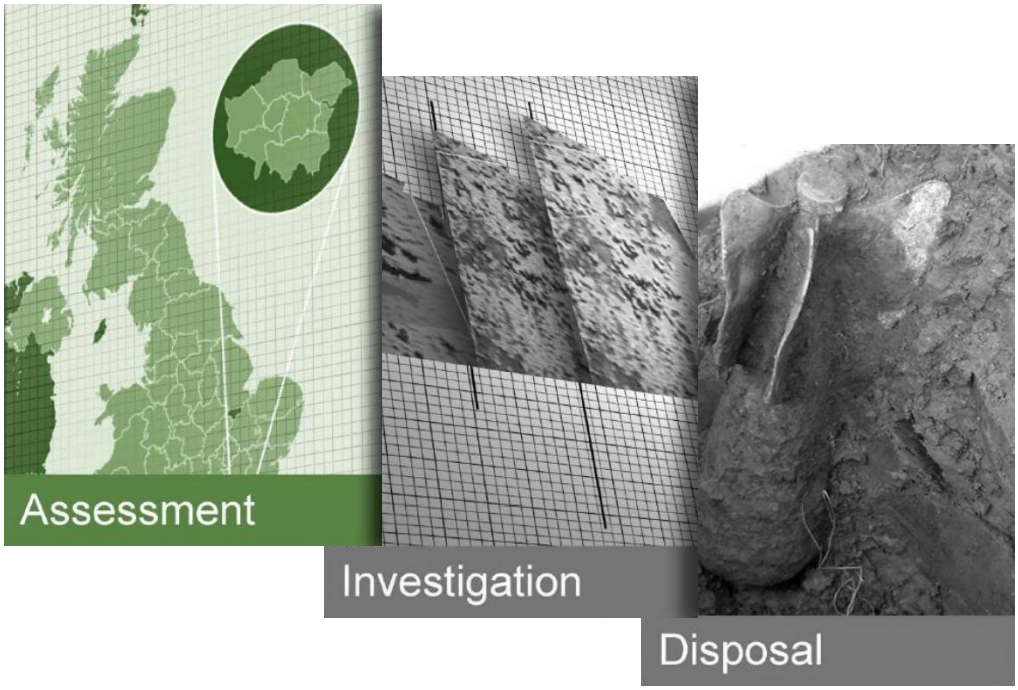
Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

Appendix C UXO Desk Study & Risk Assessment



Avro Way, Manchester - UXO Desk Study & Risk Assessment

Drafted by William Holford
Checked by Joe Lingard
Authorised by Stefan Lang

Document Title	**UXO Desk Study & Risk Assessment**
Document Ref.	**P11632-22-R1**
Revision	**A**
Project Location	**Avro Way, Manchester**
Client	**AECOM**
Date	**19th April 2022**

This report has been prepared in relation to the specific requirement of the contract or commission. The report should not be used by third parties without prior consultation with Zetica Ltd. The copyright for this report remains with Zetica Ltd. No part of this report may be reproduced, published or amended without prior written consent from Zetica Ltd. The report refers to the conditions of the Site at the time of investigation/ reporting. Zetica Ltd cannot accept liability for subsequent changes of Site conditions. Zetica Ltd may have relied on externally provided information. Zetica Ltd cannot be held responsible for the accuracy of such information or data supplied. The report has been written utilising relevant guidance and legislation in use at the time of report compilation. Subsequent improvement in techniques, changes in legislation or in site conditions may render parts of this report obsolete. If the report is utilised after such changes have occurred or at a time in excess of 1 year of the issue date, it would be prudent to contact Zetica Ltd to reassess the report under a new contract.

UXO DESK STUDY & RISK ASSESSMENT

EXECUTIVE SUMMARY

Key findings: No significant sources of Unexploded Ordnance (UXO) hazard have been identified.

Key actions: UXO awareness briefing for staff involved in excavations.

UXO Hazard Assessment

Between 1943 and 1957 the Site was encompassed by Royal Air Force (RAF) Ringway, a military airfield used primarily for production and training. The Site comprised part of the western dispersal area.

No records have been found to indicate that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in the following Figure, reproduced as Figure 5 in the main report.

The UXO hazard zone plan of the Site is also given in the accompanying P11632-22-R1-MAP01-A.

UXO hazard zone plan of the Site



Source: OpenStreetMap *Not to Scale*

Legend					
	Very Low		Low		Moderate
	High		Very High		Site boundary

It should be noted that the potential for encountering UXO on a former military airfield can never be totally discounted and that heightened awareness of the potential UXO hazard should be maintained by site staff.

The main findings of the report are summarised below.

- No records of bombing or military activity on the Site during World War One (WWI) have been found.
- In 1935 Manchester Corporation opened an airfield at Ringway. During World War Two (WWII) RAF Ringway was established on the airfield, serving primarily as a base for aircraft production and training.
- During WWII RAF Ringway was identified by the Luftwaffe as a significant strategic target. No records have been found indicating that HE bombs fell on the Site during WWII. The nearest bomb fell approximately 1km southeast of the Site during a raid on the 29th November 1940.
- Post-WWII military aircraft production continued at RAF Ringway, which also served as a base for an Auxiliary Air Force (AAF)/Royal Auxiliary Air Force (RAAF) fighter squadron.
- In 1957 the RAAF was disbanded, and RAF Ringway ceased to exist. Military aircraft production continued at Ringway airfield until 1977.
- Today Ringway Airfield is used for civil operations under the name Manchester Airport. The Site has since been redeveloped as part of the airport cargo area.

Data Confidence Level

The findings of this report were based on good corroborative evidence of the military activity and bombing on the Site.

Proposed Works

It is understood that the Site will be levelled and redeveloped.

Initial works on the Site are understood to comprise ground investigations, including boreholes to maximum depths of 15m bgl. Future works may include further ground investigations, excavations and piling.

Risk Assessment

The Table below, reproduced as Table 6 in the main report, provides a UXO risk assessment for the proposed works on the Site.

Further details on the methodology for the risk assessment are provided in Section 7.2 of the main report.

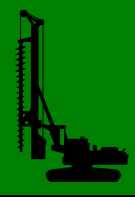
UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	Low
	Deep Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Shallow Excavations	1	1	1	1	4	4	Low
	Deep Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								
Shallow Excavations defined as <1.0m below ground level (bgl.)								

Risk Mitigation Plan

The Table below, reproduced as Table 7 in the main report, summarises the UXO risk for proposed works on the Site and recommended actions.

Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		**UXO awareness briefing** – Given the Site's military history it is recommended that a formal UXO awareness briefing is provided to staff involved in excavation.
Boreholes/Piling		**Proceed with works**

In summary, it is recommended that staff involved in excavation are provided with a formal awareness briefing so that they take appropriate action in the event of a suspect find.

What Do I Do Next?

If you require a quote for an awareness briefing, or have any questions, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

CONTENTS

EXECUTIVE SUMMARY

ABBREVIATIONS **7**

1 INTRODUCTION **8**

1.1 Project Outline

1.2 Sources of Information

1.3 Data Confidence Level

2 THE SITE **10**

2.1 Site Location

3 MILITARY ACTIVITY **12**

3.1 Military Airfields

3.2 Aircraft Crashes

3.3 Defences

3.4 Explosives Factories, Munitions Depots and Disposal Areas

3.5 Firing Ranges and Military Training Areas

3.6 Other Military Establishments

4 BOMBING **23**

4.1 WWI Bombing

4.2 WWII Bombing

5 EXPLOSIVE ORDNANCE CLEARANCE ACTIVITIES **29**

5.1 Abandoned Bombs

5.2 EOC Tasks

6 UXO HAZARD ASSESSMENT **30**

6.1 UXO Hazard Level

7 UXO RISK ASSESSMENT **32**

7.1 Proposed Works

7.2 Risk Assessment Methodology

7.3 UXO Risk Level

8 RISK MITIGATION PLAN **34**

8.1 UXO Risk Summary

8.2 Risk Mitigation Techniques

8.3 What Do I Do Next?

APPENDICES **36**

Appendix 1 Anticipated Ordnance Types

Appendix 2 Sources of UXO Hazard

Appendix 3 Recent UXO Finds

Appendix 4 Glossary and Definitions

Appendix 5 Aircraft Crashes

Appendix 6 Bibliography

Figures, Plates & Tables

Figure 1 Site location map 10
Figure 2 Plan of RAF Ringway, June 1946 15
Figure 3 Plan of RAF Ringway, June 1946 17
Figure 4 Compiled bomb map for the vicinity of the Site 26
Figure 5 UXO hazard zone plan of the Site 31

Plate 1 Recent aerial photograph of the Site 11
Plate 2 Aerial photograph, 10th August 1945 14
Plate 3 Aerial photograph of aircraft breaking locations, 10th August 1945 18
Plate 4 Luftwaffe target photograph of RAF Ringway, November 1940 24
Plate 5 Compiled bomb map for the vicinity of the Site 27

Table 1 Summary of aircraft produced by FAC & Avro at Ringway, 1937-1977 12
Table 2 Luftwaffe targets in the vicinity of the Site 23
Table 3 Bombing statistics 25
Table 4 Estimated average maximum bomb penetration depths on former hardstanding 27
Table 5 Estimated average maximum bomb penetration depths on remainder of Site 28
Table 6 UXO risk assessment for the Site 33
Table 7 Summary of UXO risk and mitigation recommendations 34

Accompanying GIS Data

P11632-22-R1-MAP01-A (UXO Desk Study)

ABBREVIATIONS

AA	Anti-Aircraft
AAF	Auxiliary Air Force
ALARP	As Low As Reasonably Practicable
ANS	Air Navigation School
ARP	Air Raid Precaution
ATA	Air Transport Auxiliary
AXO	Abandoned Explosive Ordnance
BD	Bomb Disposal
BDO	Bomb Disposal Officer
BDU	Bomb Disposal Unit
CMD	Conventional Munitions Disposal
DAB	Delayed Action Bomb
DCLG	Department of Communities and Local Government
EO	Explosive Ordnance
EOC	Explosive Ordnance Clearance
EOR	Explosive Ordnance Reconnaissance
ERW	Explosive Remnants of War
ESA	Explosive Substances and Articles
FAC	Fairey Aviation Company
FFE	Free From Explosives
FRS	Fling Refresher School
HAA	Heavy Anti-Aircraft
HE	High Explosive
HSE	Health and Safety Executive
IB	Incendiary Bomb
IED	Improvised Explosive Device
IEDD	Improvised Explosive Device Disposal
JSEODOC	Joint Services EOD Operations Centre
LAA	Light Anti-Aircraft
MC	Manchester Corporation
MoD	Ministry of Defence
MU	Maintenance Unit
OB	Oil Bomb
OTU	Operational Training Unit
PM	Parachute Mine
PTS	Parachute Training School
PUCA	Pick Up and Carry Away
RAF	Royal Air Force
RAAF	Royal Auxiliary Air Force
TEP	Time Expired Pyrotechnics
USAAF	United States Army Air Force
UXAA	Unexploded Anti-Aircraft
UXB	Unexploded Bomb
UXO	Unexploded Ordnance
WWI	World War One
WWII	World War Two

UXO DESK STUDY & RISK ASSESSMENT

Please read: Zetica has colour coded each paragraph. Paragraphs with black text on a white background are paragraphs that provide site-specific information or information specifically researched as part of this project.

Boxed paragraphs in a dark green text with a green background are paragraphs providing general information and, where appropriate, links to online resources giving further detail. These are all available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

1 INTRODUCTION

1.1 Project Outline

Zetica Ltd was commissioned by AECOM to carry out a detailed Unexploded Ordnance (UXO) Desk Study and Risk Assessment for an area of approximately 4.4 hectares (ha) off Avro Way, Manchester Airport, Greater Manchester (the 'Site').

The aim of this report is to gain a fair and representative view of the UXO hazard for the Site and its immediate surrounding area in accordance with the Construction Industry Research and Information Association (CIRIA) C681 'Unexploded Ordnance (UXO), a Guide for the Construction Industry'.

Where appropriate, this hazard assessment includes:

- Likelihood of ordnance being present.
- Type of ordnance (size, filling, fuze mechanisms).
- Quantity of ordnance.
- Potential for live ordnance.
- Probable location.
- Ordnance condition.

It should be noted that some military activity providing a source of UXO hazard may not be recorded and therefore there cannot be any guarantee that all UXO hazards affecting the Site have been identified in this report.

1.2 Sources of Information

Zetica Ltd researched the military history of the Site and its surrounding area using a range of information sources. The main sources of information are detailed in the following sections and referenced at the end of this report.

1.2.1 Zetica Ltd Defence Related Site Records

Zetica Ltd's in-house records were consulted, including reference books and archived materials from past work in the region. Relevant documents have been cited within the bibliography of this report.

1.2.2 Zetica Ltd Bombing Density Records and Maps

Reference has been made to the Zetica Ltd bomb risk maps located on Zetica's website (http://zeticauxo.com/downloads-and-resources/risk-maps/)

1.2.3 Ministry of Defence and Government Records

Government departments and units within the Ministry of Defence (MoD) were approached for information of past and present military activity in the area. These included the Department of Communities and Local Government (DCLG) records of abandoned bombs.

1.2.4 Other Historical Records, Maps and Drawings

Numerous reference documents including historical maps, aerial photographs and drawings have been consulted from sources such as the National Archives, the Royal Air Force (RAF) Museum, the US National Archives & Records Administration (NARA), the Imperial War Museum (IWM), Historic England and the Defence of Britain Project.

The British Geological Survey (BGS) was consulted for borehole information.

1.2.5 Local Authority Records

Information was obtained from Greater Manchester County Council, Lancashire County Council, and Cheshire County Council.

1.2.6 Local Record Offices and Libraries

Greater Manchester County Record Office, Lancashire Archives, and Cheshire Archives and Local Studies were consulted for records.

1.2.7 Local Historical and Other Groups

Local history groups and archaeological bodies were consulted, including the Greater Manchester Historic Environment Record (HER).

1.3 Data Confidence Level

In general, there is a high level of confidence in the researched information sources used for this report. Exceptions to this are specifically detailed in the text of the report.

2 THE SITE

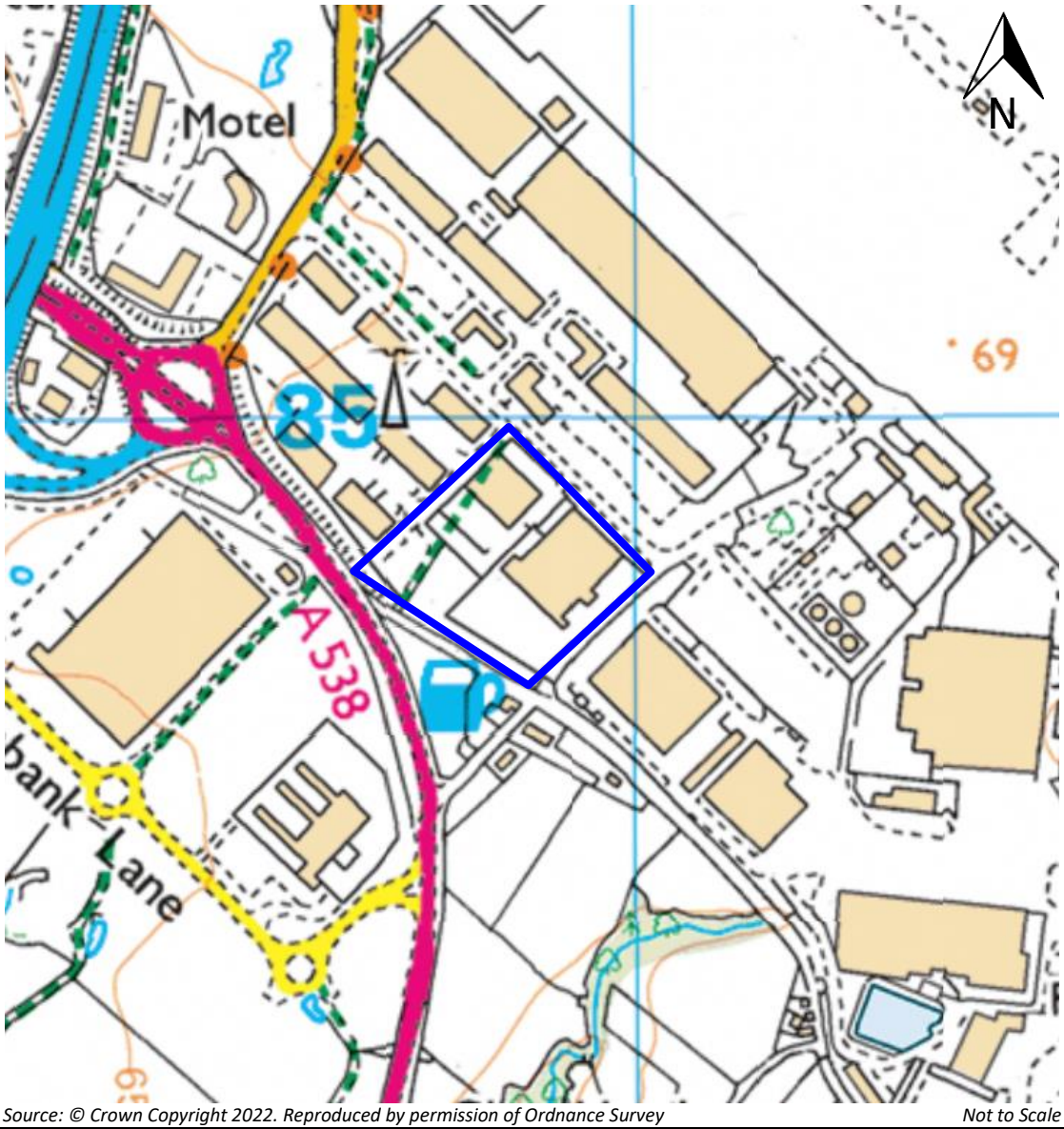
2.1 Site Location

The Site is centred on Ordnance Survey National Grid Reference (OSNGR) SJ 808848. It is located approximately 13km south of central Manchester.

The Site comprises commercial properties and hardstanding. It is bounded to the north by commercial properties off Avro Way, to the east by Avro Way, to the south by Pinfold Lane, and to the west by Wilmslow Road and Wilmslow Old Road.

Figure 1 is a Site location map and Plate 1 is a recent aerial photograph of the Site.

Figure 1 Site location map



Source: © Crown Copyright 2022. Reproduced by permission of Ordnance Survey *Not to Scale*

Legend	Site boundary

Plate 1 Recent aerial photograph of the Site



Source: Google Earth *Not to Scale*

Legend	Site boundary

3 MILITARY ACTIVITY

The following sections outline the recorded military activity in the vicinity of the Site. The potential UXO hazard from WWI and WWII bombing is detailed in Section 4.

Each sub-section provides hyperlinks to further information on potential sources of UXO hazard. These are also available at www.zeticauxo.com. If you cannot gain access to these resources, Zetica can forward them on request.

3.1 Military Airfields

For further information on military airfields, and the potential UXO hazards associated with them, see Appendix 2.1. Alternatively, use the following link.

- Military Airfields

Between 1943 and 1957 the Site comprised part of the western dispersal area at RAF Ringway. A brief operational history of the airfield is provided below.

3.1.1 RAF Ringway

In 1935 the Manchester Corporation (MC) began construction of an airfield at Ringway, intended to serve as the city's primary civil airport. Initially Ringway consisted of a grass landing field and a terminal building with adjoining hangar. During WWII Ringway was never officially requisitioned and remained under the ownership and partial management of the MC.

Aircraft Production at Ringway Airfield

From June 1937 the Fairey Aviation Company (FAC) used Ringway for the testing, modification, and assembly of aircraft manufactured off-site. Fairey's works initially comprised a hangar and paint shop in the northwest corner of the airfield, adjacent to the south-eastern boundary of the Site. These were expanded during WWII and remained in use until October 1977.

Further aircraft production and development was carried out by the Avro company, present from May 1939. Avro's presence at Ringway was mainly concerned with experimentation and testing of prototype aircraft, including the Avro Lancaster. Avro left Ringway in January 1946.

Table 1 is a summary of military aircraft produced at RAF Ringway between 1937 and 1977.

Table 1 Summary of aircraft produced by FAC & Avro at Ringway, 1937-1977

Type	Quantity
Fairey Battle	1,165
Fairey Fulmar	600
Bristol Beaufighter	498
Fairey Barracuda	1,190
Handley-Page Halifax	661
Fairey Spearfish	2
Fairey Delta	1
de Havilland Vampire	97
Fairey Firefly	75
de Havilland Venom	37
Fairey Gannet	102
Avro Manchester	2
Avro Lancaster	3
Avro York	101
Avro Lincoln	2
Avro Tudor	1

Aircraft produced at RAF Ringway were taken to forward bases by pilots of No. 14 Ferry Pool Air Transport Auxiliary (ATA). This unit disbanded in September 1945.

Military Operations at RAF Ringway

In February 1939 an Auxiliary Air Force (AAF) squadron, No. 613 City of Manchester, was formed at Ringway for army co-operation duties. Further facilities including additional hangars were built to accommodate it. No. 613 Squadron left Ringway in September 1939.

From early 1940 a number of other units were present at Ringway, concerned with operational training and the calibration of Anti-Aircraft (AA) defences. These departed by December 1942.

In June 1940 Britain's first airborne forces were established at RAF Ringway by Churchill's personal order. Experimentation, development, and training all took place under a series of different establishments. To avoid disrupting airfield operations, live landings and drops were usually made at Tatton Park (SJ 758812), approximately 6.3km southwest of the Site. In March 1946 the last airborne forces left, by which time 429,800No. jumps had been carried out.

In March 1941 RAF Army Cooperation Command Anti-Gas School opened at Ringway. It carried out a series of exercises involving airborne chemical warfare and left in November 1943.

In June 1941 construction of the first concrete runways began at RAF Ringway. These went through several subsequent upgrades. In 1943 the volume of aircraft production necessitated the construction of further concrete dispersal areas, the western part of which encompassed the Site.

Plate 2 is an aerial photograph of RAF Ringway, dated the 10th August 1945. The Site comprised a concrete dispersal area and part of an adjoining field.

The airfield technical area and the locations of the FAC works, Avro works, and hangars used by the PTS are also highlighted. 3No. ammunition stores have also been identified.

Plate 2 Aerial photograph, 10th August 1945

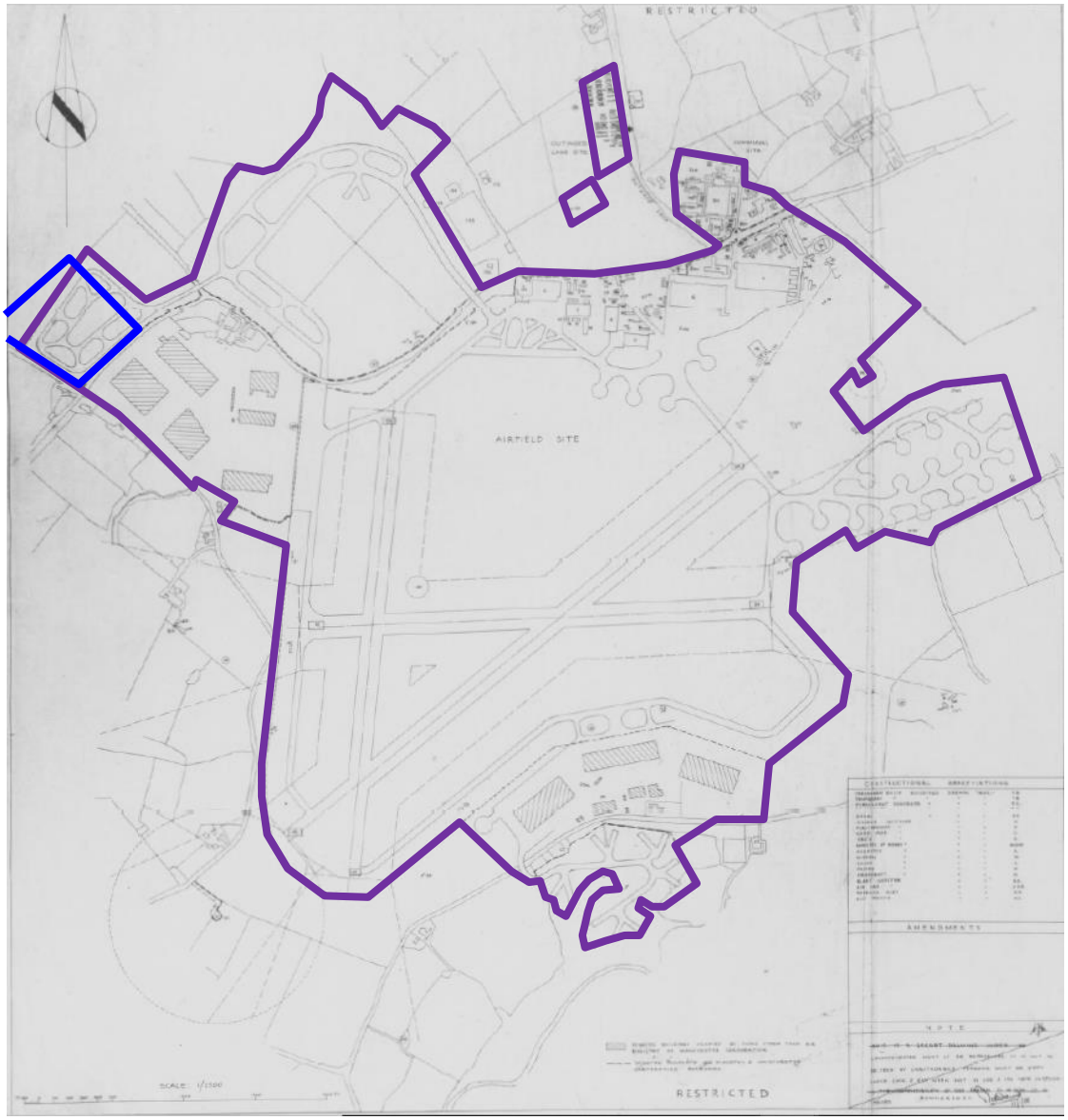


Source: Historic England *Not to Scale*

Legend	Site boundary	Airfield boundary	Technical area
	FAC works	Avro works	PTS Hangars
	Ammunition stores		

Figure 2 is a plan of RAF Ringway, dating from June 1946.

Figure 2 Plan of RAF Ringway, June 1946



Source: RAF Museum *Not to Scale*

Legend	Site boundary	Airfield boundary

In 1946, No. 613 City of Manchester Squadron was reformed at Ringway as part of the Royal Auxiliary Air Force (RAAF). It served in a reserve fighter role and was disbanded along with the rest of the RAAF in 1957. Ringway then returned wholly to civilian use.

Details of activities at RAF Ringway that may provide a source of UXO hazard are given in the Sections below.

3.1.2 Airfield Activities at RAF Ringway

Pipe Mines

No records of pipe mines being installed at RAF Ringway have been found.

Aircraft Dispersals

From 1943 the Site formed part of RAF Ringway's western dispersal area.

Dispersal areas were used for the parking of aircraft. Aircraft preparing for or returning from sorties would have been armed and disarmed on dispersal areas.

Potential UXO Hazard

There is the potential for unused SAA and cannon shells to have been 'swept out' on dispersal areas from aircraft returning from operational sorties.

Given that RAF Ringway was mainly used for aircraft production and training. The majority of aircraft at RAF Ringway are unlikely to have been armed, though the possibility that SAA and cannon shells were 'swept out' onto the Site cannot be fully discounted.

Bomb and Munitions Stores

No records of bomb and munitions storage on the Site have been found.

The nearest munitions storage was located near Hangar No. 6, approximately 1km east of the Site (see Plate 2). RAF Ringway's pyrotechnics store was located at the northeast corner of the airfield, approximately 1.6km east of the Site.

Bomb and munitions stores are not considered to provide a source of UXO hazard to the Site.

Small Arms Ranges and Machine Gun Test Butts

No records of any small arms ranges or machine gun test butts on the Site have been found.

1No. machine gun test butt was located near Hangar No. 5, approximately 1.5km east of the Site. These butts were also used for anti-gas training (see below).

Figure 3 is a plan of RAF Ringway dating from June 1946, showing the test butts.

Figure 3 Plan of RAF Ringway, June 1946



Source: RAF Museum

Legend	Test butts ○

Small arms ranges at RAF Ringway are not considered to provide a source of UXO hazard to the Site.

Bombing Ranges

No records of any bombing ranges at RAF Ringway have been found.

Aircraft Breaking

Extensive aircraft breaking operations took place at RAF Ringway between May 1943 and 1946.

Plate 3 is an aerial photograph of RAF Ringway identifying large numbers of aircraft awaiting breaking, parked around the airfield's southern dispersal areas, approximately 1.4km southeast of the Site. Plate 3 also identifies several scrap heaps and a number of aircraft in the process of being broken down.

Plate 3 Aerial photograph of aircraft breaking locations, 10th August 1945



Source: Scholefield *Not to Scale*

Legend	Aircraft breaking

No records have been found to indicate that aircraft breaking activities encroached onto the Site.

Aircraft breaking is not considered to provide a source of UXO hazard to the Site.

Munitions Disposal Areas

No records of any official munitions disposal areas at RAF Ringway have been found.

As with any busy military airfield during WWII, it was common for munitions disposal to occur at a convenient location, often in remote and uninhabited areas such as woodland and areas around the peripheries of the airfield.

As part of a concrete dispersal, it is likely that the Site would have been considered unsuitable for such activities.

Munitions disposal areas are not considered to provide a source of UXO hazard to the Site.

Airfield Defences

No records of airfield defences on the Site have been found.

RAF Ringway was defended by at least 8No. ground defence posts, consisting of pillboxes and associated weapons pits. The nearest recorded ground defence post was located southeast of the FAC factory, approximately 0.6km southeast of the Site.

Additionally, a guard post was established on Yewtree Lane, approximately 0.2km northeast of the Site.

Important military sites such as airfields were often protected by mobile Light Anti-Air (LAA) guns which could occupy the same position for a considerable length of time. The guns were also moved to meet particular perceived threats.

At least 8No. LAA defence posts were established to defend RAF Ringway. These are likely to have been armed with 20mm or 40mm cannon, or machine guns. The nearest was located to the east of the FAC factory, approximately 0.4km southeast of the Site.

Airfield defences are not considered to provide a source of UXO hazard to the Site.

Military Training

During WWII RAF Ringway was used for training by airborne forces, including parachute drops and glider landings. These exercises used hangars on the eastern part of the airfield, approximately 1km east of the Site.

Between 1939 and 1945 several anti-invasion exercises were carried out to test the defences of RAF Ringway. From 10th March 1941 to 1st November 1943 these conventional exercises were complemented by chemical warfare defence training carried out by the RAF Army Cooperation Command Anti-Gas School. These exercises may have also involved battalions of the local Home Guard.

No records have been found to indicate that these exercises at RAF Ringway involved the use of live ammunition. Chemical warfare defence exercises at RAF Ringway used both real and simulated gas, utilising a specialized gas chamber co-located with the airfield's test butts, approximately 1.5km east of the Site.

Potential UXO Hazard

No records have been found to indicate that military training exercises encroached onto the Site during WWII.

As an operational military airfield anti-invasion training exercises could have taken place anywhere within the boundary of RAF Ringway. As such, the potential for SAA and close-combat munitions to have been spilled on the Site cannot be totally discounted.

3.2 Aircraft Crashes

For further information on military aircraft crashes, and the potential UXO hazards associated see Appendix 2.2. Alternatively, use the following link.

- Aircraft Crashes

Records have been found indicating that at least 18No. military aircraft crashed at RAF Ringway.

It should be noted that due to the number and regularity of aircraft crashes at RAF Ringway, many incidents were simply logged but not always accurately recorded.

The nearest recorded crashes are detailed below. Further crashes are recorded in Appendix 5.

17th May 1940

1No. Lockheed Hudson I (N7365) bomber aircraft crashed west of RAF Ringway, approximately 0.8km southwest of the Site.

1st February 1941

1No. Curtis P-36 Mohawk IV (AR664) fighter aircraft crashed northeast of RAF Ringway, approximately 1km southeast of the Site.

23rd November 1941

1No. General Aircraft Hotspur (BT488) military glider crashed near RAF Ringway, within approximately 1km of the Site.

8th March 1942

1No. Airspeed Horsa (DP600) military glider crashed near RAF Ringway, within approximately 1km of the Site.

29th May 1942

1No. Armstrong Whitworth Whitley (serial number unknown) bomber aircraft crashed on RAF Ringway, approximately 0.8km southeast of the Site.

3rd June 1942

1No. Armstrong Whitworth Albemarle (serial number unknown) transport aircraft crashed on the runway at RAF Ringway, approximately 1km southeast of the Site.

27th September 1943

1No. Supermarine Spitfire (serial number unknown) fighter aircraft crashed on the runway at RAF Ringway, approximately 1km southeast.

23rd February 1944

2No. Armstrong Whitworth Whitley V (LA 948 and LA 895) bomber aircraft collided at the junction of Runway 10/28 and Runway 06/24, approximately 1.1km southeast of the Site. LA 948 was thrown into the air and crashed near Hangar No. 2, approximately 1km east of the Site.

15th November 1948

1No. Avro York (MW327) transport aircraft crashed in a field at Cloughbank Farm, approximately 0.5km southeast of the Site.

11th May 1950

1No. Supermarine Spitfire F.22 (PK599) fighter aircraft crashed at RAF Ringway, approximately 0.8km southeast of the Site.

Potential UXO Hazard

Some of these crashes may have resulted in the scatter of SAA from aircraft guns over a wide area, including on the Site. SAA is not considered to provide a significant UXO hazard (see Appendix 1).

Given that RAF Ringway was primarily used for training and aircraft production, it is considered unlikely that aircraft operating from there would have been armed. It is likely that any bombs aboard aircraft that crashed at RAF Ringway would have been removed to allow airfield operations to continue.

Aircraft crashes are not considered to provide a significant source of UXO hazard to the Site.

3.3 Defences

For further information on military defences, and the potential UXO hazards associated with them, follow the links below:

- Anti-Aircraft Guns
- Anti-Invasion Defences
- Barrage Balloons
- Bombing Decoys
- Home Guard
- Mined Locations
- Mortar & Gun Emplacements
- Pillboxes

Aside from those mentioned in Section 3.1, no further military defences have been identified on or in close proximity to the Site. The nearest are described below.

3.3.1 Anti-Aircraft Guns

During WWI there were 2No. Anti-Aircraft (AA) batteries within 10km of the Site. The nearest was located at Hough End (SD 825935), approximately 8.5km north of the Site. It was armed with 1No. 6-pounder (-pdr) gun.

During WWII there were 7No. Heavy AA (HAA) and ZAA batteries within 10km of the Site. The nearest was located south of RAF Ringway (SJ 820826), approximately 2.3km south of the Site. Its armament is unknown.

The nearest recorded WWII AA shell incident to the Site is described below.

22nd December 1940

1No. AA shell fell on Hangar No. 5 at RAF Ringway, approximately 1.3km east of the Site.

Potential UXO Hazard

Given the number of HAA gun batteries in the surrounding area during WWII, the potential for an Unexploded Anti-Aircraft (UXAA) shell to have fallen on the Site unnoticed, whilst unlikely, cannot be totally discounted.

3.3.2 Bombing Decoys

The nearest recorded bombing decoy was located at Tatton Park (SJ 765823), approximately 5.3km southwest of the Site.

Bombing decoys are not considered to provide a source of UXO hazard to the Site.

3.3.3 Home Guard

Units from the 49th Lancashire (Manchester) Battalion were active in the vicinity of the Site and responsible for patrolling local transport hubs and strategic targets such as airfields.

Home Guard troops are likely to have been involved in the preparation and maintenance of defences at RAF Ringway (see Section 3.1).

Potential UXO Hazard

It should be noted that records of Home Guard activities were rarely kept. Storage and disposal of munitions by the Home Guard was poorly documented and surplus supplies were often buried or dumped in lakes and ponds.

Given the irregular nature of this activity, the possibility of items of UXO being discovered at any locations occupied or used for training by the Home Guard can never be totally discounted.

3.4 Explosives Factories, Munitions Depots and Disposal Areas

For further information on explosives factories, munitions depots and disposal areas, and the potential UXO hazards associated with them, follow the links below:

- Explosives Factories
- Munitions Depots
- Munitions Disposal Areas

Other than those detailed in Section 3.1.2 no records of any explosives factories, munitions depots or munitions disposal areas on or in close proximity to the Site have been found.

3.5 Firing Ranges and Military Training Areas

For further information on firing ranges and military training areas, and the potential UXO hazards associated with them, follow the links below:

- Artillery Ranges
- Bombing Ranges
- Military Training Areas
- Small Arms Ranges

Other than those detailed in Section 3.1.2 no records of any firing ranges or military training areas on or in close proximity to the Site have been found.

3.6 Other Military Establishments

No other military establishments have been identified on or in close proximity to the Site.

4 BOMBING

4.1 WWI Bombing

For further information on WWI bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.3. Alternatively, use the following link.

- WWI Bombing

No records have been found indicating that the Site was bombed during WWI.

4.2 WWII Bombing

For further information on WWII bombing in the UK, and the potential UXO hazard associated with it, see Appendix 2.4. Alternatively, use the following link.

- WWII Bombing

No records have been found indicating that the Site was bombed during WWII. Details of WWII bombing in the vicinity of the Site are provided in the following sections.

4.2.1 Bombing in Manchester and at RAF Ringway

From prior to the declaration of war in 1939, Britain was subject to reconnaissance flights by the Luftwaffe who were building up a photographic record of potential targets. Manchester's industrial conurbations and port made it a principal target and the Luftwaffe possessed detailed target photographs of the area from as early as 1937. RAF Ringway itself was also highlighted as a potential target for Luftwaffe bombing.

Air raids on Manchester began in August 1940 and continued until 1945. The heaviest raid on the city occurred between the 22nd and 24th December 1940, the 'Manchester Blitz', during which more than 400No. High Explosive (HE) bombs and 30,000No. Incendiary Bombs (IB) fell on the city. In total more than 1,710No. HE bombs and 115No. Parachute Mines (PM) fell across the Manchester region during WWII.

Bombing was concentrated on the ship canal, docks, and major industrial works in Manchester city centre and Salford, approximately 12km north of the Site. RAF Ringway itself was raided on only 2No. occasions, both occurring in late 1940.

4.2.2 Strategic Targets

The Site was located in a predominantly suburban area where the main strategic targets were RAF Ringway and its resident aircraft production facilities.

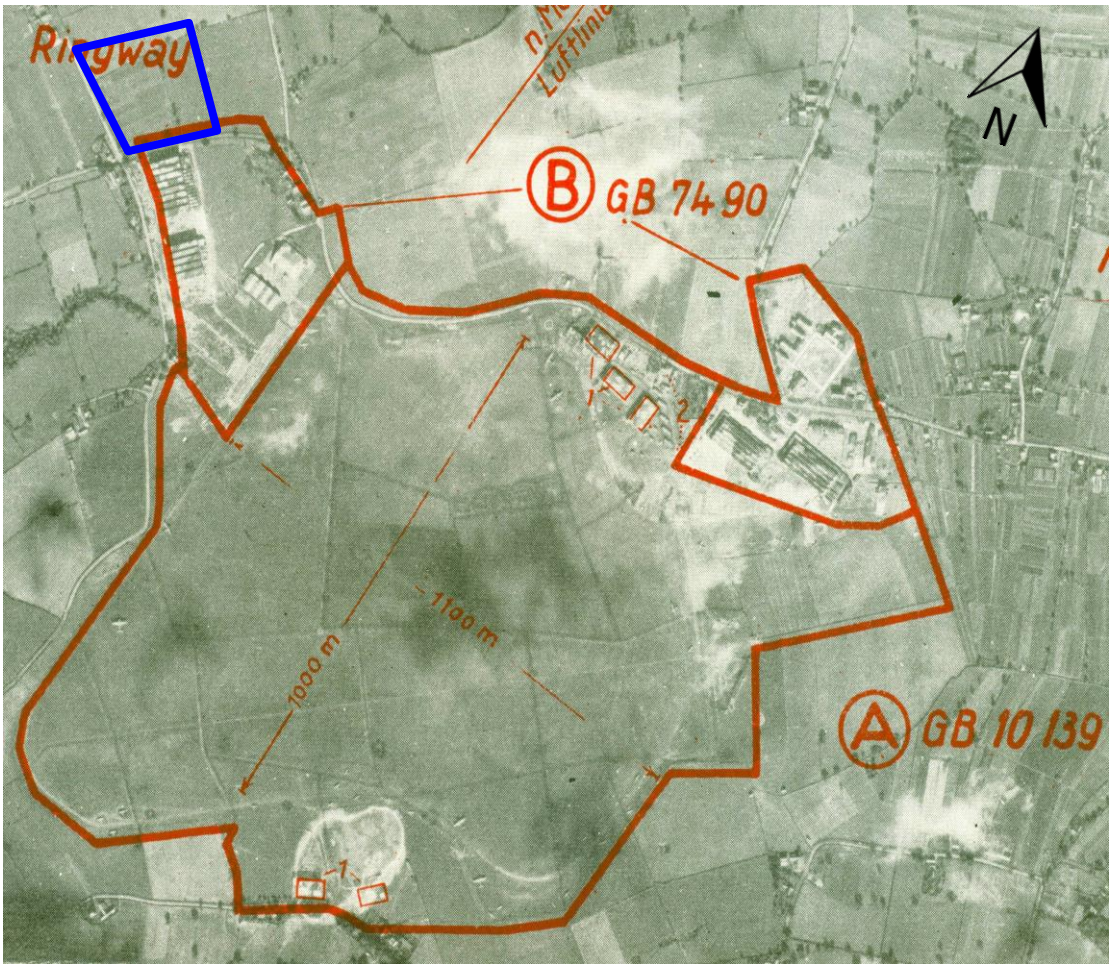
Plate 4 is a Luftwaffe target photograph of RAF Ringway, dating from November 1940. Several structures to the northeast of the airfield are misidentified as part of the FAC's aircraft factory.

Several targets are identified as summarised in Table 2.

Table 2 Luftwaffe targets in the vicinity of the Site

Target No.	Target
A (GB 10139)	RAF Ringway
A (1)	Hangars
A (2)	Accommodation and outbuildings
B (GB 7490)	FAC Aircraft Factory

Plate 4 Luftwaffe target photograph of RAF Ringway, November 1940



Source: NARA *Not to Scale*

Legend	Site boundary

4.2.3 Bombing Densities and Incidents

Table 3 gives details of the overall bombing statistics recorded for the Local Authority Districts of the Site and surrounding districts. These were categorised as Rural Districts (RD), Urban Districts (UD), Municipal or Metropolitan Boroughs (MB) and County Boroughs (CB). WWII bomb density levels are defined below:

<5 bombs per 405ha is a Very Low regional bombing density.

5-15 bombs per 405ha is Low.

15-50 bombs per 405ha is Moderate.

50-250 bombs per 405ha is High.

>250 bombs per 405ha is Very High.

Table 3 Bombing statistics

Area	Bombs Recorded				
	High Explosive	Parachute Mines	Other	Total	Bombs per 405ha (1000 acres)
Bucklow RD	**247**	**7**	**4**	**258**	**5.6**
Manchester CB	712	18	7	737	27.0
Altrincham MB	76	0	0	76	21.9
Cheadle & Gatley UD	36	0	0	36	6.8
Wilmslow UD	41	2	0	43	5.6
Hale UD	12	0	0	12	5.3
Bowden UD	2	2	0	4	3.7
Knutsford UD	6	0	0	6	2.4
Macclesfield RD	82	6	3	91	1.3

Note that Table 3 excludes the figures for IBs. Discrepancies between this list and other records, such as bomb clearance records, demonstrate that this data is likely to under-represent actual bombing.

Details of the nearest recorded bombing incidents to the Site are given in the following section.

29th November 1940

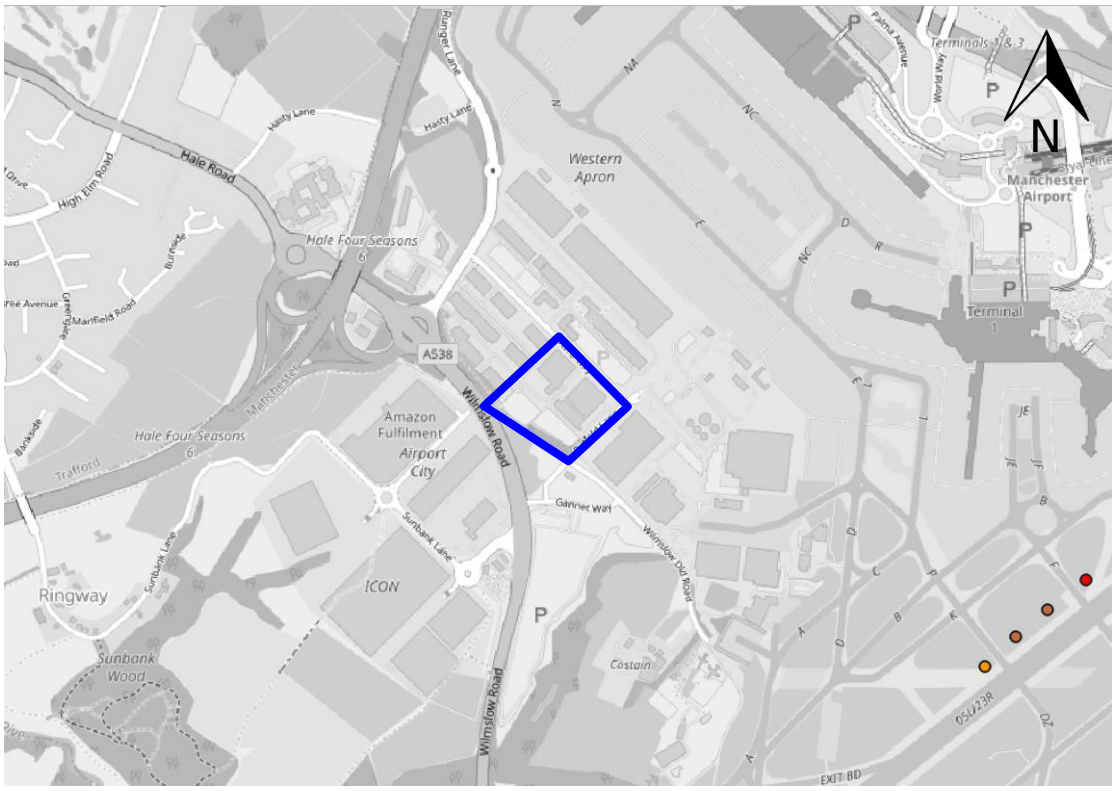
1No. HE bomb, 2No. Delayed Action Bombs (DAB), and 1No. Oil Bomb (OB) fell on grass at RAF Ringway, approximately 1km southeast of the Site.

Figure 4 is a map showing the approximate location of recorded bomb impacts in the immediate vicinity of the Site. IBs shown are indicative of larger numbers of similar devices that fell within the given area.

The map has been compiled from a number of different sources, including air raid incident reports, historical aerial photographs and bomb census maps.

The bomb map is also given in the accompanying P11632-22-R1-MAP01-A.

Figure 4 Compiled bomb map for the vicinity of the Site

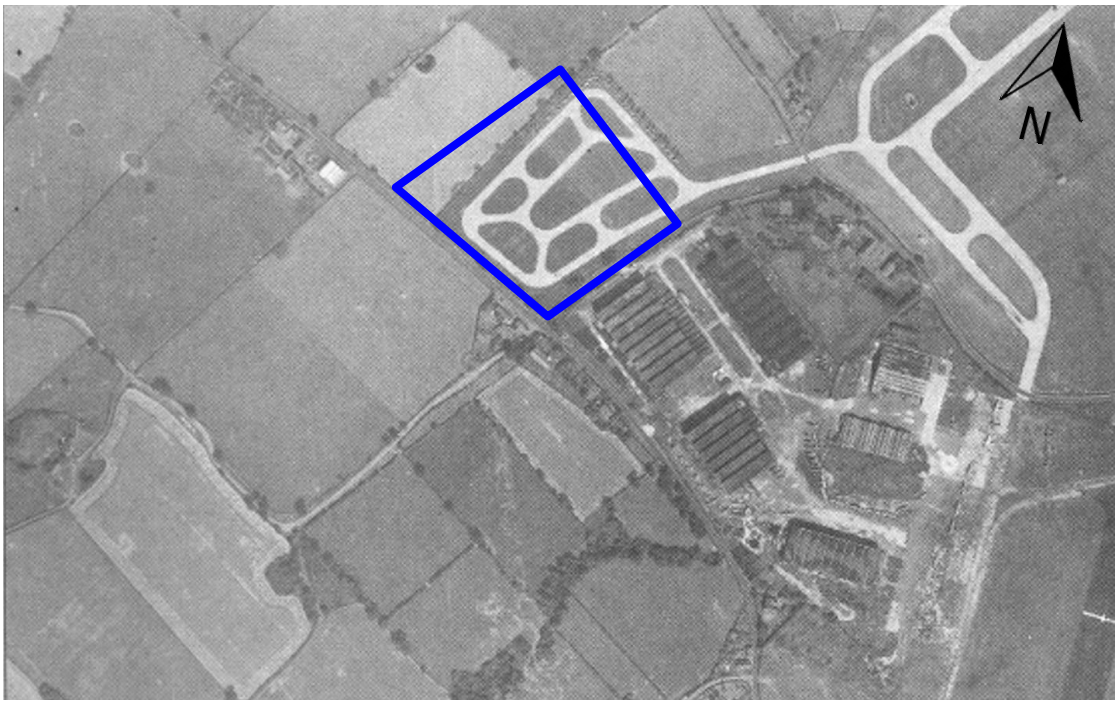


Source: OpenStreetMap *Not to Scale*

Legend	Site boundary	HE bomb	DAB	OB

Plate 5 is an aerial photograph dated the 10th August 1945. No bomb damage has been identified on or in the vicinity of the Site.

Plate 5 Compiled bomb map for the vicinity of the Site



Source: Historic England *Not to Scale*

Legend	Site boundary

Potential UXO Hazard

No records have been found indicating that the Site was bombed and no bomb damage has been identified on the Site on historical aerial photography.

WWII bombing is not considered to provide a source of UXO hazard to the Site.

4.2.4 Geology and Bomb Penetration Depths

It is important to consider the geological materials present at the time that a bomb was dropped in order to establish its maximum penetration depth.

At the time of writing, no Site-specific ground investigation data was available.

Information provided by the Client, British Geological Survey (BGS) 1:50,000 Sheet 98 Stockport (Solid), and BGS borehole records from nearby investigations have been consulted to get an indicative overview of the Site geology.

The geology of the Site is understood to consist of Made Ground, over Devensian Till, overlying the Bollin Mudstone Member.

Table 4 provides an estimate of average maximum bomb penetration depths for parts of the Site which comprised concrete dispersal areas, assuming WWII ground conditions of 2m Made Ground (modelled as gravel), over 8m of stiff clay, overlying more than 20m of weak rock.

Table 4 Estimated average maximum bomb penetration depths on former hardstanding

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	3.5m
	250kg	6.0m
	500kg	8.5m

Table 5 provides an estimate of average maximum bomb penetration depths for the remainder of the Site assuming WWII ground conditions of 10m of stiff clay overlying more than 20m of weak rock.

Table 5 Estimated average maximum bomb penetration depths on remainder of Site

Estimated average bomb penetration depths for anticipated geology		
Bomb Weight	50kg	5.5m
	250kg	8.0m
	500kg	11.5m

These calculations can be refined on receipt of further Site-specific information.

The estimated bomb penetration depths given in Tables 4 and 5 are from the WWII ground level and are based on the following assumptions:

a) High level release of the bomb resulting in an impact velocity of 260m/s (>5,000m altitude).

b) A strike angle of 10 to 15 degrees to the vertical.

c) That the bomb is stable, both in flight and on penetration.

d) That no retarding units are fitted to the bomb.

e) That the soil type is homogenous.

A high altitude release of a bomb will result in ground entry at between 10° and 15° to the vertical with the bomb travelling on this trajectory until momentum is nearly lost. The bomb will then turn abruptly to the horizontal before coming to rest. The distance between the centre of the entry hole and the centre of the bomb at rest is known as the 'offset'. A marked lateral movement from the original line of entry is common.

Low-level attacks may have an impact angle of 45° or more, which will frequently lead to a much greater amount of offset movement during soil penetration.

The average offset is one third of the penetration depth, i.e. an offset of 2m may be expected for a 50kg bomb in dry silts and clays. If hard standings or Made Ground were present during WWII, bomb penetration depths would have been significantly reduced but offset distances may have been up to four times greater.

5 EXPLOSIVE ORDNANCE CLEARANCE ACTIVITIES

Official UK bombing statistics have been compiled from both British and German sources. There were differences in the way the figures were originally reported and collated which has led to discrepancies in the summary data.

Based on data from 1939 to 1945, War Office statistics indicate that 200,195No. HE bombs exploded within Great Britain. Additionally, 25,195No. HE bombs (representing 11%) were recorded as UXBs. However, records from the Royal Engineers who were responsible for bomb disposal at the time indicate that as of 27th February 1946 upwards of 45,000No. UXBs were disposed of.

On average 8.5% of UXBs later self-exploded. In some cases the bombs had delayed action fuzes or were never intended to explode, their purpose being to cause inconvenience and fear. Given the discrepancy in records and the fact that UXBs are still being found unexpectedly, it is clear that the original figures are understated and provide only an approximation of the number of potential UXBs in the UK.

War Office statistics also show that between October 1940 and May 1941 most of the UXBs (93%) were either 50kg or 250kg. It should be noted that details of the recovery and the size of the UXB were not always accurately reported.

The larger WWII UXBs are often difficult to recover due to both penetration depths and the presence of two or more fuzes, combined with more sensitive fillings of explosive mixtures including Amatol and Trialen.

5.1 Abandoned Bombs

For further information on abandoned bombs, and the potential UXO hazard associated with them, follow the link below:

- Abandoned Bombs

No records have been found indicating that any officially abandoned bombs are located on the Site.

5.2 EOC Tasks

Zetica holds no records of post-WWII EOC tasks having taken place in the vicinity of the Site.

6 UXO HAZARD ASSESSMENT

6.1 UXO Hazard Level

The definitions for the levels of UXO hazard are provided below.

Definitions of UXO Hazard Level for a Site	
Hazard Level	**Definition**
Very Low	There is positive evidence that UXO is not present, e.g. through physical constraints or removal.
Low	There is no positive evidence that UXO is present, but its occurrence cannot be totally discounted.
Moderate	There is positive evidence that ordnance was present or that other uncharted ordnance may be present as UXO.
High	There is positive evidence that UXO is present.
Very High	As high, but requires immediate or special attention due to the potential hazard.

Between 1943 and 1957 the Site was encompassed by RAF Ringway, a military airfield used primarily for production and training. The Site comprised part of the western dispersal area.

No records have been found to indicate that the Site was bombed and no other significant sources of UXO hazard have been identified on the Site.

Given this, it is considered that the Site has a low UXO hazard level, as shown in Figure 5.

The UXO hazard zone plan of the Site is also given in the accompanying P11632-22-R1-MAP01-A.

Figure 5 UXO hazard zone plan of the Site



Source: OpenStreetMap *Not to Scale*

Legend	Very Low		Low		Moderate	
	High		Very High		Site boundary	

It should be noted that the potential for encountering UXO on a former military airfield can never be totally discounted and that heightened awareness of the potential UXO hazard should be maintained by site staff.

7 UXO RISK ASSESSMENT

7.1 Proposed Works

It is understood that the Site will be levelled and redeveloped.

Initial works on the Site are understood to comprise ground investigations, including boreholes to maximum depths of 15m bgl. Future works may include further ground investigations, excavations and piling.

7.2 Risk Assessment Methodology

A UXO risk assessment has been undertaken for the proposed works, taking into consideration the identified UXO hazard.

Firstly, the probability of encountering UXO (PE) has been considered and rated for the different construction techniques, as detailed below.

Probability of Encounter (PE)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Secondly, the probability of detonating a UXO (PD) has been considered and rated for the different construction techniques, as detailed below.

Probability of Detonation (PD)	Rating
Frequent, highly likely, almost certain.	5
Probable, more likely to happen than not.	4
Occasional, increased chance or probability.	3
Remote, unlikely to happen but could.	2
Improbable, highly unlikely.	1
Impossible	0

Next, the probability of encountering and detonating the UXO (PE x PD) have been used to generate an overall likelihood rating (P).

P = PE x PD	LIKELIHOOD of Encounter and Detonation	Rating
21 to 25	Frequent, highly likely, almost certain.	5
16 to 20	Probable, more likely to happen than not.	4
6 to 15	Occasional, increased chance or probability.	3
2 to 5	Remote, unlikely to happen but could.	2
1	Improbable, highly unlikely.	1
0	Impossible	0
P ranges from 25, a certainty of UXO being encountered and detonated on the Site by engineering activity, to 0, a certainty that UXO does not occur on the Site and will not be detonated by engineering activity.		

The likelihood of encountering and detonating UXO during site works is multiplied by the severity of such an event occurring (P x S), in order to provide a risk level using the following matrix.

Severity (S)	Rating
Multiple fatalities	5
Major injury, long term health issues, single fatality.	4
Minor injury, short term health issues, no fatalities.	3
First aid case but no lost time or ill health.	2
Minor injuries, no first aid.	1
No injuries.	0

UXO Risk Matrix							
	SEVERITY (S)						
LIKELIHOOD (P)		5	4	3	2	1	0
	5	25	20	15	10	5	0
	4	20	16	12	8	4	0
	3	15	12	9	6	3	0
	2	10	8	6	4	2	0
	1	5	4	3	2	1	0
	0	0	0	0	0	0	0

7.3 UXO Risk Level

The UXO risk assessment for proposed works on the Site is given in Table 6.

Table 6 UXO risk assessment for the Site

Potential UXO Hazard	Anticipated Works	PE	PD	P = PE x PD	Likelihood	Severity	Risk Rating	UXO Risk
UXB	Shallow Excavations	1	1	1	1	5	5	Low
	Deep Excavations	1	1	1	1	5	5	Low
	Boreholes/Piling	1	1	1	1	4	4	Low
Other UXO	Shallow Excavations	1	1	1	1	4	4	Low
	Deep Excavations	1	1	1	1	4	4	Low
	Boreholes/Piling	1	1	1	1	3	3	Low
PE (Probability of Encounter), PD (Probability of Detonation), P (Overall Probability)								
Shallow Excavations defined as <1.0m below ground level (bgl.)								

8 RISK MITIGATION PLAN

Key findings: No significant sources of UXO hazard have been identified.

Key actions: UXO awareness briefing for staff involved in excavations.

8.1 UXO Risk Summary

Table 7 summarises the UXO risk for proposed works on the Site and recommended actions.

Table 7 Summary of UXO risk and mitigation recommendations

Proposed Works	UXO Risk	Recommended Mitigation
Excavations		**UXO awareness briefing** – Given the Site's military history it is recommended that a formal UXO awareness briefing is provided to staff involved in excavation.
Boreholes/Piling		**Proceed with works**

In summary, it is recommended that staff involved in excavation are provided with a formal awareness briefing so that they take appropriate action in the event of a suspect find.

8.2 Risk Mitigation Techniques

8.2.1 UXO Awareness Briefing

Typically ~1hour in duration, these briefings will be expected to provide site workers with:-

- Background to the potential UXO hazards that could be encountered.
- Awareness of how the UXO hazard could present a risk.
- Knowledge of what to do in the event that a suspect item is encountered.

The briefing is to be provided along with back-up materials such as UXO awareness posters, emergency contact numbers and other background information to assist site workers in becoming familiar with what potential UXO can look like.

The materials can also be used by key staff to pass on the relevant points of the induction to others who visit or work on the Site.

By providing the UXO awareness briefing, it ensures that in the unlikely event that UXO is encountered:-

- All site staff take appropriate action.
- A support mechanism and points of contact are established.
- The likelihood of harm to people or property is reduced.
- Significant delays to site work are prevented.

8.3 What Do I Do Next?

If you require a quote for an awareness briefing, or have any questions, contact us via phone (01993 886682) or email (uxo@zetica.com) and we can help.

If you have requirements to identify other buried hazards (such as mapping utilities or obstructions) we can provide these surveys.

If proposed works on the Site change, or additional works are planned, contact Zetica for a re-assessment of the UXO risk and the risk mitigation requirements.

APPENDICES

Appendix 1 Anticipated Ordnance Types

The probability of encountering UXO on the Site is considered to be low. As with any similar site in the UK, there is always a background risk of finding ordnance and potential types to be encountered are detailed below. For a more comprehensive set of ordnance data sheets, see http://zeticauxo.com/downloads-and-resources/ordnance-data-sheets/.

Information Data Sheet

Category Small Arms Ammunition
Type Various



Description: Small Arms Ammunition (SAA) is one of the more recognisable categories of ordnance which is primarily designed for anti-personnel use. SAA include items such as bullets, generally up to a calibre (diameter) of 20mm.

Generally small arms ordnance has a relatively low risk as UXO, although the larger calibre categories may have the same detonation risk as larger high explosive ordnance.

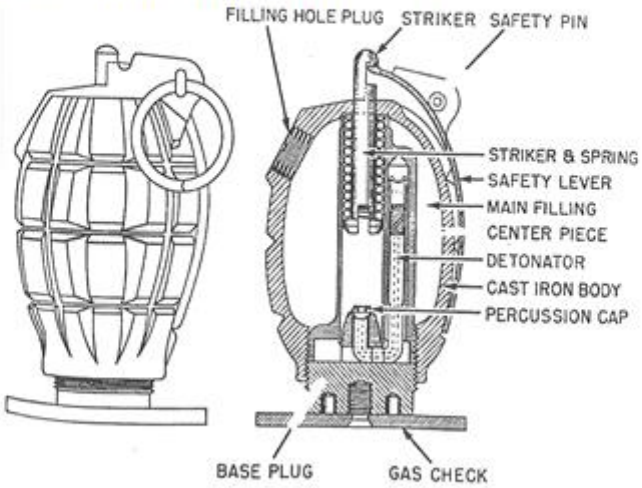
SAA is often associated with discarded ammunition boxes around firing practice ranges and training areas and is often found scattered across former military airfields as a result of aircraft crashes and localised disposal.





Information Data Sheet

Category Grenades (British)
Type No. 36 Hand Grenade ('Mills Bomb')



Variants	-	**Dimensions**	101.6mm x 61mm (4" x 2.4")
Weight	2 lbs	**Delay**	4 seconds
Filling	Baratol	**Material**	Cast Iron

Description Lemon-shaped, cast-iron body filled with high explosive. Three holes in the body; one in the base for priming, one near the top for filling; one on the top holding striker.

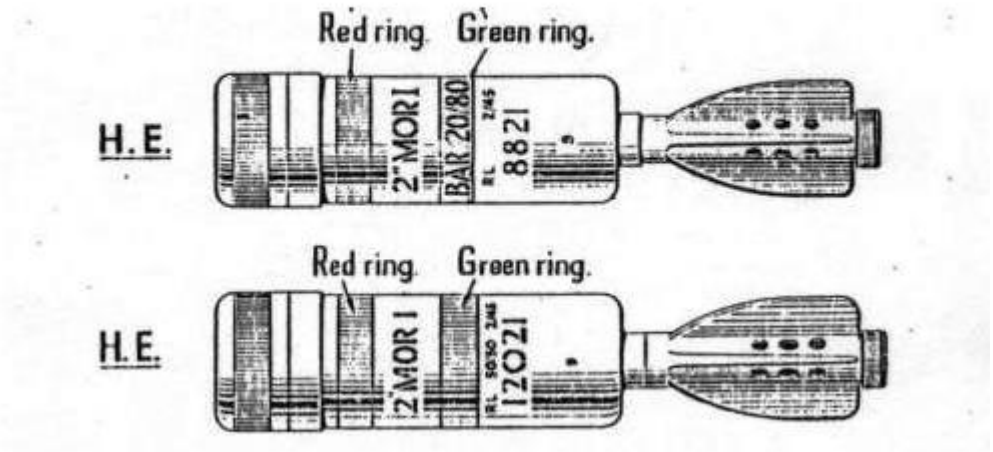
Function Used as a defence against enemy personnel.





Information Data Sheet

Category Mortar (British)
Type 2-Inch Mortar Bomb



Variants	14	**Length**	11.4" x 2"
Weight	2.5lbs	**Firing Mechanism**	Trip (small trigger)
Calibre	50.8mm (2.0 inches)	**Rate of Fire**	8 rounds per minute

Description Pear-shaped steel body with 6 or 8 vanes. Originally painted buff yellow or dark grey. Filled with c TNT, granular TNT or powdered Amatol. Also smoke, illumination and practice versions.

Function Small enough to be carried by one man, with a range limited to 500 yards, the 2" mortar was usec an anti-personnel role.





Information Data Sheet

Category Bomb (Luftwaffe)
Type Sprengbombe-Cylindrisch (SC) 50kg

Variants 8

Body Dimensions 762 x 200mm (30" x 7.9")

Weight 55kg (122lbs)

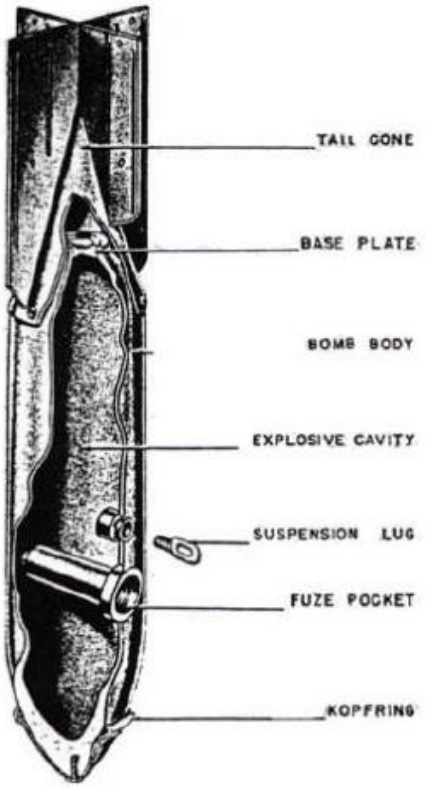
Charge Weight 25kg (54lbs)

Fuze Single electric impact fuze. Some have short time delay

Composition Sheet steel

Description Thick nose welded to a steel body. Nose may be attached to Kopfring (a triangular section steel ring) or spike. Suspension bolt in eye/body and sheet metal tail attached to body with rivets/screws. Originally painted green-grey with a yellow stripe on the tail. Cast TNT, Amatol or Trialen filling.

Function Designed to maximise shock waves through air, water and earth and for general demolition. Used against easily damageable targets, including roads, aircraft hangars, rolling stock and small buildings. Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) were used against rail lines and country roads, with Kopfring used against naval targets.



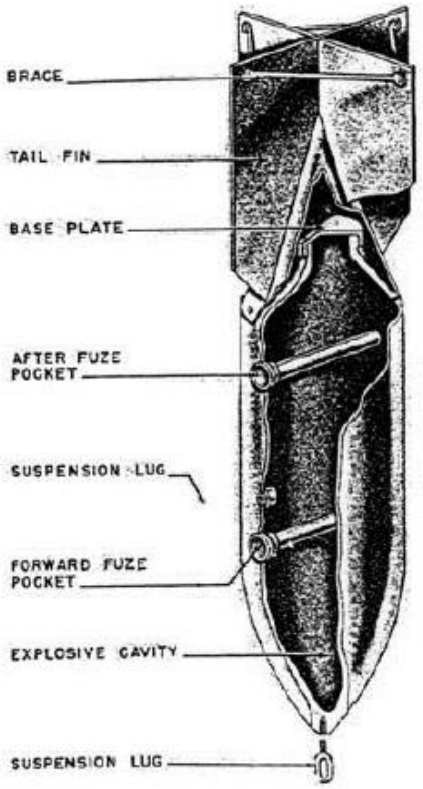




Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 250kg

Variants	8
Body Dimensions	1194mm x 368mm (47" x 14.5")
Weight	249-264 kg (548-582lbs)
Charge Weight	130-145 kg (287-320lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze
Composition	Sheet steel with stays
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring) or spike. Sheet metal tail attached to body with rivets/ screws. Suspension eye bolt in the nose/body. Originally painted green-grey with a yellow stripe on the tail. TNT; amatol; TNT and aluminium powder, naphthalene, ammonium nitrate and wax/ wood meal filling.
Function	Designed to maximise shock waves through air, water and earth and general demolition. Used against railway installations, large buildings, ammunition depots and below-ground installations (to 8m). Spike bombs/ 'Stabo' (SC 50 with spikes attached to nose) used against rail lines and country roads.



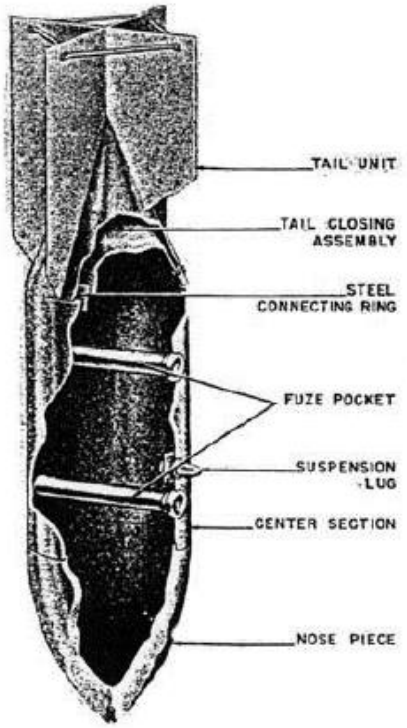




Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 500kg

Variants	-
Body Dimensions	1414–1486mm x 470mm (55.7-58.5" x 18.5")
Weight	500kg (1,100lbs)
Charge Weight	220kg (484lbs)
Fuze	Electric impact fuze/electric clockwork time fuse & electric anti-disturbance fuze.
Composition	Sheet steel with stays or drum
Description	Thick nose welded to steel body. Nose may be attached to Kopfring (triangular section steel ring). Tail either steel sheet or drum-shaped. Suspension band. Originally painted green-grey/ buff (some later versions sky blue) with yellow stripe on tail. Filled with amatol, TNT or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition. Used against railway property, large buildings, shipping and below-ground installations.



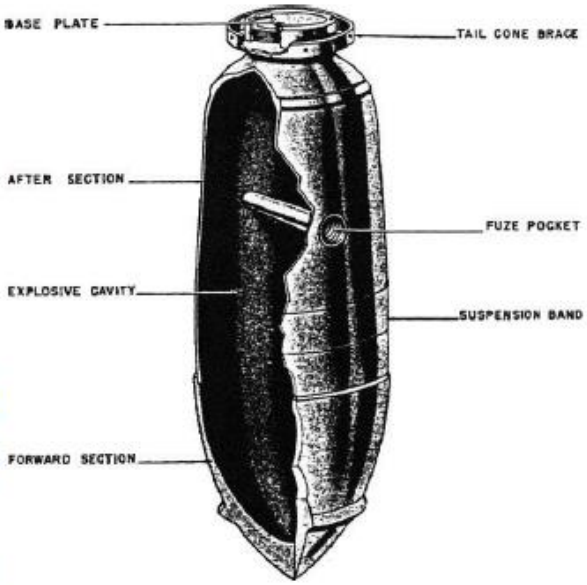


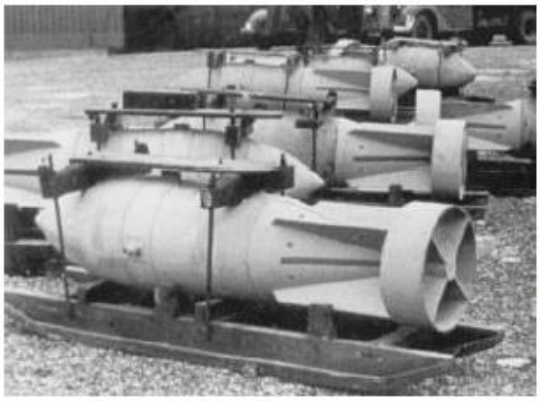


Information Data Sheet

Category Bomb
Type Sprengbombe-Cylindrisch (SC) 1,000kg (HERMANN)

Variants	3
Body Dimensions	1742-1905mm x 648–660mm (68.6-75" x 25.5-26")
Weight	1,000-1,088kg (2,204-2,398lbs)
Charge Weight	529-619kg (1,166-1,364lbs)
Fuze	Electric impact fuze/ electric clockwork time fuze & electric anti-disturbance fuze
Composition	Magnesium alloy with drum
Description	Thick nose welded to steel body. Nose attached to Kopfring (triangular section steel ring). Drum-shaped tail made of magnesium alloy. Suspension band. Originally painted sky-blue. Filled with amatol, TNT/aluminium/wood meal or trialen.
Function	Designed to maximise shock waves through air, water and earth and for general demolition.



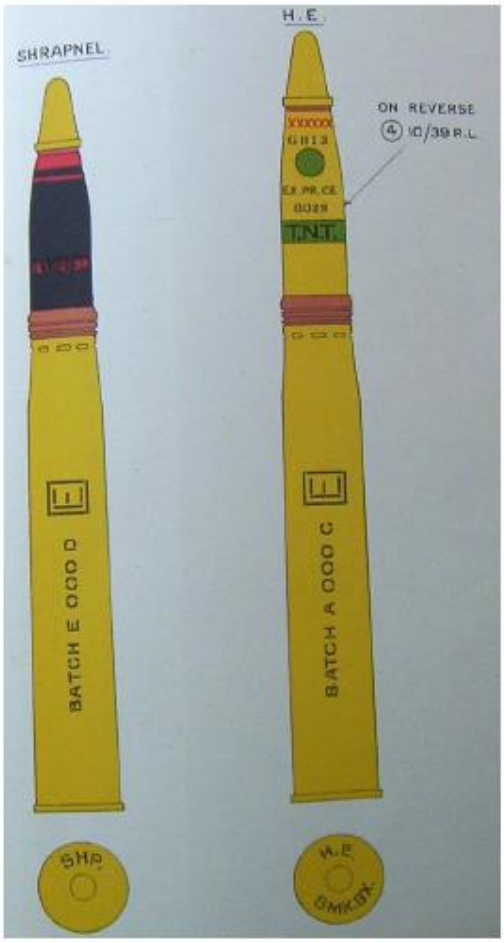




Information Data Sheet

Category Projectile
Type 3.7" Anti-Aircraft Shell

Variants	6
Body Dimensions	94mm x 360mm (3.7 x 14.7")
Weight	12.7kg (28lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Brass cartridge case. Square-based shell with tapered nose, filled with Amatol, TNT or RDX/TNT. MK6 had forward centring bands and a wider driving band.
Function	Used as a defence against enemy aircraft, fired from fixed batteries and mobile mountings. Could fire approximately 20 rounds per minute with a maximum ceiling of 41,000ft and horizontal range of 20,600 yards.



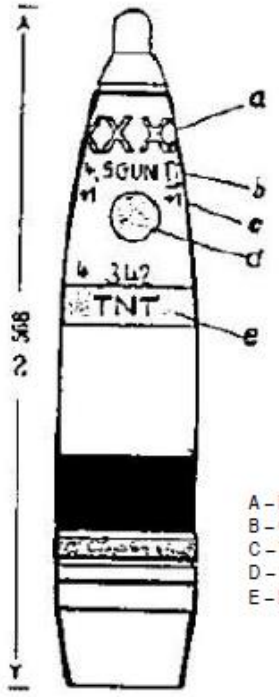




Information Data Sheet

Category Projectile
Type 4.5" Shell (Mark II – Anti-Aircraft)

Variants	-
Body Dimensions	114mm x 566mm (4.5" x 21.9")
Weight	24.9kg (55lb)
Fuze	Mechanical time fuze
Composition	Cast steel
Description	Square-based, tapered-nosed shell filled with TNT or Amatol. Steel casing, rotating band of either copper or gilding metal located 3.5" in front of the base end with single groove.
Function	Used as field artillery and adapted for use in anti-aircraft defence from fixed batteries. Rate of fire of 8 rounds per minute, maximum ceiling of 44,000ft and horizontal range of 22,800 yards.



A – Missile Identification
B – Gun and Bullet Type
C – Weight
D – Smoke pot
E – Explosives Ring







Information Data Sheet

Category Grenades (British)
Type No. 76 Self-Igniting Phosphorus Grenade

Variants -

Dimensions 152.4mm x 63.5mm (6" x 2.5")

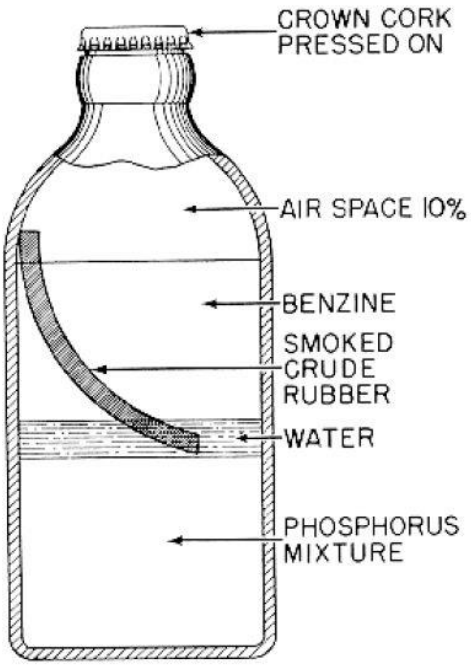
Weight 1lb

Fuze Self-igniting upon breakage

Material Glass

Description Glass bottle filled with white phosphorus, benzene, water and crude rubber.

Function Introduced as an emergency anti-tank measure for the Home Guard early in WWII. Intended to ignite the engine compartment of advancing tanks.







Appendix 2 Sources of UXO Hazard

The sections below provide background information on the potential sources of UXO hazard (albeit low) affecting the Site. For a more comprehensive set of UXO information sheets, see http://zeticauxo.com/downloads-and-resources/uxo-information-sheets/.

Appendix 2.1 Military Airfields

During WWII, there was an urgent need for an increasing number of military airfields in the UK. This requirement grew further as the war progressed, particularly after the arrival of American troops in 1942. Airfields were constructed for a variety of purposes, including training, as fighter and bomber stations, and for maintenance units (MUs).

Many former airfield sites have not been significantly redeveloped in the post-WWII period. As such, a number of potential sources of UXO relating to former airfield activity still remain. The types of UXO that may be present depends on the operational history of the airfield. Almost all military airfields had a similar set of features to include ordnance storage and disposal areas, alongside offensive and defensive weapons.



Pipe Mines: Pipe mines were laid beneath critical infrastructure such as runways and designed to be detonated in the event of an invasion to prevent enemy use of the airfield. Airfields that were most likely to have been equipped with pipe mines were those considered vulnerable to invasion, particularly along the South and East Coast.

Airfields further inland, and those built after the main threat of German invasion had passed, are unlikely to have had pipe mines installed.

Whilst the majority of the pipe mines at airfields were removed at the end of WWII, it is known that some were left in situ or were not detected during post-WWII clearance operations. Pipes mines are periodically found during development at former airfields.

Bomb and Munitions Stores: These were typically constructed in a remote area of an airfield, linked to the perimeter track by a service road. Bomb stores often contained a combination of both practice and live ordnance, in addition to components such as fuzes, detonators and gaines.

Munitions stores also often held close combat ordnance (such as grenades and mortars) and small arms ammunition for airfield defence.

Whilst the bomb stores at airfields were typically subjected to ordnance clearance operations during decommissioning, the sophistication and thoroughness of the clearance was often insufficient to ensure confidence that most of the potential UXO were removed. Incidents of ordnance burial and the accidental spillage of smaller munitions components in the vicinity of the bomb stores is known to have occurred, although such disposal usually occurred in designated areas away from the storage area.

Machine Gun Test Butts: On an airfield, the butts were a designated area where aircraft tested their guns. The butts were often located at the end of access runways or dispersals and incorporated a mound of Made Ground, sand or soil into which firing took place. Whilst machine gun rounds were typically tested at the butts, some aircraft fired cannon shells into the butts.

Small Arms Ranges: Small arms ranges (such as rifle ranges) and close combat ranges (such as mortar and grenade ranges) were provided for training the troops involved in ground defence of the airfield. (See the small arms ranges information sheet for further information on these sites).

Munitions Disposal Areas: For any operational military airfield, using an ordnance disposal facility is required. During wartime, this typically took the form of a burning or burial pit and commonly took place in areas around the perimeter of an airfield, away from aircraft operations and buildings.

The most likely disposal operations at airfields during WWII involved the burial or burning of aircraft ammunition and close combat munitions related to airfield defence. Larger munitions, such as bombs, were usually returned to regional ordnance depots, for reuse or for disposal. It is known, however, that the buried disposal of HE bombs occurred at some airfields and UXBs relating to such practices are occasionally found.

Aircraft Breaking: Specialist Maintenance Units (MU) were responsible for the modification, maintenance and repair of damaged aircraft. Those aircraft considered beyond all repair were stripped of useful and salvageable parts and disposed of in a pit or 'aircraft graveyard', usually in areas around the perimeter of an airfield. Waste from aircraft disposal should be considered hazardous. It contains a range of conventional contaminants and potentially radioactive materials (such as radium from luminescent dials).

Appendix 2.2 Aircraft Crashes

These were a common occurrence during the exigencies of wartime. Collisions, damage sustained during operational duty, pilot error and adverse weather conditions were all causes for crashes.

The nature of aircraft crashes means that debris was often scattered over a wide area around the crash site, sometimes up to a distance of two miles.



Aircraft crash sites provide a potential source of UXO hazard, largely depending on the type of aircraft that crashed, its operational status, its ordnance load and any efforts made to clear up the crash site. The MoD advises that if crashed aircraft are found, the safest policy is to leave them alone where possible. Unless disturbed there is no statutory requirement for the MoD to clear such sites.

The most common source of ordnance associated with aircraft crash sites is small arms ammunition. This may be scattered over a wide area but does not typically constitute a significant UXO hazard. Some later aircraft designs were armed with cannons, the shells of which contain a higher explosive content.

Bomber aircraft crashing with full or partial bomb loads provide a further potential hazard. If the crash site was inaccessible or remote it would commonly be left during wartime. As such, UXBs may still be present around bomber aircraft crash sites.

It is generally the case that post-WWII crash sites are more thoroughly cleared of debris and residues than those which occurred during wartime.

It should be noted that in some cases where a fatal crash site is located, the disturbance of the site may be prohibited due to its status as a war grave.

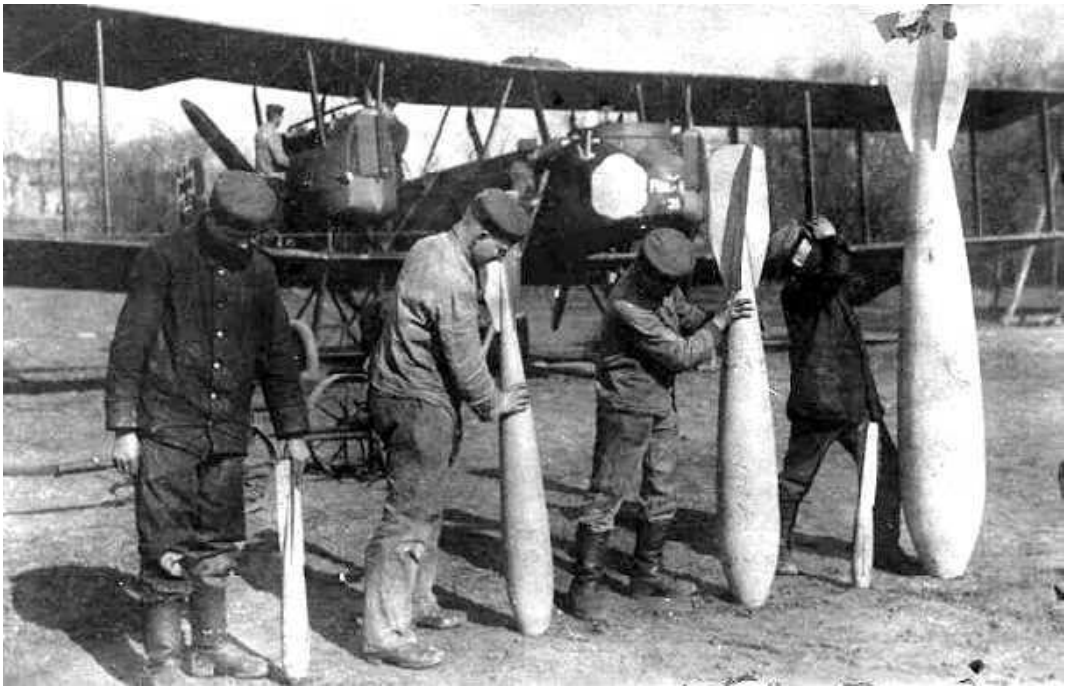
Appendix 2.3 WWI Bombing

It is not generally realised that during World War One (WWI) significant bombing took place across some areas of the UK. An estimated 9,000No. German bombs were dropped on Britain during the course of 51No. airship and 52No. aircraft raids. It was the first time that strategic aerial bombardment had been used. More than 1,400No. people were killed during these raids.

Most air raids were carried out on London and Southeast England. Areas along the East Coast were also targeted regularly due to their proximity to the European continent. Bombing raids further inland were rare and West England and Wales were out of reach for German aircraft of the time.

Aerial bombing during WWI initially relied on visual aiming, with bombsights not developed until later in the war. The inaccuracy inherent in this method meant that bombs often fell some way from their intended targets.

The first recorded raid against England occurred on the 21st December 1914 when 2No. high explosive bombs fell near the Admiralty Pier at Dover. Zeppelin raids intensified during 1915 and 1916, with aircraft raids becoming more frequent after 1917. The last raid of WWI took place on the 19th May 1918, when 38 Gotha and 3 Giant aircraft bombed London and surrounding districts, dropping a total of more than 2,500lbs of bombs.



The potential of coming across an Unexploded Bomb (UXB) from WWI is far less likely than a WWII UXB given the lower bombing densities during raids in the Great War.

Some areas which were subjected to sustained bombing raids, such as parts of London and coastal towns, recorded a higher number of UXB. In these areas, where there has been no significant development for the last century, the potential of a UXB remaining from WWI cannot be totally discounted.

Appendix 2.4 WWII Bombing

Bombing raids began in the summer of 1940 and continued until the end of WWII. Bombing densities generally increased towards major cities or strategic targets such as docks, harbours, industrial premises, power stations and airfields. In addition to London, industrial cities and ports, including Birmingham, Coventry, Southampton, Liverpool, Hull and Glasgow, were heavily targeted, as well as seaside towns such as Eastbourne and cathedral cities such as Canterbury.

The German bombing campaign saw the extensive use of both High Explosive (HE) bombs and Incendiary Bombs (IBs). The most common HE bombs were the 50kg and 250kg bombs, although 500kg were also used to a lesser extent. More rarely 1,000kg, 1,400kg and 1,800kg bombs were dropped.

The HE bombs tended to contain about half of their weight in explosives and were fitted with one or sometimes two fuzes. Not all HE bombs were intended to explode on impact. Some contained timing mechanisms where detonation could occur more than 70 hours after impact.

Incendiary devices ranged from small 1kg thermite filled, magnesium bodied Incendiary Bombs (IBs) to a 250kg 'Oil Bomb' (OB) and a 500kg 'C300' IB. In some cases the IBs were fitted with a bursting charge. This exploded after the bomb had been alight for a few minutes causing burning debris to be scattered over a greater area. The C300 bombs were similar in appearance to 500kg HE bombs, although their design was sufficiently different to warrant a specially trained unit of the Royal Engineers to deal with their disposal.



Anti-Personnel (AP) bombs and Parachute Mines (PMs) were also deployed. 2No. types of anti-personnel bombs were in common use, the 2kg and the 12kg bomb. The 2kg bomb could inflict injury across an area up to 150m away from the impact. PMs (which were up to 4m in length) could be detonated either magnetically or by noise/vibration.

Anti-shipping parachute mines were commonly dropped over navigable rivers, dockland areas and coastlines. The Royal Navy was responsible for ensuring that the bombs were made safe. Removal and disposal was still the responsibility of the Bomb Disposal Unit of the Royal Engineers.

In 1944, the Germans introduced new weapons; the V1, a 'flying bomb' and guided missile, and the V2, a ballistic missile rocket that travelled at such speed that no one could see or hear its approach. London was the main target for these attacks.

WWII bomb targeting was inaccurate, especially in the first year of the war. A typical bomb load of 50kg HE bombs mixed with IBs which was aimed at a specific location might not just miss the intended target but fall some considerable distance away.



It is understood that the local Civil Defence authorities in urban areas had a comprehensive system for reporting bomb incidents and dealing with any Unexploded Bombs (UXB) or other UXO. In more rural areas, fewer bombing raids occurred. It is known that Air Raid Precaution (ARP) records under-represent the number and frequency of bombs falling in rural and coastal areas. Bombs were either released over targets or as part of 'tip and run' raids where bomber crews would drop their bombs to avoid anti-aircraft fire or Allied fighter aircraft on the route to and from other strategic targets. Bombs dropped as a result of poor targeting or 'tip and run' raids on rural and coastal areas often went unrecorded or entered as 'fell in open country' or 'fell in the sea'. The Luftwaffe are thought to have dropped approximately 75,000 tons of bombs on Britain throughout the Second World War and an estimated 11% of all bombs dropped during the war failed to detonate.

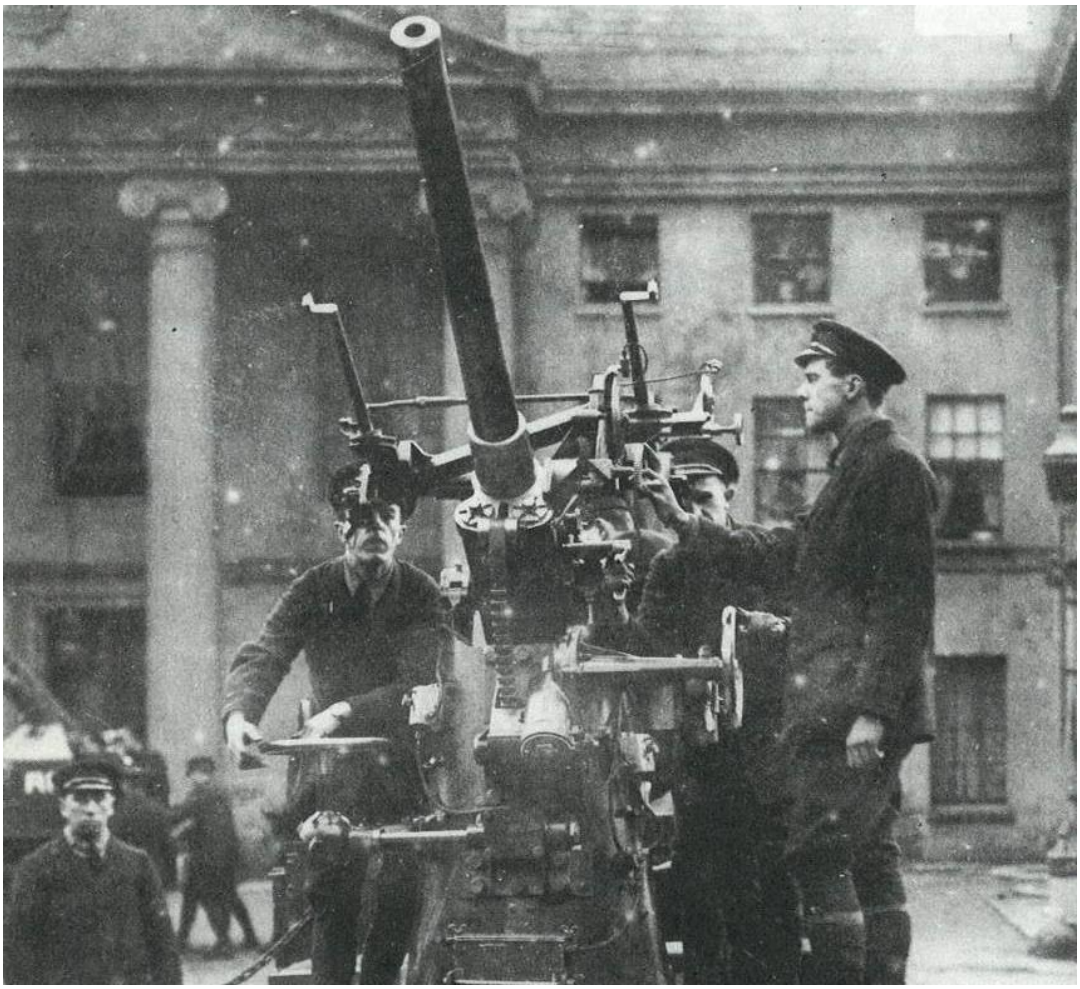
The potential for a UXB hazard to exist on a site depends on a variety of factors. Were there strategic targets in the surrounding area? Was the site bombed? Could a UXB impact have been missed? Even in rural areas, the potential for UXB cannot be totally discounted and therefore it is essential that detailed local bombing records are obtained when assessing the UXB hazard on any site.

Appendix 2.5 Anti-Aircraft Guns

As aerial bombardment first began during WWI, Anti-Aircraft (AA) gun batteries were established were gradually established throughout much of England to counter German bombing raids. By June 1916, there were approximately 271No. AA guns and 258No. searchlight installations defending London alone.

Common AA defences during WWI included 3-inch, 75 millimetre, 6-pounder and 1-pounder guns. Many of these guns were mobile, being mounted on lorry chassis. They were driven about following the course of an airship and fired from any area of open land.

During WWI, Unexploded AA (UXAA) shells, could land up to 13km from the firing point, although more typically fell within 10km.



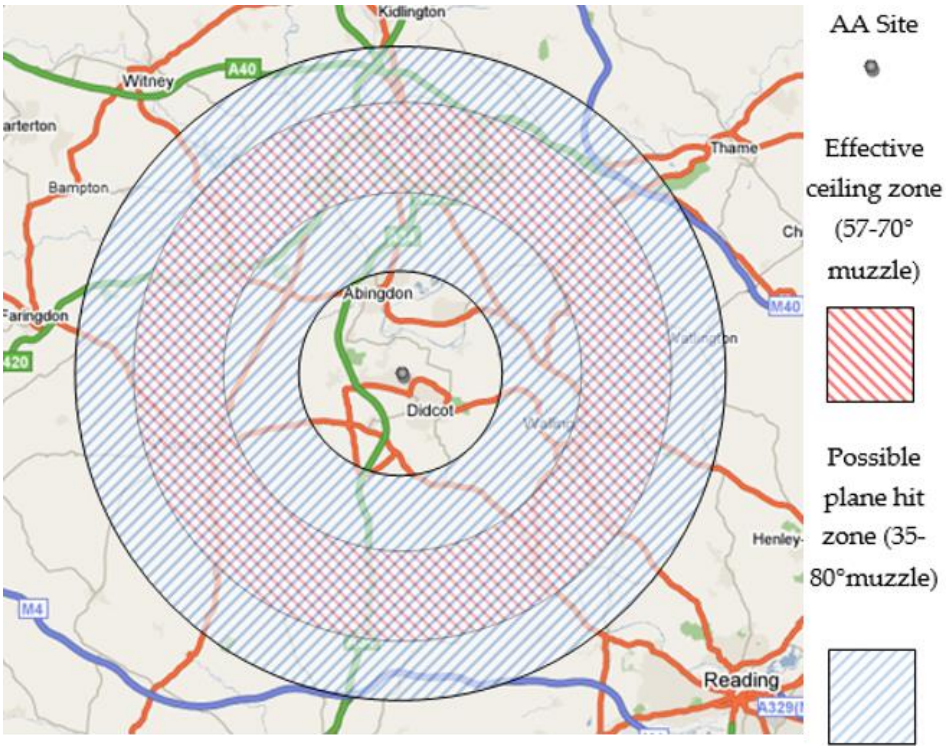
AA gun batteries were used extensively during WWII to counter the threat posed by enemy aircraft. In many instances, AA shells caused damage to Allied territory and in some areas caused significant numbers of civilian fatalities.

During WWII, AA shells could land up to 27km from the firing point, although more typically fell within 15km. These could be distributed over a wide area.

3No. types of AA batteries existed:

- **Heavy Anti-Aircraft (HAA)** batteries of large guns (typically 3.7", 4.5" and 5.25" calibre) designed to engage high flying bomber aircraft. These tended to be relatively permanent gun emplacements.
- **Light Anti-Aircraft (LAA)** weaponry, designed to counter low flying aircraft. These were often mobile and were moved periodically to new locations around strategic targets such as airfields. They typically fired 40mm shells and machine gun ammunition.
- **Rocket batteries (ZAA)** firing 3" or 3.7" AA rockets with a maximum altitude of 5,800m and a ground range of 9km were typically permanent emplacements.

Unexploded AA (UXAA) shells were a common occurrence during WWII. As the figure below demonstrates, shells were unlikely to fall in the immediate vicinity of a gun battery but in the surrounding area. This would be dependent upon the angle of fire and the flight height of the attacking aircraft.



AA batteries were deliberately targeted by the Luftwaffe and therefore areas surrounding a gun battery may have a greater risk of UXB being present.

Munitions stores were also established around AA batteries. These stored the shells for the batteries and small arms ammunition for troops manning the position. Such stores were typically removed at the end of WWII, although some disposal may have occurred in the immediate vicinity of the gun battery.

Appendix 3 Recent UXO Finds

UXO finds in the UK are a regular occurrence, although they almost never result in an accidental detonation.

It is still important to note that explosives rarely lose effectiveness with age. In some instances, mechanisms such as fuzes and gaines can become more sensitive and more prone to detonation, regardless of whether the device has been submersed in water or embedded in silt, clay or similar materials.

The effects of an accidental UXO detonation are usually extremely fast, often catastrophic and invariably traumatic to any personnel involved. Such occurrences are largely restricted to current theatres of war and overseas minefields, with occasional events in mainland Europe.

Zetica, and other commercial EOD companies, uncover and make safe thousands of items of UXO each year, though details are rarely made public knowledge.

Publicly-recorded discoveries do also occur regularly, as demonstrated by the list of recent significant UXO finds in the UK below. To keep up to date with the latest UXO finds, visit http://zeticauxo.com/news/.

On the 3rd February 2020, a 500kg German UXB was found on a building site in Soho, London. It was removed by an EOD team.

On the 18th April 2020, a 500lb British UXB was discovered by a farmer near Drayton in Oxfordshire. The area had been used as an RAF practice bombing range during WWII and after an in-situ disposal was completed the item was found to have contained no explosives.

On the 4th May 2020, a UXB was discovered by builders at Kings Hill on the former RAF West Malling airfield, the fourth found since 2017. It was destroyed in a controlled explosion.

On the 1st December 2020, a research vessel discovered an unexploded marine mine containing 350kg of explosives in Wemyss Bay in the Firth of Clyde. RN divers investigated the item and destroyed it.

On the 4th February, 2No. anti-tank mines were discovered on Slapton Sands in Devon. They had been uncovered by recent storms and were destroyed.

On the 26th February 2021, a 1,000kg German “Hermann” UXB was discovered by builders at Exeter University campus (see plate below). It was investigated and detonated in-situ following the evacuation of nearby properties and University halls of residence.



On the 29th March 2021, 1No. 250lb UXB was discovered on the seabed near Hinkley Point C harbour, Bristol. A maritime exclusion was imposed while the item was investigated and then destroyed in a controlled explosion.

On the 10th May 2021, 1No. Anti-Aircraft shell dating from WWII was found by a member of the public in Horsham, Surrey. It was destroyed in-situ by a bomb disposal unit.

On the 17th May 2021, 1No. Sea Wolf missile was brought onboard a fishing vessel near Brixham in Devon. A Royal Navy EOC team destroyed the missile in a controlled explosion.

On the 1st June 2021, a cache of approximaetly 100No. hand grenades dating from WWII were found in a Nottinghamshire forest, a possible relic from nearby wartime camps. They were destroyed.

On the 23rd July 2021, 1No. 18lb artillery shell dating from WWI was discovered in a private garden in Bloxham, Oxfordshire. It was transported to a nearby field where it was destroyed in a controlled explosion.

On the 24th July 2021, 1No. 500lb British UXB was uncovered during construction works in Goole, East Yorkshire. Reports indicated that the UXB had been jettisoned by a Lancaster bomber aircraft prior to crashing nearby in WWII. The item was investigated and destroyed.

On the 18th August 2021, 1No. UXB was found by construction workers on a Site in Earl Sterndale, Derbyshire. Upon inspection the UXB was deemed to be dangerous and a controlled detonation was undertaken.

On the 10th September 2021, EOD teams destroyed 25No. mortars which had been washed up onto beaches around Nairn and Ardersier in Morayshire. These beaches had been used during WWII for training prior to the D-Day landings in Normandy.

On the 18th October, 1No. 18.5lb artillery shell was discovered during the clearing-out of a farmyard barn near Aberfeldy in Perthshire. The shell dated from WWI and was removed.

On the 12th November 2021, 1No. unexploded artillery shell was found on a housing development site in Wrexham, Wales. It was detroyed in controled explosion.

On the 15th December 2021, approximately 200No. artillery shells were discovered at a construction site located within the former Royal Ordnance Factory at Swynnerton in Staffordshire. The shells were removed and destroyed.

On the 15th December 2021, 1No. apparent UXB was snagged by a fishing trawler off the Norfolk Coast and then detonated, causing significant damage to the vessel. Upon further investigation, it was concluded that the UXB had been dropped in the water during WWII.

On the 2nd January 2022, 1No. heavily deteriorated 105mm artillery shell was discovered by dogwalkers on a beach in Cumbria. This may have originated on one of the several offshore ranges which have been operational along the nearby coastline since WWII.

Between the 24th and 27th January 2022, 5No. empty artillery shells were uncovered at a construction site in Manchester. These were likely linked to a shell-production factory which had been active on the site during WWII.

On the 17th February 2022, 1No. WWI-era Mk1 Mills hand grenade was found in the River Frome in Dorset by magnet fishermen. This was the third grenade to be pulled from the same stretch of the river over the past year. It was inspected by local police and destroyed.

Appendix 4 Glossary and Definitions

Abandoned Explosive Ordnance (AXO)	Abandoned Explosive Ordnance is explosive ordnance that has not been used during an armed conflict, that has been left behind or disposed of by a party to an armed conflict, and which is no longer under control of that party. Abandoned explosive ordnance may or may not have been primed, fuzed, armed or otherwise prepared for use.
Close Combat Munitions	Items of ordnance thrown, propelled or placed during land warfare, to include grenades, mortars, projectiles, rockets and land mines.
Demil	Derived from the term 'Demilitarisation', it refers to the break down and the recycling or disposal of ordnance components.
Detonation	The high-speed chemical breakdown of an energetic material producing heat, pressure, flame and a shock wave.
Device	This term is used for any component, sub-assembly or completed ordnance, which may or may not have an explosive risk. It can apply to detonators, primers, gaines, fuzes, shells or bombs.
Explosive	The term explosive refers to compounds forming energetic materials that under certain conditions chemically react, rapidly producing gas, heat and pressure. Obviously, these are extremely dangerous and should only be handled by qualified professionals.
Explosive Ordnance (EO)	Explosive Ordnance is all munitions containing explosives, nuclear fission or fusion materials and biological and chemical agents. This includes bombs and warheads, guided and ballistic missiles, artillery, mortar, rocket, small arms ammunition, mines, torpedoes, depth charges, pyrotechnics, cluster bombs & dispensers, cartridge & propellant actuated devices, electro-explosive devices, clandestine & improvised explosive devices, and all similar or related items or components explosive in nature.
Explosive Ordnance Clearance (EOC)	Explosive Ordnance Clearance is a term used to describe the operation of ordnance detection, investigation, identification and removal, with EOD being a separate operation.
Explosive Ordnance Disposal (EOD)	Explosive Ordnance Disposal is the detection, identification, on-site evaluation, rendering safe, recovery and final disposal of unexploded explosive ordnance.
Explosive Ordnance Reconnaissance (EOR)	Explosive Ordnance Reconnaissance is the detection, identification and on-site evaluation of unexploded explosive ordnance before Explosive Ordnance Disposal.
Explosive Remnants of War (ERW)	Explosive Remnants of War are Unexploded Ordnance (UXO) and Abandoned Explosive Ordnance (AXO), excluding landmines.

Explosive Substances and Articles (ESA)	Explosive substances are solid or liquid substances (or a mixture of substances), which are either: • capable by chemical reaction in itself of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. • designed to produce an effect by heat, light, sound, gas or smoke, or a combination of these as a result of a non-detonative, self-sustaining, exothermic reaction. Explosive article is an article containing one or more explosive substances.
Fuze	A fuze is the part of an explosive device that initiates the main explosive charge to function. In common usage, the word fuze is used indiscriminately, but when being specific (and in particular in a military context), fuze is used to mean a more complicated device, such as a device within military ordnance.
Gaine	Small explosive charge that is sometimes placed between the detonator and the main charge to ensure ignition.
Geophysical survey	A geophysical survey is essentially a range of methods that can be used to detect objects or identify ground conditions without the need for intrusive methods (such as excavation or drilling). This is particularly suited to ordnance as disturbance of ordnance items is to be avoided where ever possible.
Gold line	This is the estimated limit of blast damage from an explosive storage magazine. It usually means that development within this zone is restricted.
High Explosive	Secondary explosives (commonly known as High Explosives (HE)) make up the main charge or filling of an ordnance device. They are usually less sensitive than primary explosives. Examples of secondary explosives are: Nitro glycerine (NG), Trinitrotoluene (TNT), AMATOL (Ammonia nitrate + TNT), Gunpowder (GP), and Cyclotrimethylenetrinitramine (RDX).
Munition	Munition is the complete device charged with explosives, propellants, pyrotechnics, initiating composition, or nuclear, biological or chemical material for use in military operations, including demolitions. This includes those munitions that have been suitably modified for use in training, ceremonial or non-operational purposes. These fall into three distinct categories:- • inert - contain no explosives whatsoever. • live - contain explosives and have not been fired. • blind - have fired but failed to function as intended.

Primary Explosive	Primary explosives are usually extremely sensitive to friction, heat, and pressure. These are used to initiate less sensitive explosives. Examples of primary explosives are: Lead Azide, Lead Styphnate, and Mercury Fulminate. Primary explosive are commonly found in detonators.
Propellants	Propellants provide ordnance with the ability to travel in a controlled manner and deliver the ordnance to a predetermined target. Propellants burn rapidly producing gas, pressure and flame. Although usually in solid form they can be produced in liquid form. Examples of propellants are: Ballistite often found in a flake form and Cordite used in small arms ammunition.
Pyrotechnic	A pyrotechnic is an explosive article or substance designed to produce an effect by heat, light, sound, gas or smoke, or a combination of any of these, as a result of non-detonative, self-sustaining, exothermic chemical reactions.
Small Arms Ammunition (SAA)	SAA includes projectiles around 12mm or less in calibre and no longer than approximately 100mm. They are fired from a variety of weapons, including rifles, pistols, shotguns and machine guns.
Unexploded Anti-Aircraft (UXAA) Shell	UXAA shells are army ordnance commonly containing HE, though they can also contain pyrotechnic compounds that produce smoke. Most commonly, these were 3.7” and 4.5” HE shells, although they ranged from 2” to 5.25” calibre.
Unexploded Bomb (UXB)	UXB is a common term for unexploded air-dropped munitions.
Unexploded Ordnance (UXO)	UXO is explosive ordnance that has been either primed, fuzed, armed or prepared for use and has been subsequently fired, dropped, launched, projected or placed in such a manner as to present a hazard to operations, persons or objects and remains unexploded either by malfunction or design.
V1	The Vergeltungswaffe-1, V-1, also designated Fieseler Fi 103/FZG-76, known colloquially in English as the Flying Bomb, Buzz Bomb or Doodlebug, was the first guided missile used in WWII and the forerunner of today's cruise missile.
V2	The Vergeltungswaffe 2 (V-2) (‘Reprisal Weapon 2’) was the first ballistic missile. It was used by the German Army primarily against Belgian and British targets during the later stages of WWII. The V-2 was the first man-made object launched into space, during test flights that reached an altitude of 189km (117 miles) in 1944.

Appendix 5 Aircraft Crashes

17th May 1940

1No. Lockheed Hudson I (N7365) bomber aircraft crashed west of RAF Ringway, approximately 0.8km southwest of the Site.

1st February 1941

1No. Curtis P-36 Mohawk IV (AR664) fighter aircraft crashed northeast of RAF Ringway, approximately 1km southeast of the Site.

1No. Fairey Fulmar II (N4043) fighter aircraft crashed on the southwest side of RAF Ringway, approximately 2.7km south of the Site.

23rd November 1941

1No. General Aircraft Hotspur (BT488) military glider crashed near RAF Ringway, within approximately 1km of the Site.

8th March 1942

1No. Airspeed Horsa (DP600) military glider crashed near RAF Ringway, within approximately 1km of the Site.

1st May 1942

1No. Avro Lancaster I (L7529) bomber aircraft crashed on the northeast corner of RAF Ringway, approximately 1.6km northeast of the Site.

29th May 1942

1No. Armstrong Whitworth Whitley (serial number unknown) bomber aircraft crashed on RAF Ringway, approximately 0.8km southeast of the Site.

31st May 1942

1No. Miles Master (serial number unknown) training aircraft crashed on the northeast corner of RAF Ringway, approximately 1.6km northeast of the Site.

3rd June 1942

1No. Armstrong Whitworth Albemarle (serial number unknown) transport aircraft crashed on the runway at RAF Ringway, approximately 1km southeast of the Site.

17th September 1942

1No. Vickers Wellington (serial number unknown) bomber aircraft crashed on the northeast side of RAF Ringway, approximately 1.4km northeast of the Site.

30th January 1943

1No. Vickers Wellington (serial number unknown) bomber aircraft crashed on the southwest side of RAF Ringway, approximately 1.3km south of the Site.

7th March 1943

1No. B-24J, Liberator III (FK218) bomber aircraft crashed on open ground approximately 1.5km east of the Site.

16th March 1943

1No. North American P-51 Mustang (serial number unknown) fighter aircraft crashed on the east side of RAF Ringway, approximately 1.5km southeast of the Site.

20th September 1943

1No. Armstrong Whitworth Whitley (serial number unknown) bomber aircraft crashed on RAF Ringway, approximately 1.1km south of the Site.

27th September 1943

1No. Supermarine Spitfire (serial number unknown) fighter aircraft crashed on the runway at RAF Ringway, approximately 1km southeast.

23rd February 1944

2No. Armstrong Whitworth Whitley V (LA 948 and LA 895) bomber aircraft collided at the junction of Runway 10/28 and Runway 06/24, approximately 1.1km southeast of the Site. LA 948 was thrown into the air and crashed near Hangar No. 2, approximately 1km east of the Site.

16th March 1945

1No. B-17 Flying Fortress (serial number unknown) bomber aircraft crashed at the junction of Runway 10/28 and Runway 06/24, approximately 1.1km southeast of the Site.

15th November 1948

1No. Avro York (MW327) transport aircraft crashed in a field at Cloughbank Farm, approximately 0.5km southeast of the Site.

11th May 1950

1No. Supermarine Spitfire F.22 (PK599) fighter aircraft crashed at RAF Ringway, approximately 0.8km southeast of the Site

Appendix 6 Bibliography

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S & Slade N J, Land Contamination: Technical Guidance on Special Sites: MoD Land

Bulloch G, Steeds J E, Green K, Sainsbury M G, Brockwell J S, & Slade N J, R&D Technical Report P5-042/TR/03, Land Contamination: Technical Guidance on Special Sites: Explosives Manufacturing & Processing Sites

Cheshire County Council, Wartime Cheshire, 1939-1945, 1995

CIRIA, Unexploded Ordnance (UXO), a Guide for the Construction Industry, 2009

Clarke N J, Luftwaffe Target Reconnaissance, German aerial Photography 1939-1942, 1996

Clarke N J, Adolf's British Holiday Snaps: Luftwaffe Aerial Reconnaissance Photographs of England, Scotland and Wales, 2012

Cocroft W D, Dangerous Energy, 2000

Cocroft W D, Thomas R J, Cold War, 2003

Department of the Environment, Sampling Strategies for Contaminated Land, Department of the Environment: Contaminated Land Research Report, CLR Report No. 4, 1994.

Delve K, The Military Airfields of Britain: Northern England, 2006

Dobinson C S, Twentieth Century Fortifications in England, Volume I 1, Anti-aircraft artillery, England's air defence gun sites. 1914 – 46. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 2, Anti-aircraft artillery, Site gazetteer, WWI. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I. 3. Anti-aircraft artillery, 1914-46, Site gazetteer, WWII HAA & ZAA. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 4, Anti-aircraft artillery, Site gazetteer, WWII LAA. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume I 5, Anti-aircraft artillery, Sources. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume II, Anti-invasion defences of WWII. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume III, Bombing decoys of WWII, England's passive air defence 1939-45. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Volume VIII, Civil defence in WWII, Protecting England's Civil Population. Council for British Archaeology, 1996

Dobinson C S, Twentieth Century Fortifications in England, Supporting paper AA/1 Searchlight sites in WWII. Council for British Archaeology, 1996

Dobinson C S, Fields of Deception, Britain's Bombing Decoys of World War II, 2000

Dobinson C S, AA Command, 2001

Fegan T, The Baby Killers, 2002

Greenacre J, Churchill's Spearhead: The Development of Britain's Airborne Forces During World War II, 2010

Hardy C, Manchester at War, 2005

Manchester Evening News, Our Blitz: Red Skies over Manchester, 1945

Morris J, German Air Raids on Britain 1914-1918, 1993

Phythian G, Blitz Britain: Manchester and Salford, 2015

Price A, Blitz on Britain 1939-45, 2000

Ramsey W, The Blitz Then and Now, Vol 1, 1987

Ramsey W, The Blitz Then and Now, Vol 2, 1988

Ramsey W, The Blitz Then and Now, Vol 3, 1990

Robinson B R, Aviation in Manchester: A Short History, 1977

Scholefield R A, Airfield Focus No. 6: Ringway, 1937-1992, 1992

Scholefield R A, Manchester Airport, 1998

Smith D, Action Stations: Military Airfields of Wales and the North West, 1981

Smith D, Britain's Military Airfields 1939-1945, 1989

Smith J C, Luftwaffe over Manchester: The Blitz Years: 1940-1944, 2003

Zetica, ZeticaUXO Handbook: a guide to dealing with UXO during construction, 2018

Established for over 30 years, Zetica's services include

- ☑ Desk studies
- ☑ Unexploded ordnance risk assessments and risk mitigation
- ☑ Utility services detection
- ☑ Environmental and engineering geophysical surveys
- ☑ Transport infrastructure surveys
- ☑ Pipeline & cable route surveys
- ☑ Intrusive ground investigations

More details are available at

www.zetica.com


zeticauxo

Appendix D Factual Report

BUILDING 401,
MANCHESTER AIRPORT

FINAL
FACTUAL GROUND
INVESTIGATION REPORT

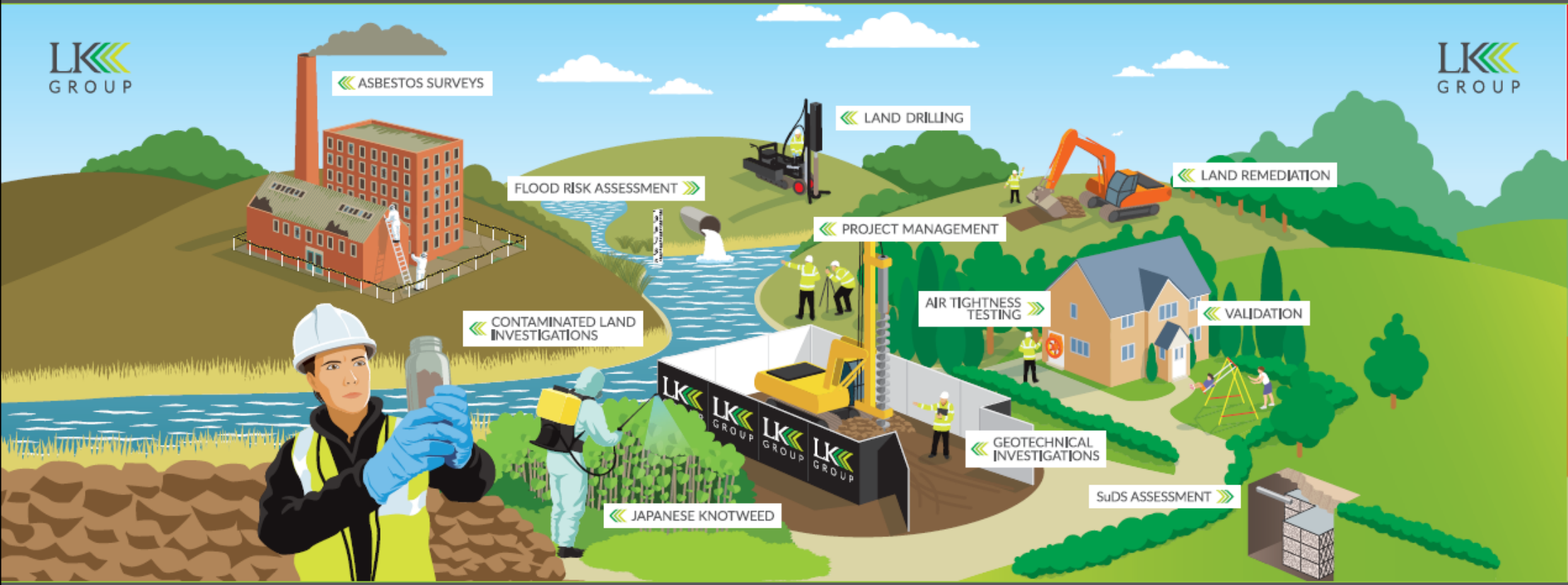
Job Number: LKC 22 1225
Date: 20th July 2022
Client: Threadneedle Curtis Ltd



INCREASING LAND VALUE

LK GROUP

INCREASING LAND VALUE



LK GROUP

LK Consult Document Verification			
Site Address	Building 401, Avro Way/Pinfold Lane, Manchester, M90 5XR		
Report Title	Final Factual Ground Investigation Report		
Job Number	LKC 22 1225	**Document Ref.**	CL-602-LKC 22 1225-02
Date Issued	20th July 2022	**Report Version**	R0
Prepared By	Rachel Peart	**Reviewed By**	Colin Crompton

Revision Record			
Revision No.	**Date**	**Nature of Revision**	**Approved By**
1	10/08/2022	Added Appendix G for Core Photographs. Added SPT Hammer Certificates to App. A. Updated summary of Geotech lab testing.	RP

DISCLAIMER

This report has been prepared by LK Consult (LKC) who have exercised such professional skill, care and diligence as may reasonably be expected of a properly qualified and competent consultant, experienced in preparing reports of a similar scope.

However, to the extent that the report is based or relies upon information contained in records, reports or other materials provided to LKC, which have not been independently produced or verified, LKC gives no warranty, representation or assurance as to the accuracy or completeness of such information.

This report is issued on the condition that LKC will not be held liable for any loss arising from ground conditions between sampling points (i.e. boreholes/trial pits/hand augers/surface samples) which have not been shown by the sampling points or related testing carried out during the investigation, nor for any loss arising from conditions below the maximum depth of the investigation. Opinions on such conditions, where given, are for general guidance only.

This report is prepared solely for the benefit of Threadneedle Curtis Ltd. It may not be relied upon by, or submitted to a third party for their reliance for the purposes of valuation, mortgage, insurance and regulatory approval, until all invoices have been settled in full.

Those using this information in subsequent assessments or evaluations do so at their own risk.

EXECUTIVE SUMMARY

Site Details

Site Location:	The site is located to the west of the junction between Avro Way and Pinfold Lane. Centred at approximate National Grid Reference 380910E 384825N.
Site Area:	2.16Ha.
Current Land Use:	The site currently comprises the demolition site of Building 401.
Proposed Development:	Planning Application No. 131892/FO/2021: erection of a terrace of three Class B8 warehouse units with associated parking, access and landscaping, following demolition of existing building.
Purpose of Report:	Factual Contamination and Geotechnical information.

Ground Investigation Work Undertaken

Date of Investigation:	24th May to 7th June 2022.
Intrusive Investigation Work Undertaken:	7no. cable percussive boreholes (BH101-BH106, DS101). 4no. follow on rotary core boreholes (BH101, BH102, BH104 and BH106).
Monitoring Wells:	Installed in BH101-BH106.
Contamination Testing – Soils	16no. samples tested for metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, cyanide suite, FOC and asbestos screen (Suite S-1) 14no. samples tested for PCBs, SVOCs, VOCs. 6no. samples tested for Inert WAC. 6no. samples tested for leachable metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity and nitrate. 6no. samples tested for leachable PCBs, SVOCs, VOCs.
Contamination Testing – Groundwater	6no samples tested for metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity, nitrate, PCBs, SVOCs and VOCs.
Monitoring:	6no. gas monitoring visits over 6 weeks months.
Insitu Testing	SPTs, hand shear vanes, lightweight deflectometer, PID headspace.
Laboratory Geotechnical Testing:	18no. samples tested for BRE Suite D. 10no. samples tested for Density and Moisture Content. 19no samples tested Atterberg Limits. 6no. samples tested for Particle Size Distribution. 7no. samples tested for One-Dimensional Consolidation. 11no. samples tested for Quick Undrained Triaxial. 13no. samples tested for Uniaxial Compressive Strength. 17no. samples tested for Point Load (axial and diametral).
Other Work:	Falling Head Tests.

CONTENTS

EXECUTIVE SUMMARY ..... **iv**

1 Introduction **6**

1.1 Background 6
1.2 Site Details 7

2 Ground Investigation **8**

2.1 Site Investigation Design and Methodology 8
2.2 Well Installations 8
2.3 Sampling Protocol 9
2.4 Gas Monitoring 11
2.5 Geotechnical Testing 11
2.6 Falling Head Tests 13

3 Ground Conditions **14**

3.1 Geology – Generalised Sequence 14
3.2 Groundwater 15
3.3 In-Situ Geotechnical Testing 16
3.4 Geotechnical Laboratory Testing 18

FIGURES

Figure 1: Site Location and Boundary Plan
Figure 2: Proposed Development Plan
Figure 3: As Built Borehole Location Plan

APPENDICES

Appendix A: Profile Logs with SPT Hammer Efficiency Certificates
Appendix B: Certificates of Analysis – Soil and Leaching Tests
Appendix C: Certificate of Analysis – Groundwater
Appendix D: Gas Monitoring Results
Appendix E: Certificate of Analysis – Geotechnical
Appendix F: Falling Head Tests
Appendix G: Rock Core Photographs

1 Introduction

1.1 Background

LK Consult Ltd (LKC) has been commissioned by R&M Developments Ltd on behalf of Threadneedle Curtis Ltd to carry out a Ground Investigation for Building 401, Manchester Airport.

The investigation was undertaken to provide information to assess the geotechnical, geo-environmental, geological and hydrological ground conditions in order to inform design of the proposed redevelopment of the site (planning application no. 131892/FO/2021).

LKC are aware of the following work which has previously been undertaken:

- Phase 1 Tier 1 Geo-Environmental and Geotechnical Assessment, undertaken by AECOM Ltd (Ref: 60663052-ACM-402-XX-RP-G-00001, Revision 100, dated 24th February 2022).

This report details the investigation work undertaken to date using the recommended scope of works provided by AECOM Ltd (specification document 60663052-ACM-401-XX-SP-G-00002, dated 8th March 2022). The scope of work comprised:

- 7no. hand dug inspection pits to 1.2 metres below ground level (mbgl).
- 1no. dynamic sampling borehole to 5.00mbgl.
- 6no. cable percussive boreholes with follow on rotary coring.
- On site testing to include SPTs, UT100/U100s, hand shear vanes and lightweight deflectometer tests.
- Insitu permeability testing within cable percussive boreholes.
- Collection of soil and rock samples for contamination and geotechnical testing purposes.
- Photo Ionisation Detector testing.
- Installation of 50mm internal diameter gas/water monitoring wells.
- Groundwater monitoring and sampling following completion of fieldworks.
- Gas monitoring of well installations following completion of fieldworks.
- Geotechnical and chemical laboratory testing.
- Factual report with AGS data.

Given the prevailing ground conditions encountered during the fieldworks AECOM Ltd as Investigation Supervisor issued a variation that follow on rotary cores would be undertaken in 4no. locations only, but the termination depth would be deeper than assumed in the specification document. The termination depths upon coring were ultimately between 14.5 and 25.0mbgl.

It should be noted that LKC assume that all previous work has been submitted to and approved by the regulators.

1.2 Site Details

A summary of the site details is presented in Table 1-1. Figure 1 indicates the site location and boundary. Figure 2 indicates the proposed development.

Site Location	The site is located to the west of the junction between Avro Way and Pinfold Lane. Centred at approximate National Grid Reference 380910E 384825N.
Approximate Area	2.16Ha.
Topography	66-69 metres Above Ordnance Datum (AOD). Site slopes very gradually from north east down to the south west.
Current Site Use	At the time of the fieldworks building B401 was undergoing demolition. Areas of hardstanding were present to the northwest and southeast elevations with a soft landscaped verge and a backfilled service trench to the north east elevation. The area of hardstanding to the south west of the building was a former bus depot operated by Manchester Airport with associated vehicle wash and above ground storage tanks and pumps for refuelling buses. An electrical substation is located on the western side of the building and a HV cable is known to run under the building from Pinfold Lane.
Planning Ref.	131892/FO/2021.
Proposed Development	Erection of a terrace of three Class B8 warehouse units with associated parking, access and landscaping, following demolition of existing building.

Table 1-1: Summary of site details.

2 Ground Investigation

2.1 Site Investigation Design and Methodology

In order to assess the ground conditions at the site and to investigate the potential pollutant linkages identified in the preliminary contamination conceptual model an intrusive investigation was undertaken.

The investigation was carried out on 24th May 2022 to 7th June 2022 and comprised the following:

- 6no. cable percussive boreholes drilled to 4.50 to 10.25 metres below ground level (mbgl) (ref. BH101 to BH106).
- 6no. follow on rotary cored boreholes through the cable percussive boreholes, drilled to 14.50 to 25.00mbgl (ref. BH101, BH102, BH104 and BH106).
- 1no. cable percussive borehole drilled to 5.20mbgl (ref. DS101).
- Hand excavated inspection pits to 1.20mbgl with shear vane tests undertaken at 0.25m intervals to 0.75mbgl and CBR tests undertaken using a Lightweight Deflectometer at 0.3m intervals between depths of 0.30mbgl and 0.90mbgl. It was agreed with AECOM Ltd that a lightweight deflectometer test would not be carried out at 1.20mbgl in each location.

A hand dug inspection pit and in situ testing was not possible within BH101 due to concrete present between 0.30 to 1.00mbgl. This was noted as the former loading bay or dock. The concrete was broken out by R&M Developments Ltd and then backfilled with granular material to facilitate drilling.

Shear vane and lightweight deflectometer tests were not carried out in BH101 due to the presence of concrete to 1.0mbgl. It was agreed with AECOM Ltd that this testing would be carried out in the nearby DS101.

Cable percussion boreholes were carried out to allow contamination and geotechnical sample collection in addition to an assessment of the deeper ground conditions for geotechnical purposes. Follow on rotary coring was then undertaken from the base of the cable percussive boreholes in BH101, BH102, BH104 and BH106. This was a variation specified by AECOM Ltd as a result of the prevailing ground conditions.

All site investigation locations are shown in Figure 3.

The intrusive locations were initially specified by AECOM Ltd with any variations from the specified locations agreed with AECOM Ltd prior to drilling. Locations and elevations of the intrusive positions were captured on site by R&M Developments Ltd.

All profile logs are provided in Appendix A and are in line with BS14688-1[1] and BS5930[2].

2.2 Well Installations

In total, 6no. of the boreholes (BH101 to BH106) were installed with monitoring wells for gas and groundwater monitoring, groundwater sampling. The well construction was agreed with the Investigation Supervisor prior to installation.

[1] British Standards (2002) Geotechnical investigation and testing – Identification and Classification of Soil. Part 1: Identification and description. BS EN ISO 14688-1:2002.
[2] British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.

Monitoring wells were installed in accordance with BS10175 and CIRIA C665[3] and generally comprised variable lengths plain pipe over slotted pipe surrounded by pea gravel and sealed at the top with bentonite and concrete.

Well installation details are provided in Profile Logs in Appendix A.

2.3 Sampling Protocol

2.3.1 Soil Sampling (Contamination)

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on site investigation[4].

Soil was collected for onsite testing. A plastic zip bag was half filled with soil allowing a suitably sized headspace. The bag was sealed and stored for at least 20 minutes before being tested for total volatile organic compounds (TVOCs) using a PhoCheck photoionisation detector (PID). Results of the PID readings are presented on the profile logs (Appendix A). The on-site monitoring was carried out in line CIRIA C665[5] to aid in screening samples for volatile analysis.

Soil samples of approximately 500g were recovered in amber jars, amber vials for volatile analysis and 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 Eurofins Chemtest laboratory in Newmarket for chemical testing. If collection was not possible the same day then samples were stored in the sample storage fridge at the LK Group offices below 4˚C. Samples were tracked using appropriate Chain of Custody forms provided by Chemtest.

Many of the contamination tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix B. Table 2-1 shows the soil testing undertaken.

Suites and Contaminants	No. Samples	Location and Depth	
Suite S-1 (Main Soils) Metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, cyanide suite, FOC and asbestos screen.	16	BH101 2.10-2.20m BH102 0.15-0.30m BH102 0.30-0.75m BH102 1.70-1.80m BH103 0.14-0.40m BH103 1.50-1.60m BH104 0.10-0.30m BH104 1.30-1.40m	BH105 0.20-0.40m BH105 1.50-1.60m BH106 0.10-0.40m BH106 1.40-1.50m DS101 0.00-0.30m DS101 0.30-0.44m DS101 0.44-0.60m DS101 1.65-1.75m
Suite S-2 (Additional Soils) PCBs, SVOCs, VOCs.	14	BH101 2.10-2.20m BH102 0.15-0.30m BH102 0.30-0.75m BH102 1.70-1.80m BH103 0.14-0.40m BH104 0.10-0.30m BH104 1.30-1.40m	BH105 0.20-0.40m BH105 1.50-1.60m BH106 0.10-0.40m DS101 0.00-0.30m DS101 0.30-0.44m DS101 0.44-0.60m DS101 1.65-1.75m

Table 2-1. Summary of soil sample testing undertaken.

[3] CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.
[4] EA (2000). "Technical Aspects of Site Investigation. Volumes 1 & 2 Text Supplements Research and Development Technical Report." P5-065/Tr.
[5] CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

Suites and Contaminants	No. Samples	Location and Depth	
Inert WAC Suite	6	BH101 2.10-2.20m BH102 1.70-1.80m DS101 0.00-0.30m	BH104 0.10-0.30m BH105 0.20-0.40m BH106 1.40-1.50m

Table 2-1. Summary of soil sample testing undertaken.
Notes:
If asbestos present during screen identification and quantification will be undertaken.
Metal/metalloids=arsenic, barium, beryllium, boron, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons, sulphate suite=sulphide, water soluble sulphate, elemental sulphur, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds, PCB=polychlorinated biphenyls, FOC=Fraction Organic Carbon.

Leaching tests were also undertaken on selected soil samples, the results of which are displayed with the soil samples in the Certificate of Analysis presented in Appendix B. Table 2-2 shows the leaching testing undertaken.

It should be noted that the leaching test is an aggressive test and may not give results that are truly representative; particularly for organic contaminants.

Suites & Contaminants	No. of Samples	Location & Depth
Suite L-1 (Soil Leachate) Metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity and nitrate. **Suite L-2 (Leachate Additional Suite)** PCBs, SVOCs, VOCs.	6	BH101 2.10-2.20m BH102 0.30-0.75m BH104 1.30-1.40m BH105 0.20-0.40m DS101 0.00-0.30m DS101 0.30-0.44m

Table 2-2: Summary of leaching testing undertaken.
Notes:
Metal/metalloids=arsenic, barium, beryllium, boron, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons, sulphate suite=sulphide, water soluble sulphate, elemental sulphur, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds, PCB=polychlorinated biphenyls.

2.3.2 Water Sampling

To establish the condition of groundwater LKC undertook 6no. groundwater samples.

The groundwater samples were collected a minimum of 1 week after drilling had finished and following well development. Sample collection was undertaken using a low flow sampling pump using thin-walled tubing to encourage laminar flow and minimise the potential loss of volatiles during sampling. The borehole was purged of all standing water and the sample collected from the recharged water. The sample was collected in glass and plastic bottles and a glass vial. A water meter was used to test the pH, temperature and conductivity before sampling until equilibrium conditions were met, as per BS10175[6] guidelines.

All water samples were placed in glass bottles, plastic bottles and septum topped vials and stored in ice packed cool boxes. The samples were sent to Eurofins Chemtest for analysis. The sampling suite is presented in Table 2-3.

Sampling was carried out in accordance with BS5930[7] and BS5667-11[8].

[6] British Standard (2017). "Investigation of Potentially Contaminated Sites – Code of Practice." BS10175:2017.
[7] British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.
[8] British Standard (2009). "Water Quality – Sampling. Part 11: Guidance on Sampling of Groundwaters". BS ISO 5667-11:2009.

Many of the tests are UKAS or MCERTS accredited and further details are given in the Certificate of Analysis presented in Appendix C. Table 2-3 shows the groundwater testing undertaken.

Suites and Contaminants	No. Samples	Location
Suite W-1 (Waters) Metals / metalloids, pH, sulphate suite, speciated PAHs, TPHCWG, phenols, ammoniacal nitrogen cyanide suite, chloride, electrical conductivity and nitrate. **Suite W-2 (Additional Waters)** PCBs, SVOCs, VOCs.	6	BH101 BH102 BH103 BH104 BH105 BH106

Table 2-3. Summary of groundwater sampling tests undertaken.

Notes:
Metal/metalloids=arsenic, barium, beryllium, boron, cadmium, chromium, (total and hexavalent), copper, lead, mercury, nickel, selenium, vanadium, zinc; TPHCWG=carbon banded and aromatic/aliphatic split petroleum hydrocarbons; PAH=polycyclic aromatic hydrocarbons, sulphate suite=sulphide, water soluble sulphate, elemental sulphur, VOC=Volatile organic Compounds, SVOC= Semi Volatile Organic Compounds, PCB=polychlorinated biphenyls.

2.4 Gas Monitoring

All the installed boreholes have been monitored for gas and groundwater levels on 6no. occasions over 6no. weeks.

Monitoring was undertaken using a Geotechnical Instruments GA5000 in accordance with the monitoring protocol outlined in CIRIA C665[9] (flow rate measured first). The monitoring aimed to be undertaken over a range of weather conditions (including low and falling barometric pressure and heavy rain) to demonstrate worst-case conditions.

As per the recommended scope of works provided by AECOM Ltd, gas flow was recorded for 3 minutes and gas concentrations were recorded for 10 minutes.

The gas monitoring results (including PID results), are reproduced in full in Appendix D.

2.5 Geotechnical Testing

2.5.1 In-situ Onsite Geotechnical Testing

In-situ geotechnical tests were performed in the hand dug starter pits and boreholes to further characterise the sub-soil conditions. The following tests were undertaken:

- Shear Vane tests (giving undrained shear strength) were performed in the hand dug inspection pits at 0.25m intervals (to a maximum depth of 0.75mbgl) within cohesive strata.
- Lightweight Deflectometer tests were performed in the hand dug inspection pits at depths of 0.3mbgl, 0.6mbgl and 0.9mbgl.
- Standard Penetration Tests (SPTs) were performed in the cable percussion and rotary core boreholes at approximately 1m intervals, generally within the natural strata.

The SPT and Shear Vane readings are provided within the profile logs (Appendix A).

The lightweight deflectometer was a Zorn ZFG 3.0 with a 300mm diameter plate. The test results (presented as equivalent CBR %) are summarised in Table 3-4.

[9] CIRIA (2007). "Assessing Risks Posed by Hazardous Ground Gases to Buildings." CIRIA C665.

2.5.2 *Laboratory Geotechnical Testing*

Soil samples taken during the investigation were collected in tubs, bulk bags and sealed UT100/U100 tubes and sent to Professional Soil Laboratories for geotechnical testing.

Many of the tests are UKAS accredited and further details will be given in the laboratory report. Table 2-4 shows the geotechnical testing scheduled.

Testing Suites	No. Samples	Location	
BRE Suite D pH and water-soluble sulphate also included in contamination testing Suite S-1	18	BH101 1.50m BH101 4.50-5.50m BH101 8.50-10.00m BH101 19.00-20.50m BH102 2.00-2.45m BH102 8.00-9.50m BH103 0.75m BH103 2.00-2.45m BH103 4.00-4.45m	BH104 11.50-13.00m BH104 17.00-18.50m BH105 2.00-2.45m BH105 4.00-4.45m BH105 6.00-6.45m BH106 0.5m BH106 6.00-6.45m BH106 8.50-10.00m BH106 13.00-14.50m
Density Test and Moisture Content	10	BH101 2.00-2.45m BH102 1.20-1.65m BH102 3.00-3.45m BH103 1.20-1.65m BH103 3.00-3.45m	BH104 7.00-7.25m BH105 1.00-1.45m BH105 3.00-3.45m BH106 1.20-1.65m BH106 3.00-3.45m
Atterberg Limits (plasticity testing) and Moisture Content	19	BH101 1.50m BH101 3.00-3.45m BH101 4.00-4.45m BH101 4.50-4.95m BH102 2.00-2.45m BH102 4.00-4.45m BH103 1.20-1.65m BH103 3.00-3.45m BH103 4.00-4.45m BH103 5.00-5.45m	BH104 1.20-1.65m BH104 4.50m BH104 7.00-7.25m BH105 2.00-2.45m BH105 6.00-6.45m BH106 2.00-2.45m BH106 5.00-5.45m BH106 6.00-6.45m BH106 7.00-7.45m
Particle Size Distribution (PSD)	6	BH101 1.50m BH103 2.00-2.45m BH103 4.00-4.45m	BH105 2.00-2.45m BH105 4.00-4.45m BH106 2.00-2.45m
One-Dimensional Consolidation Test	7	BH102 1.20-1.65m BH102 3.00-3.45m BH103 1.20-1.65m BH103 3.00-3.45m	BH105 1.00-1.45m BH105 3.00-3.45m BH106 1.20-1.65m
Quick Undrained Triaxial	11	BH101 2.00-2.45m BH102 1.20-1.65m BH102 3.00-3.45m BH103 1.20-1.65m BH103 3.00-3.45m BH104 2.20-2.65m	BH104 4.00-4.45m BH105 1.00-1.45m BH105 3.00-3.45m BH106 1.20-1.65m BH106 3.00-3.45m

Table 2-4: Summary of geotechnical testing undertaken.

Testing Suites	No. Samples	Location	
Uniaxial Compressive Strength and Moisture Content	13	BH101 4.50-5.50m BH101 5.50-7.00m BH101 8.50-10.00m BH101 19.00-20.50m BH102 8.00-9.50m BH102 9.50-11.00m BH102 14.00-15.50m	BH104 10.00-11.50m BH104 17.00-18.50m BH106 8.50-10.00m BH106 10.00-11.50m BH106 11.50-13.00m BH106 13.00-14.50m
Point Load -Axial and Diametral and Moisture Content	17	BH101 4.50-5.50m BH101 5.50-7.00m BH101 8.50-10.00m BH101 19.00-20.50m BH102 8.00-9.50m BH102 9.50-11.00m BH102 14.00-15.50m BH102 20.00-21.30m BH104 10.00-11.50m	BH104 14.00-15.00m BH104 17.00-18.50m BH104 18.50-20.00m BH104 23.00-24.50m BH106 8.50-10.00m BH106 10.00-11.50m BH106 11.50-13.00m BH106 13.00-14.50m

Table 2-4(continued): Summary of geotechnical testing undertaken.

2.6 Falling Head Tests

LKC undertook falling head tests to assess the permeability of the ground. The tests were carried out in general accordance with guidance given in BS5930[10] and BS 22282[11].

The tests were carried out in within the cable percussive boreholes during drilling work.

Groundwater levels were measured prior to undertaking the tests. Water was added to the well to a known depth and falling water levels were measured over time.

The results are presented in Appendix F.

[10] British Standard (2015). "Code of Practice for Ground Investigations". BS5930:2015.
[11] British Standards (2012). 'Geotechnical investigation and testing – Geohydraulic testing. Part 2: Water permeability tests in a borehole using open systems'. BS EN ISO 22282-2:2012

3 Ground Conditions

3.1 Geology – Generalised Sequence

The ground conditions beneath the site comprised made ground underlain by natural slightly gravelly silty CLAY and further underlain by MUDSTONE bedrock. A summary section of the logs is provided in Plate 3-1, with additional comments below. Photographs of the rock core are provided in Appendix G.

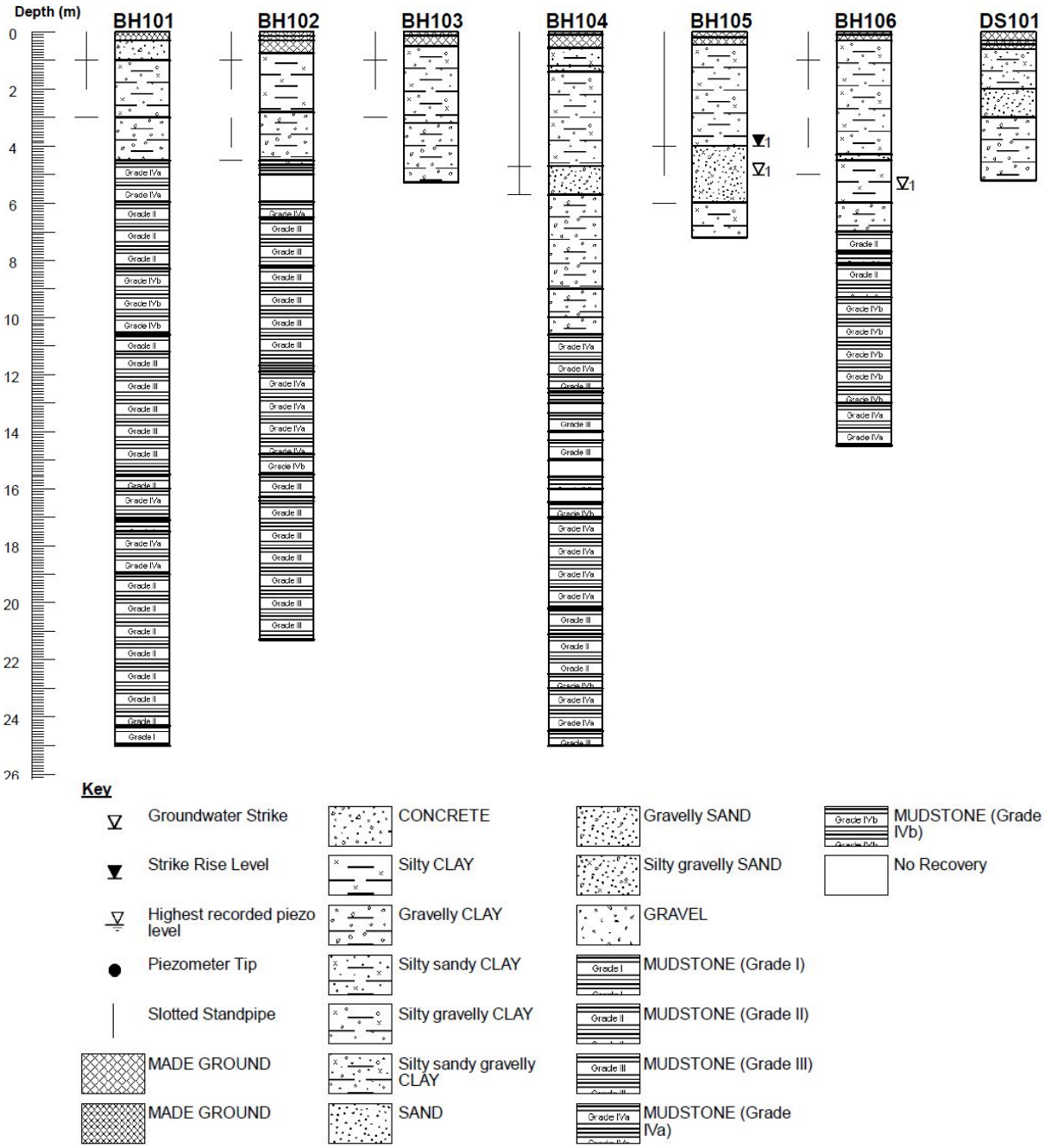


Plate 3-1: Summary of ground conditions.

Additional information on ground conditions:

Made Ground

Made ground was recorded in all boreholes to depths of 0.30 to 0.75mbgl and consists of tarmacadam over sandy gravel sub base material. The exceptions to this were in BH101 where tarmacadam and sub-base was recorded to 0.30mbgl underlain by concrete to 1.00mbgl and DS101 where gravelly sandy silt with brick, coal and ash was recorded to 0.30mbgl underlain by grey becoming orange sandy gravel sub-base to 0.6mbgl.

Natural Strata

Natural strata comprised horizons of firm to very stiff clay, interbedded in some locations with horizons of medium dense to dense, variably gravelly sand.

Weathered mudstone bedrock recovered as friable gravelly clay was encountered at the base all the boreholes locations from 2.80-9.00mbgl.

Mudstone bedrock was encountered in BH101, BH102 and BH106 to depths of >14.5->25mbgl. Bedrock in BH104 comprised of mudstone with bands recovered as clay or no recovery. The extent of weathering varied between destructured (Grade IVa) and Unweathered (Grade I).

3.2 Groundwater

3.2.1 Groundwater Levels

Groundwater strikes were recorded during the investigation in the boreholes. In addition, groundwater monitoring within the borehole wells has been undertaken on 6no. occasions. An oil-water interface probe (approximately 1cm detection limit) was used to detect the presence of free phase hydrocarbons within each borehole.

Results are summarised in Table 3-1.

BH/TP	Water Strike Depths (mbgl)	Well Response Zone (mbgl)	No. of Monitoring Visits	Monitoring Depths (mbgl)			Sample Taken?	Evidence of Contam?
				Min	Max	Base		
BH101	NR	1.00-3.00 (C)	6	1.43	1.70	3.01-3.08	Yes	No
BH102	NR	1.00-4.50 (C)	6	1.44	1.64	4.30-4.46	Yes	No
BH103	NR	1.00-3.00 (C)	6	2.31	2.49	3.03-3.08	Yes	No
BH104	NR	4.70-5.70 (S)	6	3.44	3.80	5.55-5.70	Yes	No
BH105	5.00	4.00-6.00 (S)	5	3.35	3.50	6.67-6.76	Yes	No
BH106	5.50	1.00-5.00 (C/S)	6	3.06	3.21	4.93-4.99	Yes	No
DS101	NR	Not installed					No	No

Table 3-1: Summary of water strike depths within boreholes.
Response Zones:
S=Sand; C=Clay
Notes: NR= None recorded.

3.2.2 Permeability Tests

The results of the falling head tests are presented in Appendix F and summarised in Table 3-2.

BS5930[12] indicates that if 'Ho' is taken as the groundwater 'Head' above baseline conditions following the addition of water at the start of the permeability test and 'H' is the measured groundwater 'Head' above baseline conditions at any given time during the test then the time taken to reach a head ratio (H/Ho) of 0.37 is used to calculate the permeability of the soils.

Where slow progress was observed and H/Ho of 0.37 was not reached, the permeability has not been calculated.

Due to slow draining, only one test was carried out in each borehole.

BH	Response Zone (mbgl) and Strata	Test No.	Initial water level (mbgl)	Basic Time Lag (where H/Ho=0.37)	Permeability (k) m/sec
BH101	2.00-3.00 (C)	1	Dry	N/A (0.37 not reached)	N/A
BH102	3.00-4.00 (WM)	1	Dry	N/A (0.37 not reached)	N/A
BH103	1.00-2.05 (C)	1	Dry	N/A (0.37 not reached)	N/A
BH104	1.05-2.05 (S/C)	1	Dry	N/A (0.37 not reached)	N/A
BH105	2.25-3.29 (C)	1	Dry	N/A (0.37 not reached)	N/A
BH106	2.60-3.85 (C)	1	Dry	N/A (0.37 not reached)	N/A

Table 3-2: Summary of falling head tests and permeability.
Notes
C=Clay; S=SAND; WM=weathered mudstone.

All 6no. falling head tests failed as they did not reach the H/Ho value.

3.3 In-Situ Geotechnical Testing

3.3.1 Standard Penetration Tests

In-situ standard penetration tests (SPTs) were undertaken, predominantly in the natural ground. The results are summarised in Table 3-3 and provided within the profile logs in Appendix A.

[12] BSI (1999). "Code of Practice for Site Investigations".

Approximate Depth (mbgl)	SPT 'N' Values			
	BH101	BH102	BH103	BH104
1-2	-	-	-	16
2-3	-	22	18	-
3-4	50	-	-	22
4-5	50/75mm 50/225mm	50/35mm 50/45mm	50/145mm	50/190mm
5-6	-	-	50/105mm	50/275mm
6-7	-	50/150mm	-	-
7-8	50/160mm	-	-	50/105mm
8-9	-	50/45mm	-	50/115mm
9-10	-	-	-	50/95mm
10-11	50/40mm	-	-	50/95mm
11-12	-	50/115mm	-	-
13-14	50/40mm	-	-	34
15-16		50/15mm		50/25mm
16-17	50/35mm	-	-	-
17-18	-	-	-	50/125mm
18-19	-	50/45mm	-	-
19-20	50/30mm	-	-	-
20-21	-	-	-	50/25mm
22-23	50/35mm	-	-	-
23-24	-	-	-	50/152mm
25-26	50/20mm	-	-	50/45mm
GW Level	-	-	-	-

Table 3-3: Summary of SPT (N) values.
Notes:
Groundwater level based on strikes during investigation.

Approximate Depth (mbgl)	SPT 'N' Values		
	BH105	BH106	DS101
2-3	15	16	23
3-4	-	-	50/290mm
4-5	39	40	50/25mm
5-6	26	37	50/30mm
6-7	50	49	-
7-8	50/225mm	50/75mm	-
GW Level	5.00m	5.50m	-

Table 3-3 (continued): Summary of SPT (N) values.
Notes:
Groundwater level based on strikes during investigation.

3.3.2 Lightweight Deflectometer Tests

Equivalent CBR values have been obtained from a Lightweight Deflectometer at 0.30m intervals within the hand dug inspection pits. Equivalent CBR results are presented in Table 3-4.

DS101		BH102		BH103	
Depth (m)	CBR (%)	Depth (m)	CBR (%)	Depth (m)	CBR (%)
0.30 (MG)	8	0.30 (MG)	33	0.30 (MG)	26
0.60 (C)	10	0.60 (MG)	23	0.60 (C)	3
0.90 (C)	6	0.90 (C)	11	0.90 (C)	5

Table 3-4: Summary of Equivalent CBR (%) values.
Notes: MG = Made Ground; C=Clay.

BH104		BH105		BH106	
Depth (m)	CBR (%)	Depth (m)	CBR (%)	Depth (m)	CBR (%)
0.30 (MG)	21	0.30 (MG)	11	0.30 (C)	6
0.60 (C)	9	0.60 (C)	4	0.60 (C)	15
0.90 (C)	4	0.90 (C)	7	0.90 (C)	4

Table 3-4 (continued): Summary of Equivalent CBR (%) values.
Notes
MG = Made Ground; C=Clay.

Equivalent CBR readings in the made ground varied between 8 and 33%. The made ground recorded in DS101 was a gravelly sandy silt unlike the other locations which were sandy gravels (sub-base). This is likely to have influenced the lower CBR values in DS101.

3.3.3 Shear Vanes

Hand shear vane readings, recording undrained shear strength (s_u), were taken within the clay strata at prescribed intervals. The results are summarised in Table 3-5 and provided within the profile logs in Appendix A.

Approximate Depth (mbgl)	Average Undrained Shear Strength (kPa)					
	DS101	BH102	BH103	BH104	BH105	BH106
0.25	-	-	-		-	-
0.50	-	-	P=87.33 R=20.33	P=73.00 R=13.00	P=61.67 R=15.67	P=38.00 R=28.00
0.75	P=83 R=11.67	-	P=53.67 R=9.67	P=96.00 R=38.00	P=72.67 R=15.33	P=48.00 R=6.00
0.80	-	P=78.00 R=24.00	-	-	-	-
GW Level	Dry	Dry	Dry	Dry	Dry	Dry

Table 3-5: Summary of average hand shear vane readings.
Notes:
Groundwater level based on strikes during investigation.
Shear vane readings can be influenced by coarse material including silt.

3.4 Geotechnical Laboratory Testing

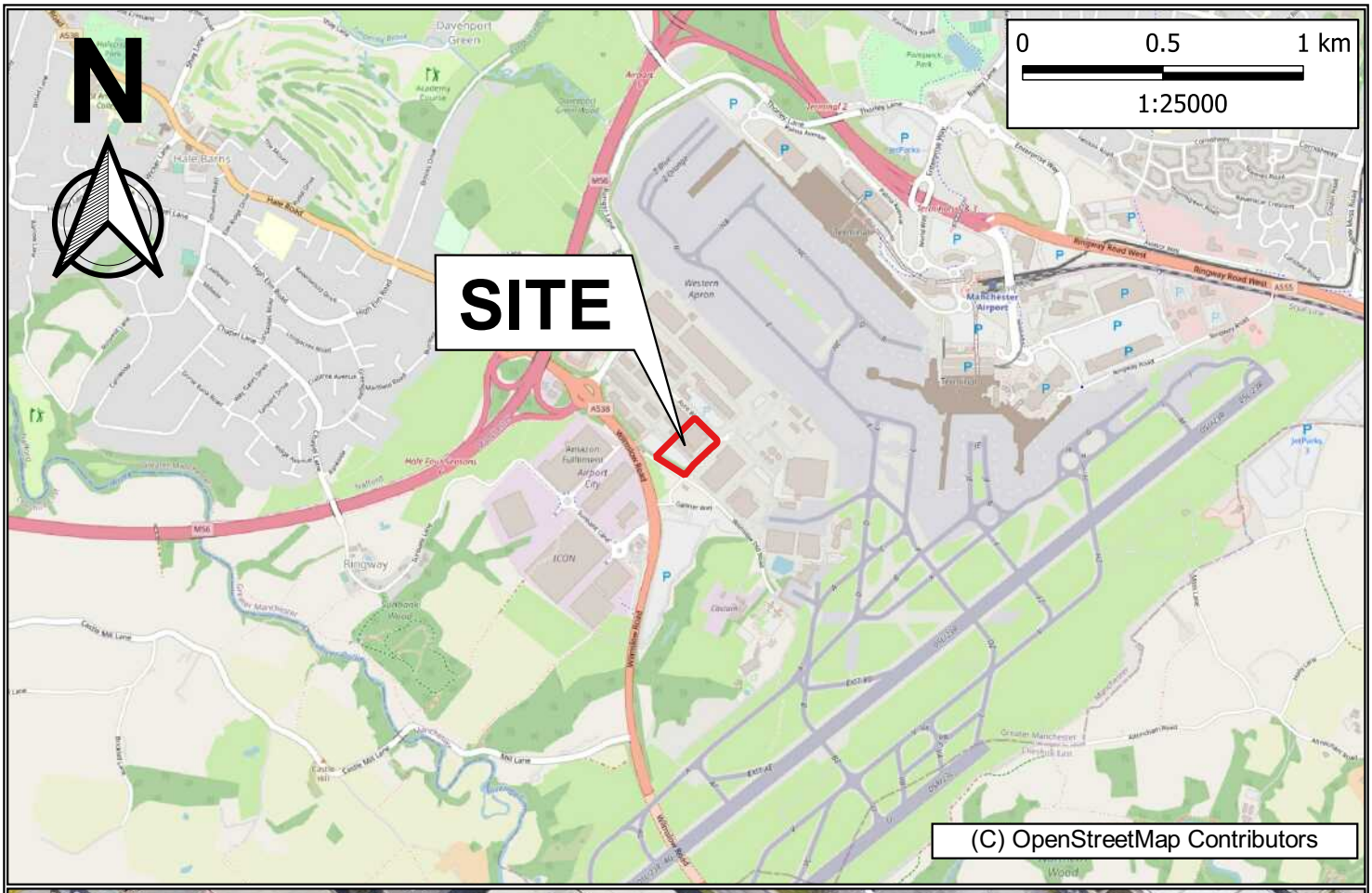
Geotechnical laboratory testing results are provided in Appendix E.

It should be noted that insufficient sample material suitable for UCS testing was available in several proposed testing depths in BH106. Consequently, PSL undertook Plate Load tests. The laboratory amendment notice provided by PSL is contained within Appendix E

3.4.1 Sulphate and pH

Water soluble sulphate and pH tests were carried out on soil ,rock and groundwater samples. Results from the soil contamination are presented in Appendix B (soils) and Appendix C (groundwater). Results from the BRE Suite D tests on rock cores are provided in Appendix E.

Figures





Client: Threadneedle Curtis Ltd				Title: Site Location & Boundary Plan	LK CONSULT
Site: Building 401, Manchester Airport				Scale (see scale bar): 1:25,000 & 1:2,000 @ A4	Figure: 1	Revision:
Job No.: LKC 22 1225	Drawn By: HF	Checked By: CC	Drawn: May 2022		



Extract from: RPS Group
Drawing Ref: Proposed Block Plan, No.020598-RPS-SI-XX-DR-A-0110, Rev:P02 (30/09/2021)

KEY

Site Boundary

Proposed 2.4m high black weldmesh paladin fence

Existing building footprint

SCHEDULE OF ACCOMMODATION

Unit 1a (GIA)	m²	sq ft
Warehouse	: 2,945	31,700
Grd Floor Rec.+ FE	: 79	850
1st Floor Office	: 336	3,617
Total	**: 3,360**	**36,167**
Level Access	: 5	
HGV Parking	: 5 (inc.5 Loading)	
Car Parking	: 32 (inc 2 Accessible)	
Haunch Height	: 10m	

Unit 1b (GIA)	m²	sq ft
Warehouse	: 1,732	18,643
Grd Floor Rec.	: 60	646
1st Floor Office	: 203	2,185
Total	**: 1,995**	**21,474**
Level Access	: 2	
HGV Parking	: 2 (inc. 2 Loading)	
Car Parking	: 18 (inc 1 Accessible)	
Haunch Height	: 10m	

Unit 1c (GIA)	m²	sq ft
Warehouse	: 2,163	23,283
Grd Floor Rec.+ FE	: 77	829
1st Floor Office	: 250	2,691
Total	**: 2,490**	**26,803**
Level Access	: 3	
HGV Parking	: 3 (inc.3 Loading)	
Car Parking	: 22 (inc 1 Accessible)	
Haunch Height	: 10m	

TOTAL GIA	**: 7,845**	**84,444**

Indicative Site Area : 2.162Ha (5.34 acres)
Indicative Site Density : 36.28% GIA

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

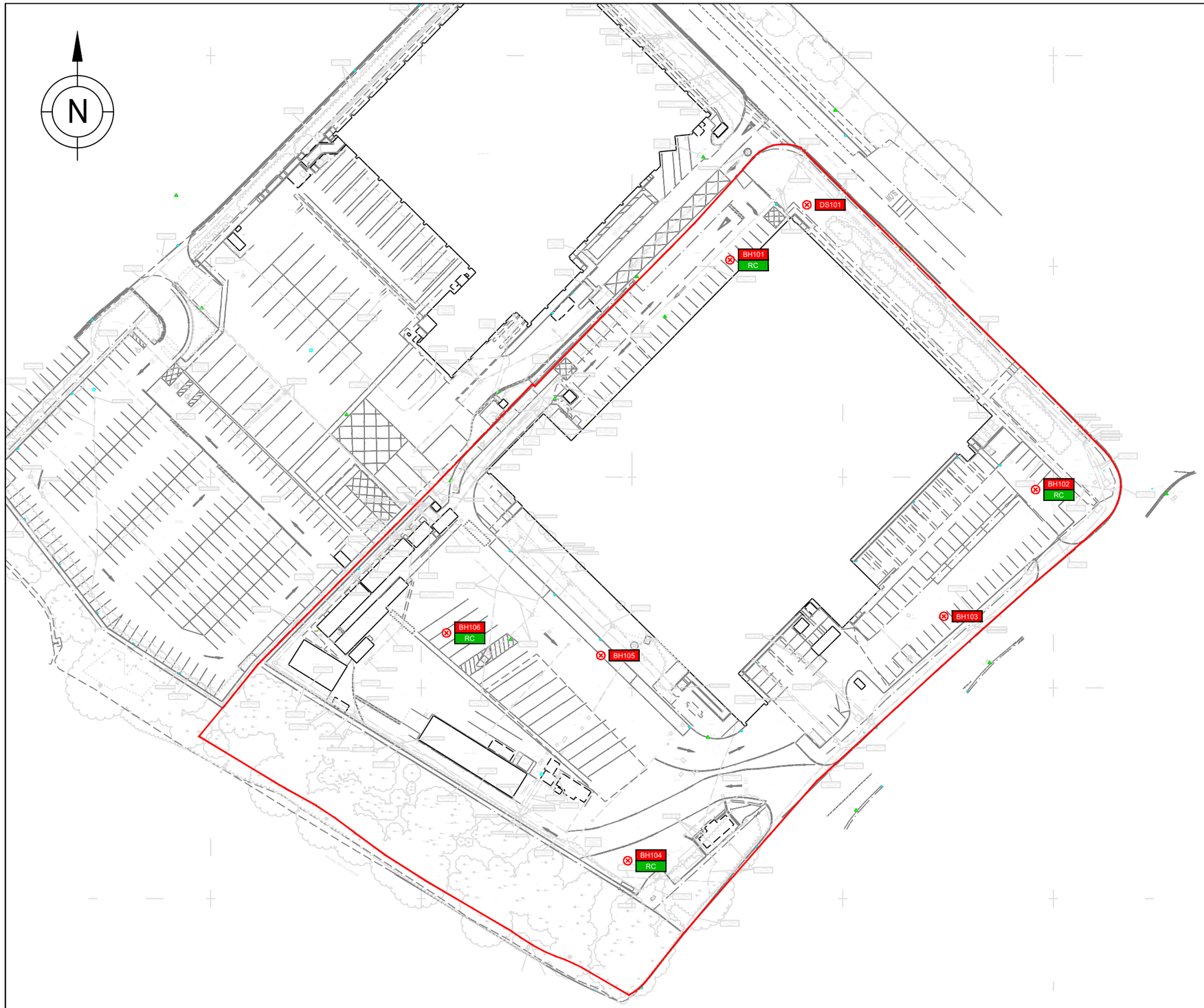
Client: Threadneedle Curtis Ltd

Site: Building 401, Manchester Airport

Title: Proposed Development Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 22 1225	1:1000 @ A3	2	

Drawn By:	Checked By:	Drawn:
AC	RP	Jun 2022



Extract from: Survey Operations
Drawing Ref: Utility Survey, No.22A231 (March 2022)

0 50
SCALE (Metres)

KEY

- Site Boundary
- Cable Percussive Borehole (CP/DS)
- RC — Rotary Core (RC)

Sampling Locations and features annotated by LK Consult Ltd are approximate and are based upon observed measurements unless otherwise stated. Do not scale from this drawing and work from marked dimensions only. All dimensions and features should be confirmed on site by the Contractor. Where this drawing includes information provided to LK Consult Ltd by others, LK Consult Ltd gives no warranty, representation or assurance as to the accuracy of such information.

LK CONSULT LIMITED

Client: Threadneedle Curtis Ltd

Site: Building 401, Manchester Airport

Title: As Built Borehole Location Plan

Job No.:	Scale (See Scale Bar):	Figure:	Revision:
LKC 22 1225	1:1000 @ A3	3	

Drawn By:	Checked By:	Drawn:
AC	RP	Jun 2022

Appendix A

Profile Logs

LK CONSULT LTD

Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site B401 Manchester Airport			**Borehole Number** BH101
Machine : Dando 2000 / Teredo DC2.8 **Method :** Cable Percussion with follow on rotary core	**Casing Diameter** 152mm to 4.50m 127mm to 25.00m	**Ground Level (mOD)** 67.35	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380923.3 E 384901.5 N	**Dates** 25/05/2022-31/05/2022	**Project Contractor** LK Consult	**Sheet** 1/3

Depth (m)	Sample / Tests	TCR	SCR	RQD	If	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
									67.05	(0.30) 0.30	MADE GROUND: Tarmacadam underlain by sandy gravel sub base.			
											MADE GROUND: Concrete (former loading dock).			
									66.35	(0.70) 1.00	Firm to stiff consistency brown with grey mottling slightly gravelly silty CLAY. Gravel is fine to medium subangular to subrounded of various lithologies.			
1.50	B													
2.00-2.45 2.10-2.20	UT TXL = 116kPa ES 0.0ppm							100% recov. 16 blows		(2.00)				
3.00-3.45 3.00-3.45 3.00-3.45	SPT N=50 B D							4,5/8,12,12,18	64.35	3.00	Reddish brown friable gravelly CLAY / very weak weathered MUDSTONE. Gravel is fine to coarse subangular to angular of mudstone.			
4.00-4.45 4.00-4.23 4.00-4.45 4.50-4.95	D SPT 50/75 B							13,12/50 14,11/12,15,23 B SPT 50/225		(1.50)				
4.50								Fractures very closely spaced 40 to 60degrees stepped rough open clean from 4.50m to 5.50mbgl.	62.85	4.50	Very weak structureless red MUDSTONE with medium spaced undulating bands of gypsum (<5mm thick). Destructured (Grade IVa).	Grade IVa		
4.50-4.88 4.50-4.95		89	89	12	Av:80 Min:50 Max:120			D		(1.45)				
5.50								Fractures medium spaced 10degrees planar rough open clean.	61.40	5.95	Weak to medium strong structureless grey MUDSTONE BRECCIA with very closely spaced undulating bands of gypsum (<5mm thick) angled at between 45 and 60degrees. Partially weathered (Grade II).	Grade II		
7.00-7.15 7.00		98	98	96	Av:340 Min:60 Max:360			13,12/50 SPT 25*/85 50/60		(2.35)	Red bands by 7.00mbgl.			
		100	100	97	Av:290 Min:40 Max:370				59.05	8.30	Weak structureless red MUDSTONE with medium spaced subvertical bands of gypsum (<5mm thick). Increasingly clayey with depth. Destructured (Grade IVb).	Grade IVb		
8.50														
		100	100	100	Av:290 Min:120 Max:320					(2.30)				
10.00														

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 0.3mbgl.
Concrete broken out by excavator to 1.00mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.
Falling Head Test carried out at 2.00-3.00mbgl.

Scale (approx)	Logged By
1:50	CC/PW

Figure No. LKC 22 1225.BH101

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH101**
Machine : Dando 2000 / Teredo DC2.8 **Flush :** Water **Core Dia :** 90 mm **Method :** Cable Percussion with follow on rotary core	**Casing Diameter** 152mm to 4.50m 127mm to 25.00m **Location** (dGPS) 380923.3 E 384901.5 N	**Ground Level (mOD)** 67.35 **Dates** 25/05/2022-31/05/2022	**Client** Threadneedle Curtis Ltd **Project Contractor** LK Consult	**Job Number** LKC 22 1225 **Sheet** 2/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.00-10.12					SPT 25*/80 21,4/50 50/40						
	100	100	94	Av:150 Min:90 Max:550		56.75	10.60	Weak to medium strong structureless red and grey MUDSTONE BRECCIA with very closely spaced undulating bands of gypsum (<5mm thick) angled at between 60 and 70degrees. Partially weathered (Grade II).			
						56.15	(0.60) 11.20				
11.50								Weak structureless red and grey MUDSTONE BRECCIA with rare bands of gypsum (<5mm thick). Distinctly weathered (Grade III).			
	100	100	90	Av:160 Min:50 Max:230							
13.00-13.12					25/50 SPT 25*/75 50/40						
13.00							(4.30)				
	95	95	90	Av:120 Min:30 Max:390							
14.50											
	89	89	88	Av:240 Min:20 Max:500		51.85	15.50	Weak thickly laminated red MUDSTONE. Bedding 10degrees. Partially weathered (Grade II).			
16.00-16.11					25/50 SPT 25*/75 50/35		(0.50)				
16.00						51.35	16.00	Very weak structureless red MUDSTONE. Destructured (Grade IVa).			
	100	100	96	Av:120 Min:40 Max:210			(1.10)				
						50.25	17.10	Weak to medium strong thickly laminated to very thinly bedded red MUDSTONE and SILTSTONE. Bedding 10 to 20degrees. Unweathered (Grade I).			
17.50						49.85	(0.40) 17.50				
	100	95	80	Av:180 Min:NI Max:340				Very weak structureless red MUDSTONE BRECCIA. Destructured (Grade IVa).			
19.00-19.06					25/50 SPT 25*/30 50/30		(1.50)				
19.00						48.35	19.00	Weak to medium strong thickly laminated to very thinly bedded red MUDSTONE and SILTSTONE. Bedding 10 to 20degrees. Partially weathered (Grade II). Grey bands and patches of distorted/slumped bedding roughly 10 to 20degrees present from 19.45mbgl. Band of gypsum (<10mm thick) undulating			
	93	93	90	Av:290 Min:40 Max:320							

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 0.3mbgl.
Concrete broken out by excavator to 1.00mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.
Falling Head Test carried out at 2.00-3.00mbgl.

Scale (approx)	**Logged By**
1:50	CC/PW

Figure No.
LKC 22 1225.BH101

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH101**	
Machine : Dando 2000 / Teredo DC2.8 **Flush :** Water **Core Dia :** 90 mm **Method :** Cable Percussion with follow on rotary core	**Casing Diameter** 152mm to 4.50m 127mm to 25.00m	**Ground Level (mOD)** 67.35	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380923.3 E 384901.5 N	**Dates** 25/05/2022-31/05/2022	**Project Contractor** LK Consult	**Sheet** 3/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
								subvertical from 19.50m to 20.10mbgl.			
20.50	100	100	96	Av:180 Min:50 Max:420	25/50 50/35 SPT 25*/40 Fractures close to medium spaced rough planar open clean bedding parallel (10degrees). Possibly drilling induced.		(5.30)				
22.00											
22.00-22.08	96	96	89	Av:200 Min:10 Max:350							
23.50	99	99	87	Av:160 Min:50 Max:320		43.05	24.30	Medium strong structureless red MUDSTONE with rare gypsum undulating subvertical (<2mm thick). Unweathered (Grade I).			
							(0.70)				
25.00						42.35	25.00	Complete at 25.00m			

Sample / Tests	Casing Depth (m)	Water Depth (m)	
25.00-25.04 SPT 25*/15 50/20			25/50

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 0.3mbgl.
Concrete broken out by excavator to 1.00mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.
Falling Head Test carried out at 2.00-3.00mbgl.

Scale (approx)	Logged By
1:50	CC/PW

Figure No.
LKC 22 1225.BH101

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD

Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site B401 Manchester Airport			**Borehole Number** BH102
Machine : Dando 2000 / Teredo DC2.8 **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 4.50m 127mm to 21.30m	**Ground Level (mOD)** 68.04	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380995.8 E 384847 N	**Dates** 27/05/2022-07/06/2022	**Project Contractor** LK Consult	**Sheet** 1/3

Depth (m)	Sample / Tests	TCR	SCR	RQD	If	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.15-0.30	ES 0.3ppm								67.89	(0.15) 0.15	MADE GROUND: Tarmacadam and sub base.			
0.30-0.75	ES 0.2ppm								67.74	(0.15) 0.30	MADE GROUND: Brown gravelly SAND with rare clinker gravel. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of various lithologies.			
0.80	SV P 78kPa							78, 80, 76/Av. 78.00		(0.45)				
0.80	SV R 24kPa							26, 24, 22/Av. 24.00	67.29	0.75	MADE GROUND: Orangish brown cobbley sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of sandstone and limestone. Possible 6F5 type sub base material.			
1.20-1.65	UT TXL = 199kPa							95% recov. 36 blows			Firm to stiff consistency medium to high strength brownish grey silty CLAY.			
1.70-1.80	ES 0.0ppm									(2.05)				
2.00-2.45	SPT N=22							3,4/6,5,5,6						
2.00-2.45	B													
2.00-2.45	D													
3.00-3.45	UT TXL = 50kPa							95% recov. 40 blows	65.24	2.80	Reddish brown friable gravelly CLAY / very weak weathered MUDSTONE. Gravel is fine to coarse subangular to angular of mudstone.			
4.50-4.95								D		(1.70)				
4.00-4.45	D													
4.00-4.19	SPT 50/35							7,18/50						
4.00-4.45	B							25/50						
4.50-4.95								B						
4.50-4.60								SPT 25*/55	63.54	4.50				
4.50		100	70	24	Av:60 Min:NI Max:120			50/45	63.39	(0.15) 4.65	Reddish grey coarse rounded GRAVEL of mudstone, sandstone and basalt.	Grade IVb		
									63.27	4.77				
										(0.23)	Weak structureless red and grey MUDSTONE BRECCIA. Distinctly weathered (Grade III).			
5.00		63	35	0	Av:60 Min:NI Max:90			Fractures closely spaced 20degrees stepped rough open clean. Possibly drilling induced.	63.04	5.00	Extremely weak structureless red and grey MUDSTONE. Recovered as clay. Destructured (Grade IVb).			
										(0.96)	POOR RECOVERY. Possibly gravel band.			
									62.08	5.96	Extremely weak very thinly laminated red MUDSTONE. Bedding 10degrees. Very soft and clayey in patches but bedding still visible. Distinctly weathered (Grade IVa).	Grade IVa		
										(0.54)	Gypsum band (<30mm) undulating at 15degrees at 6.47mbgl.	Grade IVa		
6.50-6.73								25/40,10				Grade IVa		
6.50		98	98	93	Av:160 Min:60 Max:300			SPT 25*/75 50/150	61.54	6.50	Extremely weak very thinly laminated red MUDSTONE with medium spaced undulating bands of gypsum (<5mm). Bedding 10degrees. Distinctly weathered (Grade III).	Grade III		
										(1.70)		Grade III		
8.00-8.12								25/50				Grade III		
8.00		86	62	28	Av:20 Min:NI Max:150			SPT 25*/75 50/45 Fractures very closely spaced 10degrees planar rough open occasional fine gravel infill.	59.84	8.20	Weak very thinly laminated red MUDSTONE. Bedding 10degrees. Distinctly weathered (Grade III).	Grade III		
9.50								Fractures medium spaced subvertical stepped rough open clean.				Grade III		

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 21.3mbgl.
Falling Head Test carried out between 3.4mbgl.
Borehole terminated at 21.3mbgl due to pump failure on rotary rig. Agreed by Site Investigtion Supervisor.
Chiselling from 3.70m to 4.50m for 1 hour. Water added from 4.00m to 4.50m.

Scale (approx)	Logged By
1:50	CC/PW

Figure No. LKC 22 1225.BH102

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH102**
Machine : Dando 2000 / Teredo DC2.8 **Flush :** Water **Core Dia :** 90 mm **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 4.50m 127mm to 21.30m **Location** (dGPS) 380995.8 E 384847 N	**Ground Level (mOD)** 68.04 **Dates** 27/05/2022-07/06/2022	**Client** Threadneedle Curtis Ltd **Project Contractor** LK Consult	**Job Number** LKC 22 1225 **Sheet** 2/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
							(3.50)				
	100	96	85	Av:260 Min:NI Max:400	Fractures closely to very closely spaced 10degrees to horizontal planar rough open clean.						
11.00-11.19					25/30,20 SPT 25*/75 50/115						
11.00	96	91	60	Av:150 Min:NI Max:150		56.34	11.70 (0.20)	Extremely weak structureless red and grey MUDSTONE. Recovered as clay. Destructured (Grade IVb).			
						56.14	11.90	Extremely weak thinly laminated red MUDSTONE. Recovered as gravelly clay. Destructured (Grade IVa).			
12.50	100	97	80	Av:120 Min:40 Max:370			(2.90)				
14.00	83	52	17	Av:NI Min:NI Max:140		53.24	14.80	Extremely weak structureless red and grey MUDSTONE. Recovered as clay. Destructured (Grade IVb).			
					25/50 50/15 SPT 25*/75		(0.70)				
15.50					Fractures medium spaced 10degrees planar rough open clean. Possibly drilling induced.	52.54	15.50	Weak structureless red MUDSTONE BRECCIA. Distinctly weathered (Grade III).			
15.50-15.59	77	67	56	Av:120 Min:NI Max:330			(0.80)				
						51.74	16.30 (0.14)	Weak very thinly laminated grey MUDSTONE. Bedding 10degrees. Partially weathered (Grade II).			
17.00						51.60	16.44	Weak structureless red and grey MUDSTONE BRECCIA. Distinctly weathered (Grade III).			
	96	94	80	Av:180 Min:NI Max:460							
18.50-18.62					25/50 SPT 25*/75 50/45						
18.50	99	99	84	Av:120 Min:50 Max:250			(4.86)				
20.00								Gypsum band (<10mm) planar horizontal at 19.55mbgl. Gypsum band (<10mm) undulating at			

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 21.3mbgl.
Falling Head Test carried out between 3.4mbgl.
Borehole terminated at 21.3mbgl due to pump failure on rotary rig. Agreed by Site Investigtion Supervisor.

Scale (approx)	**Logged By**
1:50	CC/PW

Figure No.
LKC 22 1225.BH102

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP

LK CONSULT LTD
Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site
B401 Manchester Airport

Borehole Number
BH102

Machine : Dando 2000 / Teredo DC2.8
Flush : Water
Core Dia : 90 mm
Method : Cable Percussion with follow on Rotary Core

Casing Diameter
152mm to 4.50m
127mm to 21.30m

Ground Level (mOD)
68.04

Client
Threadneedle Curtis Ltd

Job Number
LKC 22 1225

Location (dGPS)
380995.8 E 384847 N

Dates
27/05/2022-07/06/2022

Project Contractor
LK Consult

Sheet
3/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	100	98	42	Av:60 Min:NI Max:220				60degrees at 19.85m to 19.95mbgl.	Grade III		
21.30						46.74	21.30	Terminated at 21.30m			

Remarks
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 4.5mbgl.
Follow on rotary coring from 4.5mbgl to 21.3mbgl.
Falling Head Test carried out between 3.4mbgl.
Borehole terminated at 21.3mbgl due to pump failure on rotary rig. Agreed by Site Investigtion Supervisor.

Scale (approx)
1:50

Logged By
CC/PW

Figure No.
LKC 22 1225.BH102

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD

Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site B401 Manchester Airport			**Borehole Number** BH103
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 152mm to 5.00m	**Ground Level (mOD)** 68.21	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380974 E 384847 N	**Dates** 30/05/2022	**Project Contractor** LK Consult	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					68.07	(0.14) 0.14	MADE GROUND: Tarmacadam.			
0.14-0.40	ES 0.1ppm					(0.36)	MADE GROUND: Orangish brown cobbley sandy GRAVEL with frequent tarmacadam fragments. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of sandstone and limestone. Tarmacadam fragments fallen in from breaking out surface above.			
0.50	D			92, 101, 69/Av.	67.71	0.50				
0.50	SV P 87.33kPa			87.33						
0.50	SV R 20.33kPa			11, 27, 23/Av. 20.33						
0.75	SV P 53.67kPa			56, 53, 52/Av. 53.67						
0.75	D									
0.75	SV R 9.67kPa			11, 9, 9/Av. 9.67						
1.20-1.65	UT TXL = 225kPa			100% recov. 32 blows						
1.50-1.60	ES 0.1ppm						Firm to very stiff consistency medium to high strength brown with grey mottling slightly gravelly silty CLAY. Gravel is fine to medium subangular to subrounded of various lithologies.			
						(2.70)				
2.00-2.45	SPT N=18			2,3/3,4,6,5						
2.00-2.45	B									
2.00-2.45	D									
3.00-3.45	UT TXL = 126 kPa			100% recov. 32 blows	65.01	3.20	Reddish brown friable gravelly CLAY / very weak weathered MUDSTONE. Gravel is fine to coarse subangular to angular of mudstone.			
4.00-4.30	SPT 50/145			11,14/20,30						
4.00-4.45	B					(2.06)				
4.00-4.45	D									
5.00-5.26	SPT 50/105			14,11/22,28						
5.00-5.26	B									
5.00-5.26	D				62.95	5.26	Terminated at 5.26m			

Remarks
Falling Head Test carried out between 1.00-2.00mbgl.
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 5.26mbgl. Complete at 5.26mbgl as per instruction by Site Investigtion Supervisor.
Chiselling from 4.00m to 5.26m for 1 hour.

Scale (approx)	Logged By
1:50	RP

Figure No. LKC 22 1225.BH103

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH104**	
Machine : Dando 2000 / Teredo DC2.8 **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 10.25m 127mm to 18.00m	**Ground Level (mOD)** 67.58	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380899 E 384759 N	**Dates** 25/05/2022-01/06/2022	**Project Contractor** LK Consult	**Sheet** 1/3

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					67.48	0.10	MADE GROUND: Tarmacadam.			
0.10-0.30	D					(0.45)	MADE GROUND: Brownish orange sandy GRAVEL with occasional tarmacadam fragments. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of sandstone. Membrane noted at base.			
0.10-0.30	ES 0.3ppm									
0.20	D									
0.50	SV P 73kPa			70, 75, 74/Av. 73.00	67.03	0.55				
0.50	D									
0.50	SV R 13kPa			8, 16, 15/Av. 13.00		(0.65)	Firm to stiff consistency medium to high strength orangish brown slightly sandy silty CLAY with thin bands of fine grey sand. Sand is fine to medium.			
0.75	D			105, 93, 90/Av. 96.00						
0.75	SV P 96kPa									
0.75	SV R 38kPa			40, 39, 35/Av. 38.00	66.38	1.20				
0.80	D				66.18	(0.20) 1.40	Loose brown SAND. Sand is fine to coarse.			
1.20-1.65	SPT N=16			2,2/2,4,5,5			Stiff consistency high to very high strength brown slightly gravelly silty CLAY. Gravel is fine subrounded to rounded of various lithologies.			
1.20-1.65	D									
1.30-1.40	ES 0.2ppm									
1.70-2.00	B									
2.20-2.65	UT TXL = 106kPa			90% recov. 15 blows						
2.70	D					(3.30)				
3.10-3.55	SPT N=22			4,4/5,5,6,6						
3.10-3.55	D									
4.00-4.45	U TXL = 56kPa			95% recov. 26 blows						
4.50	D NR				62.88	4.70	Very dense brown slightly gravelly SAND. Sand is fine to coarse. Gravel is fine to medium subangular to subrounded of various lithologies.			
4.70-5.04	SPT 50/190			4,11/14,21,15						
4.70-5.10	D					(1.00)				
5.70-6.13	SPT 50/275			5,6/12,14,14,10	61.88	5.70	Very stiff consistency brown slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of various lithologies.			
5.70-6.10	D									
6.10-6.40	B									
6.80-7.00	U									
7.00-7.26	SPT 50/105			6,18/21,29						
7.00-7.25	D					(3.30)				
8.00-8.27	SPT 50/115			10,15/29,21						
8.00-8.30	D									
9.00-9.25	SPT 50/95			9,14/32,18	58.58	9.00	Very stiff consistency reddish brown gravelly CLAY. Gravel is fine to coarse subangular to subrounded of mudstone. Possibly weathered mudstone.			
9.00-9.25	D					(1.00)				
10.00										

Remarks
Falling Head Test carried out between 1.00-2.00mbgl.
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 10.25mbgl.
Follow on rotary coring from 10.25 to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.
Chiselling from 4.70m to 10.00m for 2.5 hours.

Scale (approx)	Logged By
1:50	RP/PW

Figure No.
LKC 22 1225.BH104

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD

Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS
Tel: 0161 763 7200 web: www.thelkgroup.com

Site: B401 Manchester Airport

Borehole Number: BH104

Machine : Dando 2000 / Teredo DC2.8
Flush : Water
Core Dia : 90 mm
Method : Cable Percussion with follow on Rotary Core

Casing Diameter: 152mm to 10.25m, 127mm to 18.00m

Ground Level (mOD): 67.58

Client: Threadneedle Curtis Ltd

Job Number: LKC 22 1225

Location (dGPS): 380899 E 384759 N

Dates: 25/05/2022-01/06/2022

Project Contractor: LK Consult

Sheet: 2/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
10.00-10.25 D					SPT 50/95 7,18,38,12	57.58	10.00 (0.60)	Stiff red CLAY with bands of rounded gravel of sandstone, siltstone and granite.			
10.00-10.25	88	73	51	Av:370 Min:NI Max:370		56.98	10.60 (1.40)	Very weak red and grey structureless MUDSTONE with medium spaced undulating bands of gypsum (<10mm thick) angled at between 10 and 20degrees, possibly relict bedding. Destructured (Grade IVa).	Grade IVa		
11.50	96	96	78	Av:320 Min:25 Max:600		55.58	12.00 (0.50)	Weak grey structureless very crystalline MUDSTONE BRECCIA with very closely spaced mass of gypsum growths. Partially weathered (Grade III).	Grade III		
13.00-13.45					6,4/7,9,9,9 SPT N=34	55.08	12.50 (0.15)				
13.00	66	56	44	Av:35 Min:NI Max:390		54.93	12.65 (0.35)	Extremely weak grey destructured MUDSTONE. Recovered as clay. Residual. (Grade IVb).	Grade IVb		
						54.58	13.00 (0.35)	Extremely weak red MUDSTONE with medium spaced undulating bands of gypsum (<10mm thick) angled at between 10 and 20degrees, possibly relict bedding. Residual. (Grade IVb).	Grade III		
14.00	69	36	29	Av:70 Min:NI Max:440		54.23	13.35 (0.65)	NO RECOVERY.	Grade III		
15.25-15.35					25/28,22 SPT 25*/75 50/25	53.58	14.00 (0.30)	Very weak thinly laminated red and grey MUDSTONE and SILTSTONE with very closely spaced undulating bands of gypsum. Bedding around 10degrees. Partially weathered (Grade III).	Grade III		
15.00	41	41	41	Av:410 Min:410 Max:410		53.28	14.30 (0.70)	NO RECOVERY.	Grade III		
						52.58	15.00 (0.59)	Weak grey structureless very crystalline MUDSTONE BRECCIA with very closely spaced mass of gypsum growths. Partially weathered (Grade III).	Grade III		
16.00	56	52	52	Av:160 Min:NI Max:360	25/28,22 50/125 SPT(C) 25*/75	51.99	15.59 (0.41)	NO RECOVERY.			
						51.58	16.00 (0.48)	Extremely weak structureless red MUDSTONE. Recovered as clay. Residual. (Grade IVb).	Grade IVb		
17.00					Fractures medium spaced 10degrees planar rough open clean. Possibly drilling induced.	51.10	16.48 (0.52)	NO RECOVERY.			
17.00-17.20	98	98	98	Av:360 Min:130 Max:400		50.58	17.00 (3.20)	Extremely weak structureless red MUDSTONE. Recovered as clay. Residual. (Grade IVb).	Grade IVb		
18.50	98	98	59	Av:160 Min:40 Max:180	Fractures closely to very closely spaced 10degrees planar rough open clean.			Extremely weak red structureless MUDSTONE with medium spaced 10degrees planar bands of gypsum (<5mm). Possible relict bedding. Destructured (Grade IVa).	Grade IVa		
20.00											

Remarks
Falling Head Test carried out between 1.00-2.00mbgl.
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 10.25mbgl.
Follow on rotary coring from 10.25 to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.

Scale (approx): 1:50

Logged By: RP/PW

Figure No.: LKC 22 1225.BH104

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com		**Site** B401 Manchester Airport	**Borehole Number** **BH104**
Machine : Dando 2000 / Teredo DC2.8 **Flush :** Water **Core Dia :** 90 mm **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 10.25m 127mm to 18.00m	**Ground Level (mOD)** 67.58	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380899 E 384759 N	**Dates** 25/05/2022-01/06/2022	**Project Contractor** LK Consult	**Sheet** 3/3

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
20.00-20.10					SPT(C) 25*/75 25/50 50/25	47.38	20.20				
	98	92	62	Av:210 Min:NI Max:240			(0.90)	Very weak thinly laminated red MUDSTONE. Bedding 10degrees. Distinctly weathered (Grade III).	Grade IVa Grade III Grade III Grade III Grade III		
21.50						46.48	21.10				
	96	52	13	Av:40 Min:NI Max:200			(1.40)	Very weak to weak thinly laminated grey MUDSTONE with closely spaced bedding parallel planar bands of gypsum (<5mm). Partially weathered (GRADEII).	Grade II Grade II Grade II Grade II Grade II Grade II Grade II		
23.00-23.20					25/36,14 SPT(C) 25*/75 50/125	45.08	22.50				
23.00							(0.50)	Extremely weak structureless grey MUDSTONE. Recovered as clay. Residual. (Grade IVb).	Grade IVb Grade IVb		
	100	96	82	Av:250 Min:NI Max:310		44.58	23.00				
								Extremely weak structureless red MUDSTONE. Residual. (Grade IVa).	Grade IVa Grade IVa Grade IVa Grade IVa Grade IVa Grade IVa Grade IVa		
24.50							(1.50)				
	84	30	30	Av:NI Min:NI Max:150		43.08	24.50				
25.00							(0.50)	Very weak structureless grey MUDSTONE BRECCIA. Distinctly weathered (Grade III).	Grade III Grade III		
	Sample / Tests		**Casing Depth (m)**	**Water Depth (m)**		42.58	25.00				
25.00-25.12	SPT 25*/75 50/45				25/50			Complete at 25.00m			

Remarks
Falling Head Test carried out between 1.00-2.00mbgl.
No groundwater strikes recorded.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 10.25mbgl.
Follow on rotary coring from 10.25 to 25.00mbgl. Complete at 25mbgl as per instruction by Site Investigtion Supervisor.

Scale (approx)	**Logged By**
1:50	RP/PW

Figure No.
LKC 22 1225.BH104

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH105**
Machine : Dando 2000 **Method :** Cable Percussion	**Casing Diameter** 152mm cased to 7.00m	**Ground Level (mOD)** 67.23	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380892.6 E 384807.7 N	**Dates** 25/05/2022-01/06/2022	**Project Contractor** LK Consult	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					67.03	(0.20) 0.20	MADE GROUND: Tarmacadam.			
0.20-0.40	ES 0.2ppm				66.77	(0.26) 0.46	MADE GROUND: Orangish brown gravelly SAND with occasional tarmacadam. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of sandstone. Tarmacadam fragments fallen in from breaking out surface above. Membrane at base.			
0.50	SV P 61.67kPa			66, 67, 52/Av. 61.67			Firm to very stiff consistency high strength slightly gravelly silty CLAY. Gravel is fine subangular to rounded of mixed lithologies.			
0.50	D									
0.50	SV R 15.67kPa			24, 15, 8/Av. 15.67						
0.70	B									
0.75	SV P 72.67kPa			78, 62, 78/Av. 72.67						
0.75	SV R 15.33kPa			18, 10, 18/Av. 15.33						
0.75	D									
1.00-1.45	UT TXL = 58kPa			100% recov. 16 blows						
1.50-1.60	ES 0.3ppm									
2.00-2.45	SPT N=15			2,3/3,3,4,5						
2.00-2.45	B					(3.54)				
2.00-2.45	D									
3.00-3.45	UT TXL = 125kPa			100% recov. 21 blows						
					63.23	4.00	Dense brown slightly gravelly silty SAND with discrete bands of stiff consistency slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is fine to coarse subangular to rounded of mixed lithologies.		▼1	
4.00-4.45	SPT N=39			4,5/6,8,10,15						
4.00-4.45	B									
4.00-4.45	D									
5.00-5.45	B			Water strike(1) at 5.00m, rose to 4.00m in 20 mins.		(2.00)			▽1	
5.00-5.45	D									
5.00-5.45	SPT N=26			2,4/5,5,8,8						
					61.23	6.00	Stiff to very stiff consistency high strength brown gravelly silty CLAY possible extremely weak weathered MUDSTONE. Gravel is fine to coarse subangular to angular of mudstone.			
6.00-6.45	SPT N=50			6,7/10,10,17,13						
6.00-6.45	B									
6.00-6.45	D									
						(1.38)				
7.00-7.38	SPT 50/225			9,11/12,14,24						
7.00-7.38	B									
7.00-7.38	D									
					59.85	7.38	Complete at 7.38m			

Remarks
Falling Head Test carried out between 2.00-3.00mbgl.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 7.38mbgl. Complete at 7.38mbgl as per instruction by Site Investigtion Supervisor.
Chiselling from 6.20m to 7.00m for 1 hour. Water added from 6.00m to 7.00m.

Scale (approx)	Logged By
1:50	RP

Figure No.
LKC 22 1225.BH105

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH106**
Machine : Dando 2000 / Teredo DC2.8 **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 7.00m 127mm to 8.50m	**Ground Level (mOD)** 66.93	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380856 E 384813 N	**Dates** 24/05/2022	**Project Contractor** LK Consult	**Sheet** 1/2

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
					66.83	0.10				
0.10-0.30	ES 1.3ppm					(0.20)	MADE GROUND: Tarmacadam.			
					66.63	0.30				
0.50	SV P 38kPa			32, 40, 42/Av. 38.00			MADE GROUND: Light grey sandy GRAVEL (sub base) Sand is fine to coarse. Gravel is fine to coarse subangular to angular of limestone. Underlain by membrane.			
0.50	B									
0.50	SV R 28kPa			25, 30, 29/Av. 28.00						
0.50	D						Firm to stiff consistency low to high strength orangish brown to brown slightly gravelly silty CLAY. Gravel is fine to medium subangular to subrounded of various lithologies.			
0.75	SV P 48kPa			45, 48, 51/Av. 48.00						
0.75	SV R 6kPa			4, 7, 7/Av. 6.00						
1.20-1.65	UT TXL = 101kPa			95% recov. 17 blows						
1.40-1.50	ES 0.4ppm									
2.00-2.45	SPT N=16			2,3/2,5,5,4						
2.00-2.45	B					(4.00)				
2.00-2.45	D									
3.00-3.45	UT TXL = 88kPa			100% recov. 19 blows						
4.00-4.45	SPT N=40			5,5/6,12,11,11						
4.00-4.45	B									
4.00-4.45	D				62.63	4.30				
						(0.20)	Orangish brown fine to medium SAND. Sand is fine to coarse.			
					62.43	4.50				
							Stiff to very stiff consistency very high strength reddish brown silty CLAY.			
5.00-5.45	SPT N=37			6,8/6,9,11,11						
5.00-5.45	B					(1.50)				
5.00-5.45	D								▽1	
				Water strike(1) at 5.50m.						
6.00-6.45	SPT N=49			3,6/8,9,16,16	60.93	6.00				
6.00-6.45	B						Stiff to very stiff consistency very high strength gravelly CLAY becoming very weak weathered MUDSTONE. Gravel is fine to coarse subangular to subrounded of mudstone.			
6.00-6.45	D					(1.00)				
				25/50						
7.00-7.45	**TCR** / **SCR** / **RQD** / **If**			50/75 B SPT 25*/75	59.93	7.00				
7.00				Fractures closely to medium spaced horizontal planar rough open clean.			Weak red and grey structureless MUDSTONE BRECCIA with very closely spaced undulating bands of gypsum (<5mm thick) angled at between 10 and 20degrees, possibly relict bedding. Partially weathered (Grade II to III).	Grade II		
7.00-7.15				D		(0.70)		Grade II		
7.00-7.45								Grade II		
	100	97	82	Av:120 Min:NI Max:420	59.23	7.70	Extremely weak red MUDSTONE with very closely spaced undulating bands of gypsum. Recovered as clay with bands of gypsum. Destructured (Grade IVa).	Grade IVa		
						(0.40)		Grade IVa		
					58.83	8.10		Grade II		
8.50				Fractures closely to medium spaced 60degrees undulating rough open clean from 8.50m to 8.90mbgl.			Weak red and grey structureless MUDSTONE BRECCIA with very closely spaced undulating bands of gypsum (<5mm thick) angled at between 10 and 20degrees, possibly relict bedding. Partially weathered (Grade II to III).	Grade II		
						(1.20)		Grade II		
								Grade II		
	100	80	69	Av:260 Min:NI Max:260	57.63	9.30		Grade II		
							Extremely weak red MUDSTONE with undulating subvertical band of gypsum (<10mm thick). Recovered as clay with gypsum. Residual. (Grade IVb).	Grade IVb		
10.00								Grade IVb		
								Grade IVb		

Remarks
Follow on rotary coring from 7.2mbgl to 14.5mbgl. Complete at 14.5mbgl as per instruction by Site Investigtion Supervisor.
Falling Head Test undertaken between 3.00-4.00mbgl.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 7.2mbgl.
Chiselling from 6.00m to 7.20m for 1 hour. Water added from 6.00m to 7.00m.

Scale (approx)	Logged By
1:50	RP/PW

Figure No.
LKC 22 1225.BH106

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH106**
Machine : Dando 2000 / Teredo DC2.8 **Flush :** Water **Core Dia :** 90 mm **Method :** Cable Percussion with follow on Rotary Core	**Casing Diameter** 152mm to 7.00m 127mm to 8.50m **Location** (dGPS) 380856 E 384813 N	**Ground Level (mOD)** 66.93 **Dates** 24/05/2022	**Client** Threadneedle Curtis Ltd **Project Contractor** LK Consult	**Job Number** LKC 22 1225 **Sheet** 2/2

Depth (m)	TCR (%)	SCR (%)	RQD (%)	I_f (mm)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
	98	98	98	Av:520 Min:330 Max:620			(3.70)		Grade IVb		
11.50	99	96	76	Av:60 Min:NI Max:640							
13.00	97	84	75	Av:110 Min:NI Max:280		53.93	13.00 (1.50)	Extremely weak red MUDSTONE with very closely spaced undulating bands of gypsum. Recovered as clay with bands of gypsum. Destructured (Grade IVa).	Grade IVa		
14.50						52.43	14.50	Complete at 14.50m			

Remarks
Follow on rotary coring from 7.2mbgl to 14.5mbgl. Complete at 14.5mbgl as per instruction by Site Investigtion Supervisor.
Falling Head Test undertaken between 3.00-4.00mbgl.
Tarmacadam broken out by excavator.
Hand digging to 1.2mbgl.
Cable percussion to 7.2mbgl.

Scale (approx)	Logged By
1:50	RP/PW

Figure No.
LKC 22 1225.BH106

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **DS101**
Machine : Dando 2000 **Method :**	**Casing Diameter** 152mm to 3.00m **Ground Level (mOD)** 64.40	**Client** Threadneedle Curtis Ltd	**Job Number** LKC 22 1225
	Location (dGPS) 380941.5 E 384914.6 N **Dates** 30/05/2022-31/05/2022	**Project Contractor** LK Consult	**Sheet** 1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.00-0.30	ES 0.5ppm					(0.30)	MADE GROUND: Dark brown gravelly sandy SILT with occasional brick, coal and ash. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of various lithologies.			
0.30-0.44	ES 0.3ppm				64.10	0.30				
0.44-0.60	ES 0.2ppm				63.96	(0.14)				
0.75	SV P 83kPa			84, 81, 84/Av. 83.00	63.80	0.44 (0.16) 0.60	MADE GROUND: Greyish brown sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of limestone. MOT type material.			
0.75	D									
0.75	SV R 11.67kPa			14, 12, 9/Av. 11.67						
1.20-1.65	UT					(1.40)	MADE GROUND: Orangish brown sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse subangular to angular of sandstone. MOT type material.			
1.60-2.00	B									
1.65-1.75	ES 0.1ppm									
1.70	D									
2.00-2.45	SPT N=23			4,4/8,5,5,5	62.40	2.00	Firm becoming stiff consistency high strength brown with orange and grey mottling slightly gravelly sandy silty CLAY with thin lenses of sand. Sand is fine to coarse. Gravel is fine to medium subangular to rounded of various lithologies.			
2.00-2.45	D									
2.00-2.50	B									
						(1.00)	Medium dense orangish brown slightly gravelly SAND with thin bands of slightly gravelly clay. Sand is fine to coarse. Gravel is fine to coarse subangular to subrounded of various lithologies.			
3.00-3.44	SPT 50/290			6,9/11,12,15,12	61.40	3.00				
3.00-3.45	D									
3.00-3.50	B						Stiff to very stiff consistency very high strength reddish brown slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone. Possibly becoming extremely weak weathered MUDSTONE from 4.1mbgl.			
4.00-4.15	SPT 25*/125 50/25			11,14/50		(2.11)				
4.00-4.20	D									
4.00-4.30	B									
5.00-5.11	SPT 25*/75 50/30			25/50	59.29	5.11				
5.00-5.10	B						Complete at 5.11m			
5.00-5.10	D									

Remarks
No groundwater strikes recorded.
Ground levelled off with excavator and reduced by 0.25m prior to cable rig setting up.
Hand digging to 1.2mbgl.
Cable percussion to 5.1mbgl. Complete at 5.1mbgl as per instruction by Site Investigtion Supervisor.
Chiselling from 4.00m to 5.20m for 1 hour.

Scale (approx)	**Logged By**
1:50	RP

Figure No.
LKC 22 1225.DS101

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

SPT Hammer Efficiency Certificate (relates to BH102, BH104 and BH106)

SPT Hammer Energy Test Report

In accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR3344
Test Date:	28/04/2022
Report Date:	28/04/2022
File Name:	AR3344.spt
Test Operator:	CM

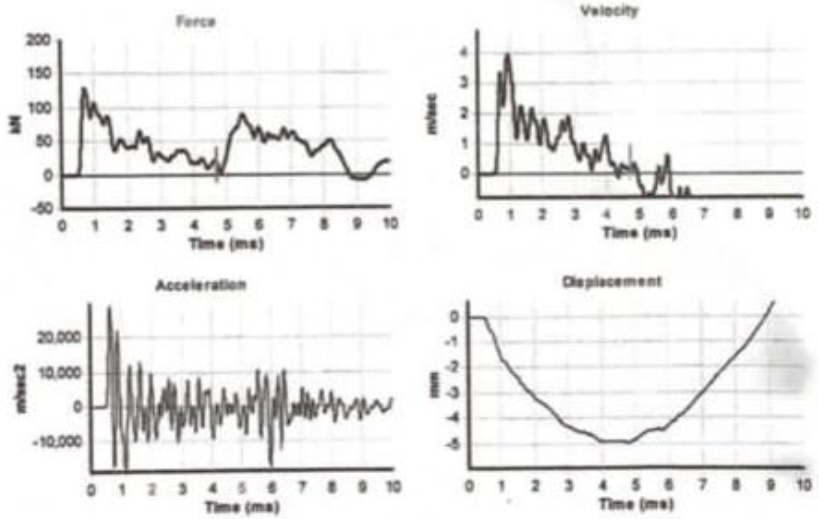
Instrumented Rod Data

Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

SPT Hammer Information

Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location
DI DRILLING



Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	355
Energy Ratio E_r (%):	**75**

Signed: C.McCLUSKEY
Title: FITTER

The recommended calibration interval is 12 months

SPTHAN ver.1.93 All rights reserved, Testconsult ©2010

SPT Hammer Efficiency Certificate (relates to BH101, BH103, BH105, DS101)

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	AR659
Test Date:	21/12/2021
Report Date:	21/12/2021
File Name:	AR659.spt
Test Operator:	JL

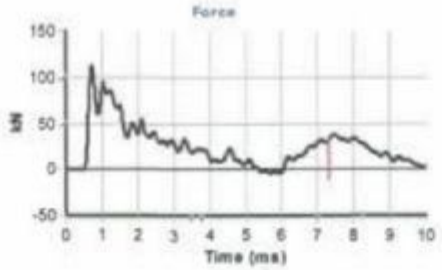
Instrumented Rod Data

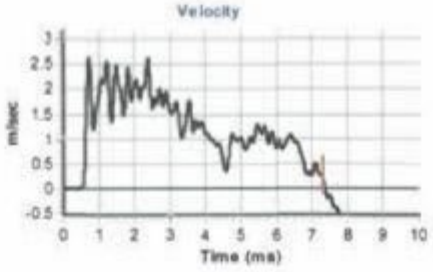
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.3
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

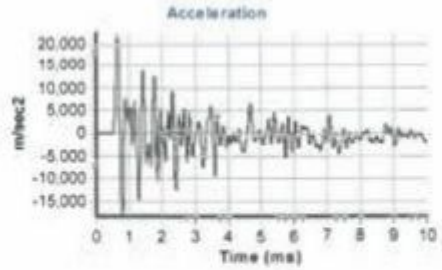
SPT Hammer Information

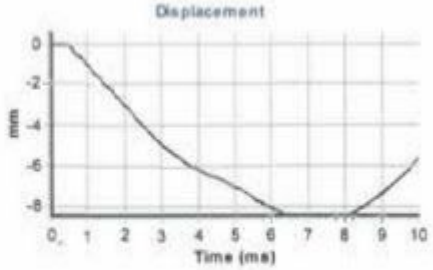
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location
VC DRILLING - 73802









Calculations

Area of Rod A (mm2):	944
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	288
Energy Ratio E_r (%):	**61**

The recommended calibration interval is 12 months

Signed: J.LOCK
Title: FITTER

SPTMAN ver.1.93 All rights reserved, Testconsult ©2010

Appendix B

Certificates of Analysis -

Soil and Leaching Tests

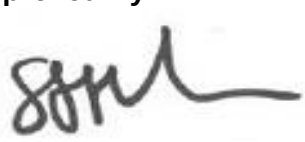
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20268-1
Initial Date of Issue:	09-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	31-May-2022
Order No.:	740327	**Date Instructed:**	01-Jun-2022
No. of Samples:	4		
Turnaround (Wkdays):	5	**Results Due:**	09-Jun-2022
Date Approved:	09-Jun-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20268
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439128
				Client Sample ID.:		BH104
				Sample Type:		SOIL
				Top Depth (m):		1.30
				Bottom Depth (m):		1.40
				Date Sampled:		25-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
pH	U	1010	2:1		N/A	8.2
Electrical Conductivity	U	1020	2:1	µS/cm	1.0	140
Chloride	U	1220	2:1	mg/l	1.0	7.9
Ammoniacal Nitrogen	U	1220	2:1	mg/l	0.050	0.093
Nitrate	U	1220	2:1	mg/l	0.50	1.8
Sulphur	N	1220	2:1	mg/l	1.0	6.3
Sulphate	U	1220	2:1	mg/l	1.0	19
Cyanide (Total)	U	1300	2:1	mg/l	0.050	< 0.050
Cyanide (Free)	U	1300	2:1	mg/l	0.050	< 0.050
Sulphide	U	1325	2:1	mg/l	0.050	< 0.050
Arsenic (Dissolved)	U	1455	2:1	µg/l	0.20	2.5
Boron (Dissolved)	U	1455	2:1	µg/l	10.0	21
Barium (Dissolved)	U	1455	2:1	µg/l	5.00	140
Beryllium (Dissolved)	U	1455	2:1	µg/l	1.00	140
Cadmium (Dissolved)	U	1455	2:1	µg/l	0.11	130
Chromium (Dissolved)	U	1455	2:1	µg/l	0.50	170
Copper (Dissolved)	U	1455	2:1	µg/l	0.50	140
Mercury (Dissolved)	U	1455	2:1	µg/l	0.05	< 0.05
Nickel (Dissolved)	U	1455	2:1	µg/l	0.50	160
Lead (Dissolved)	U	1455	2:1	µg/l	0.50	81
Selenium (Dissolved)	U	1455	2:1	µg/l	0.50	130
Zinc (Dissolved)	U	1455	2:1	µg/l	2.5	230
Chromium (Hexavalent)	U	1490	2:1	µg/l	20	< 20
Low-Level Chromium (Hexavalent)	N	1495	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C5-C6	N	1675	2:1	µg/l	0.010	< 0.010
Aliphatic TPH >C6-C8	N	1675	2:1	µg/l	0.010	< 0.010
Aliphatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0
Aromatic TPH >C5-C7	N	1675	2:1	µg/l	0.010	< 0.010
Aromatic TPH >C7-C8	N	1675	2:1	µg/l	0.010	< 0.010
Aromatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20268
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439128
				Client Sample ID.:		BH104
				Sample Type:		SOIL
				Top Depth (m):		1.30
				Bottom Depth (m):		1.40
				Date Sampled:		25-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Aromatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0
Total Petroleum Hydrocarbons	N	1675	2:1	µg/l	2.0	< 2.0
Dichlorodifluoromethane	N	1760	2:1	µg/l	0.10	< 0.10
Chloromethane	N	1760	2:1	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	2:1	µg/l	0.10	< 0.10
Bromomethane	N	1760	2:1	µg/l	2.0	< 2.0
Chloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	2:1	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	2:1	µg/l	0.50	< 0.50
Trichloromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	2:1	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	2:1	µg/l	0.10	< 0.10
Benzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Trichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	2:1	µg/l	0.10	< 0.10
Dibromomethane	N	1760	2:1	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	2:1	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0
Toluene	N	1760	2:1	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	2:1	µg/l	1.0	< 1.0
Tetrachloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	2:1	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	2:1	µg/l	1.0	< 1.0
1,2-Dibromoethane	N	1760	2:1	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	2:1	µg/l	0.10	< 0.10
o-Xylene	N	1760	2:1	µg/l	0.10	< 0.10
Styrene	N	1760	2:1	µg/l	0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20268
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439128
				Client Sample ID.:		BH104
				Sample Type:		SOIL
				Top Depth (m):		1.30
				Bottom Depth (m):		1.40
				Date Sampled:		25-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Tribromomethane	N	1760	2:1	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
Bromobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	2:1	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	2:1	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	2:1	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	2:1	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	2:1	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	2:1	µg/l	0.050	< 0.050
Phenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Chlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050
1,3-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
1,4-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
1,2-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
2-Methylphenol (o-Cresol)	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050
Hexachloroethane	N	1790	2:1	µg/l	0.050	< 0.050
N-Nitrosodi-n-propylamine	N	1790	2:1	µg/l	0.050	< 0.050
4-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050
Nitrobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Isophorone	N	1790	2:1	µg/l	0.050	< 0.050
2-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dimethylphenol	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20268
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439128
				Client Sample ID.:		BH104
				Sample Type:		SOIL
				Top Depth (m):		1.30
				Bottom Depth (m):		1.40
				Date Sampled:		25-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
1,2,4-Trichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Naphthalene	N	1790	2:1	µg/l	0.050	< 0.050
4-Chloroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorobutadiene	N	1790	2:1	µg/l	0.050	< 0.050
4-Chloro-3-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Methylnaphthalene	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorocyclopentadiene	N	1790	2:1	µg/l	0.050	< 0.050
2,4,6-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
2,4,5-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Chloronaphthalene	N	1790	2:1	µg/l	0.050	< 0.050
2-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Acenaphthylene	N	1790	2:1	µg/l	0.050	< 0.050
Dimethylphthalate	N	1790	2:1	µg/l	0.050	< 0.050
2,6-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050
Acenaphthene	N	1790	2:1	µg/l	0.050	< 0.050
3-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Dibenzofuran	N	1790	2:1	µg/l	0.050	< 0.050
4-Chlorophenylphenylether	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050
Fluorene	N	1790	2:1	µg/l	0.050	< 0.050
Diethyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
4-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
Azobenzene	N	1790	2:1	µg/l	0.050	< 0.050
4-Bromophenylphenyl Ether	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Pentachlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
Phenanthrene	N	1790	2:1	µg/l	0.050	< 0.050
Anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Carbazole	N	1790	2:1	µg/l	0.050	< 0.050
Di-N-Butyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050
Pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Butylbenzyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[a]anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Chrysene	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Di-N-Octyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[b]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20268
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439128
				Client Sample ID.:		BH104
				Sample Type:		SOIL
				Top Depth (m):		1.30
				Bottom Depth (m):		1.40
				Date Sampled:		25-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Benzo[k]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[a]pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Dibenz(a,h)Anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[g,h,i]perylene	N	1790	2:1	µg/l	0.050	< 0.050
4-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
Naphthalene	N	1800	2:1	µg/l	0.010	< 0.010
Acenaphthylene	N	1800	2:1	µg/l	0.010	< 0.010
Acenaphthene	N	1800	2:1	µg/l	0.010	< 0.010
Fluorene	N	1800	2:1	µg/l	0.010	< 0.010
Phenanthrene	N	1800	2:1	µg/l	0.010	< 0.010
Anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Chrysene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	2:1	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1800	2:1	µg/l	0.20	< 0.20
PCB 28	N	1815	2:1	µg/l	0.010	< 0.010
PCB 52	N	1815	2:1	µg/l	0.010	< 0.010
PCB 90+101	N	1815	2:1	µg/l	0.010	< 0.010
PCB 118	N	1815	2:1	µg/l	0.010	< 0.010
PCB 153	N	1815	2:1	µg/l	0.010	< 0.010
PCB 138	N	1815	2:1	µg/l	0.010	< 0.010
PCB 180	N	1815	2:1	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	2:1	µg/l	0.010	< 0.010
Total Phenols	U	1920	2:1	mg/l	0.030	< 0.030

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1439127	1439128	1439129	1439130
		Client Sample ID.:			BH104	BH104	BH106	BH106
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.10	1.30	0.10	1.40
		Bottom Depth (m):			0.30	1.40	0.40	1.50
		Date Sampled:			25-May-2022	25-May-2022	25-May-2022	25-May-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type	U	2192		N/A	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	11	35	14	21
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Clay
pH	U	2010		4.0	8.8	8.3	8.7	8.2
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40	< 0.40	< 0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.018	0.023	0.039	0.054
Sulphur (Elemental)	U	2180	mg/kg	1.0	< 1.0	< 1.0	2.7	3.7
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	25	25	5.7	31
Arsenic	U	2455	mg/kg	0.5	1.1	9.6	1.6	8.8
Barium	U	2455	mg/kg	0	18	45	80	130
Beryllium	U	2455	mg/kg	0.5	< 0.5	0.9	< 0.5	1.6
Cadmium	U	2455	mg/kg	0.10	0.13	0.10	0.35	0.13
Chromium	U	2455	mg/kg	0.5	3.1	16	4.5	33
Copper	U	2455	mg/kg	0.50	2.0	12	2.7	21
Mercury	U	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	U	2455	mg/kg	0.50	4.0	13	5.8	43
Lead	U	2455	mg/kg	0.50	7.6	6.6	16	11
Selenium	U	2455	mg/kg	0.25	0.40	0.76	0.35	1.2
Zinc	U	2455	mg/kg	0.50	16	18	23	49
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fraction of Organic Carbon	U	2625		0.0010	0.0034	0.0035	0.045	0.0042
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	82	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	82	< 1.0	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439127	1439128	1439129	1439130
			Client Sample ID.:		BH104	BH104	BH106	BH106
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	1.30	0.10	1.40
			Bottom Depth (m):		0.30	1.40	0.40	1.50
			Date Sampled:		25-May-2022	25-May-2022	25-May-2022	25-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	320	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	320	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	400	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Chloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Vinyl Chloride	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Bromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Chloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Trichlorofluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,1-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Trans 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,1-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
cis 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Bromochloromethane	N	2760	µg/kg	0.50	< 0.50	< 0.50	< 0.50	
Trichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,1,1-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Tetrachloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,1-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Benzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Trichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Dibromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Bromodichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
cis-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Toluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Trans-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,1,2-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Tetrachloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,3-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Dibromochloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2-Dibromoethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Chlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439127	1439128	1439129	1439130
			Client Sample ID.:		BH104	BH104	BH106	BH106
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	1.30	0.10	1.40
			Bottom Depth (m):		0.30	1.40	0.40	1.50
			Date Sampled:		25-May-2022	25-May-2022	25-May-2022	25-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
1,1,1,2-Tetrachloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Ethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
m & p-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
o-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Styrene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Tribromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Isopropylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Bromobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2,3-Trichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
N-Propylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
2-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,3,5-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
4-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Tert-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2,4-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Sec-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,3-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
4-Isopropyltoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,4-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
N-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2,4-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Hexachlorobutadiene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
1,2,3-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
Methyl Tert-Butyl Ether	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Phenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1439127	1439128	1439129	1439130
			Client Sample ID.:		BH104	BH104	BH106	BH106
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	1.30	0.10	1.40
			Bottom Depth (m):		0.30	1.40	0.40	1.50
			Date Sampled:		25-May-2022	25-May-2022	25-May-2022	25-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Isophorone	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Naphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Methylnaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Acenaphthylene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Acenaphthene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Fluorene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Azobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Phenanthrene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Carbazole	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439127	1439128	1439129	1439130
			Client Sample ID.:		BH104	BH104	BH106	BH106
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	1.30	0.10	1.40
			Bottom Depth (m):		0.30	1.40	0.40	1.50
			Date Sampled:		25-May-2022	25-May-2022	25-May-2022	25-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Benzo[a]anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Chrysene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Benzo[a]pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	
Naphthalene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	2800	mg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10	< 0.10	

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20268	22-20268	22-20268	22-20268
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439127	1439128	1439129	1439130
			Client Sample ID.:		BH104	BH104	BH106	BH106
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.10	1.30	0.10	1.40
			Bottom Depth (m):		0.30	1.40	0.40	1.50
			Date Sampled:		25-May-2022	25-May-2022	25-May-2022	25-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20268								
Chemtest Sample ID:	1439128								
Sample Ref:									
Sample ID:	BH104								
Sample Location:									
Top Depth(m):	1.30								
Bottom Depth(m):	1.40								
Sampling Date:	25-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Test Methods

SOP	Title	Parameters included	Method summary
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

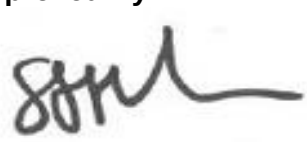
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20272-1
Initial Date of Issue:	09-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	31-May-2022
Order No.:	740328	**Date Instructed:**	01-Jun-2022
No. of Samples:	2		
Turnaround (Wkdays):	5	**Results Due:**	09-Jun-2022
Date Approved:	09-Jun-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20272
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439139
				Client Sample ID.:		BH105
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		26-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
pH	U	1010	2:1		N/A	8.0
Electrical Conductivity	U	1020	2:1	µS/cm	1.0	290
Chloride	U	1220	2:1	mg/l	1.0	53
Ammoniacal Nitrogen	U	1220	2:1	mg/l	0.050	0.12
Nitrate	U	1220	2:1	mg/l	0.50	2.1
Sulphur	N	1220	2:1	mg/l	1.0	3.3
Sulphate	U	1220	2:1	mg/l	1.0	10
Cyanide (Total)	U	1300	2:1	mg/l	0.050	< 0.050
Cyanide (Free)	U	1300	2:1	mg/l	0.050	< 0.050
Sulphide	U	1325	2:1	mg/l	0.050	< 0.050
Arsenic (Dissolved)	U	1455	2:1	µg/l	0.20	0.43
Boron (Dissolved)	U	1455	2:1	µg/l	10.0	17
Barium (Dissolved)	U	1455	2:1	µg/l	5.00	14
Beryllium (Dissolved)	U	1455	2:1	µg/l	1.00	< 1.0
Cadmium (Dissolved)	U	1455	2:1	µg/l	0.11	0.38
Chromium (Dissolved)	U	1455	2:1	µg/l	0.50	2.8
Copper (Dissolved)	U	1455	2:1	µg/l	0.50	1.5
Mercury (Dissolved)	U	1455	2:1	µg/l	0.05	< 0.05
Nickel (Dissolved)	U	1455	2:1	µg/l	0.50	2.1
Lead (Dissolved)	U	1455	2:1	µg/l	0.50	< 0.50
Selenium (Dissolved)	U	1455	2:1	µg/l	0.50	1.0
Zinc (Dissolved)	U	1455	2:1	µg/l	2.5	< 2.5
Chromium (Hexavalent)	U	1490	2:1	µg/l	20	< 20
Low-Level Chromium (Hexavalent)	N	1495	2:1	µg/l	0.10	0.15
Aliphatic TPH >C5-C6	N	1675	2:1	µg/l	0.010	< 0.010
Aliphatic TPH >C6-C8	N	1675	2:1	µg/l	0.010	< 0.010
Aliphatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0
Aromatic TPH >C5-C7	N	1675	2:1	µg/l	0.010	< 0.010
Aromatic TPH >C7-C8	N	1675	2:1	µg/l	0.010	< 0.010
Aromatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20272
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439139
				Client Sample ID.:		BH105
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		26-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Aromatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0
Total Petroleum Hydrocarbons	N	1675	2:1	µg/l	2.0	< 2.0
Dichlorodifluoromethane	N	1760	2:1	µg/l	0.10	< 0.10
Chloromethane	N	1760	2:1	µg/l	0.10	< 0.10
Vinyl Chloride	N	1760	2:1	µg/l	0.10	< 0.10
Bromomethane	N	1760	2:1	µg/l	2.0	< 2.0
Chloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Trichlorofluoromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloroethane	N	1760	2:1	µg/l	0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
Bromochloromethane	N	1760	2:1	µg/l	0.50	< 0.50
Trichloromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1,1-Trichloroethane	N	1760	2:1	µg/l	0.10	< 0.10
Tetrachloromethane	N	1760	2:1	µg/l	0.10	< 0.10
1,1-Dichloropropene	N	1760	2:1	µg/l	0.10	< 0.10
Benzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Trichloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichloropropane	N	1760	2:1	µg/l	0.10	< 0.10
Dibromomethane	N	1760	2:1	µg/l	0.10	< 0.10
Bromodichloromethane	N	1760	2:1	µg/l	0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0
Toluene	N	1760	2:1	µg/l	0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0
1,1,2-Trichloroethane	N	1760	2:1	µg/l	1.0	< 1.0
Tetrachloroethene	N	1760	2:1	µg/l	0.10	< 0.10
1,3-Dichloropropane	N	1760	2:1	µg/l	0.20	< 0.20
Dibromochloromethane	N	1760	2:1	µg/l	1.0	< 1.0
1,2-Dibromoethane	N	1760	2:1	µg/l	0.50	< 0.50
Chlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	2:1	µg/l	0.20	< 0.20
Ethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
m & p-Xylene	N	1760	2:1	µg/l	0.10	< 0.10
o-Xylene	N	1760	2:1	µg/l	0.10	< 0.10
Styrene	N	1760	2:1	µg/l	0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20272
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439139
				Client Sample ID.:		BH105
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		26-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Tribromomethane	N	1760	2:1	µg/l	1.0	< 1.0
Isopropylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
Bromobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,3-Trichloropropane	N	1760	2:1	µg/l	5.0	< 5.0
N-Propylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
2-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
4-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10
Tert-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
Sec-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,3-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
4-Isopropyltoluene	N	1760	2:1	µg/l	0.10	< 0.10
1,4-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
N-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	2:1	µg/l	5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10
Hexachlorobutadiene	N	1760	2:1	µg/l	0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	2:1	µg/l	0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	2:1	µg/l	0.10	< 0.10
N-Nitrosodimethylamine	N	1790	2:1	µg/l	0.050	< 0.050
Phenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Chlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050
1,3-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
1,4-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
1,2-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
2-Methylphenol (o-Cresol)	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050
Hexachloroethane	N	1790	2:1	µg/l	0.050	< 0.050
N-Nitrosodi-n-propylamine	N	1790	2:1	µg/l	0.050	< 0.050
4-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050
Nitrobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Isophorone	N	1790	2:1	µg/l	0.050	< 0.050
2-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dimethylphenol	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20272
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439139
				Client Sample ID.:		BH105
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		26-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
1,2,4-Trichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Naphthalene	N	1790	2:1	µg/l	0.050	< 0.050
4-Chloroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorobutadiene	N	1790	2:1	µg/l	0.050	< 0.050
4-Chloro-3-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Methylnaphthalene	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorocyclopentadiene	N	1790	2:1	µg/l	0.050	< 0.050
2,4,6-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
2,4,5-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
2-Chloronaphthalene	N	1790	2:1	µg/l	0.050	< 0.050
2-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Acenaphthylene	N	1790	2:1	µg/l	0.050	< 0.050
Dimethylphthalate	N	1790	2:1	µg/l	0.050	< 0.050
2,6-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050
Acenaphthene	N	1790	2:1	µg/l	0.050	< 0.050
3-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
Dibenzofuran	N	1790	2:1	µg/l	0.050	< 0.050
4-Chlorophenylphenylether	N	1790	2:1	µg/l	0.050	< 0.050
2,4-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050
Fluorene	N	1790	2:1	µg/l	0.050	< 0.050
Diethyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
4-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
Azobenzene	N	1790	2:1	µg/l	0.050	< 0.050
4-Bromophenylphenyl Ether	N	1790	2:1	µg/l	0.050	< 0.050
Hexachlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050
Pentachlorophenol	N	1790	2:1	µg/l	0.050	< 0.050
Phenanthrene	N	1790	2:1	µg/l	0.050	< 0.050
Anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Carbazole	N	1790	2:1	µg/l	0.050	< 0.050
Di-N-Butyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050
Pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Butylbenzyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[a]anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Chrysene	N	1790	2:1	µg/l	0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Di-N-Octyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[b]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20272
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1439139
				Client Sample ID.:		BH105
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		26-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**	
Benzo[k]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[a]pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	1790	2:1	µg/l	0.050	< 0.050
Dibenz(a,h)Anthracene	N	1790	2:1	µg/l	0.050	< 0.050
Benzo[g,h,i]perylene	N	1790	2:1	µg/l	0.050	< 0.050
4-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050
Naphthalene	N	1800	2:1	µg/l	0.010	< 0.010
Acenaphthylene	N	1800	2:1	µg/l	0.010	< 0.010
Acenaphthene	N	1800	2:1	µg/l	0.010	< 0.010
Fluorene	N	1800	2:1	µg/l	0.010	< 0.010
Phenanthrene	N	1800	2:1	µg/l	0.010	< 0.010
Anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Chrysene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	2:1	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	2:1	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	2:1	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1800	2:1	µg/l	0.20	< 0.20
PCB 28	N	1815	2:1	µg/l	0.010	< 0.010
PCB 52	N	1815	2:1	µg/l	0.010	< 0.010
PCB 90+101	N	1815	2:1	µg/l	0.010	< 0.010
PCB 118	N	1815	2:1	µg/l	0.010	< 0.010
PCB 153	N	1815	2:1	µg/l	0.010	< 0.010
PCB 138	N	1815	2:1	µg/l	0.010	< 0.010
PCB 180	N	1815	2:1	µg/l	0.010	< 0.010
Total PCBs (7 congeners)	N	1815	2:1	µg/l	0.010	< 0.010
Total Phenols	U	1920	2:1	mg/l	0.030	< 0.030

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type	U	2192		N/A	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	10	17
Soil Colour	N	2040		N/A	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay
pH	U	2010		4.0	9.1	7.8
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.059	0.72
Sulphur (Elemental)	U	2180	mg/kg	1.0	2.0	2.3
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	1.9	1.4
Arsenic	U	2455	mg/kg	0.5	1.2	7.5
Barium	U	2455	mg/kg	0	26	78
Beryllium	U	2455	mg/kg	0.5	< 0.5	1.0
Cadmium	U	2455	mg/kg	0.10	0.34	< 0.10
Chromium	U	2455	mg/kg	0.5	4.0	21
Copper	U	2455	mg/kg	0.50	2.5	16
Mercury	U	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel	U	2455	mg/kg	0.50	6.0	25
Lead	U	2455	mg/kg	0.50	6.0	9.1
Selenium	U	2455	mg/kg	0.25	0.37	0.83
Zinc	U	2455	mg/kg	0.50	14	35
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50
Fraction of Organic Carbon	U	2625		0.0010	0.011	0.0049
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10	38
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	38
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	< 2.0	38
Dichlorodifluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Chloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Vinyl Chloride	N	2760	µg/kg	0.20	< 0.20	< 0.20
Bromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Chloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,1-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Trans 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,1-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
cis 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Bromochloromethane	N	2760	µg/kg	0.50	< 0.50	< 0.50
Trichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,1,1-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Tetrachloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,1-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Benzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Trichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Dibromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Bromodichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
cis-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Toluene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Trans-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Tetrachloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,3-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Dibromochloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2-Dibromoethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Chlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
1,1,1,2-Tetrachloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Ethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
m & p-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20
o-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Styrene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Tribromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20
Isopropylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Bromobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2,3-Trichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20
N-Propylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
2-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,3,5-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
4-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Tert-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2,4-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Sec-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
4-Isopropyltoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,4-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
N-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2,4-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Hexachlorobutadiene	N	2760	µg/kg	0.20	< 0.20	< 0.20
1,2,3-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	2760	µg/kg	0.20	< 0.20	< 0.20
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050
Phenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Isophorone	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Naphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050
Acenaphthylene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Acenaphthene	N	2790	mg/kg	0.050	< 0.050	< 0.050
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Fluorene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Azobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Phenanthrene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Carbazole	N	2790	mg/kg	0.050	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
Fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Chrysene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Benzo[a]pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	< 0.050	< 0.050
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050
Naphthalene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Fluoranthene	N	2800	mg/kg	0.010	0.10	< 0.010
Pyrene	N	2800	mg/kg	0.010	0.14	< 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Chrysene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	2800	mg/kg	0.20	0.24	< 0.20
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20272	22-20272
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1439139	1439140
			Client Sample ID.:		BH105	BH105
			Sample Type:		SOIL	SOIL
			Top Depth (m):		0.20	1.50
			Bottom Depth (m):		0.40	1.60
			Date Sampled:		26-May-2022	26-May-2022
			Asbestos Lab:		DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**		
Total Phenols	U	2920	mg/kg	0.10	< 0.10	< 0.10

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20272								
Chemtest Sample ID:	1439139								
Sample Ref:									
Sample ID:	BH105						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:									
Top Depth(m):	0.20								
Bottom Depth(m):	0.40								
Sampling Date:	26-May-2022								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Test Methods

SOP	Title	Parameters included	Method summary
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

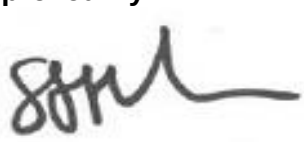
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20490-1
Initial Date of Issue:	10-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	01-Jun-2022
Order No.:	740328	**Date Instructed:**	01-Jun-2022
No. of Samples:	1		
Turnaround (Wkdays):	7	**Results Due:**	13-Jun-2022
Date Approved:	10-Jun-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20490								
Chemtest Sample ID:	1440333								
Sample Ref:									
Sample ID:	BH105								
Sample Location:									
Top Depth(m):	0.20								
Bottom Depth(m):	0.40								
Sampling Date:	26-May-2022						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			< 0.20	3	5	6
Loss On Ignition	2610	M	%			1.2	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			130	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				9.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.024	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0013	0.0015	0.0025	0.015	0.5	2	25
Barium	1455	U	0.016	0.007	0.031	0.077	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0026	0.0028	0.0051	0.028	0.5	10	70
Copper	1455	U	0.0017	0.0023	0.0034	0.0017	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0041	0.0012	0.0082	0.015	0.5	10	30
Nickel	1455	U	0.0022	0.0020	0.0044	0.020	0.4	10	40
Lead	1455	U	< 0.0005	0.0006	< 0.0005	0.0058	0.5	10	50
Antimony	1455	U	0.0008	< 0.0005	0.0017	0.0008	0.06	0.7	5
Selenium	1455	U	0.0007	0.0007	0.0014	0.0070	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	45	6.5	90	100	800	15000	25000
Fluoride	1220	U	0.41	0.14	< 1.0	1.7	10	150	500
Sulphate	1220	U	13	2.3	26	34	1000	20000	50000
Total Dissolved Solids	1020	N	180	65	360	770	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	4.0	3.3	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	6.5

Leachate Test Information	
Leachant volume 1st extract/l	0.338
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.172

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

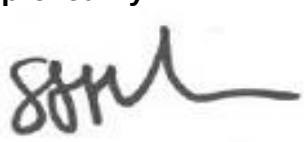
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20520-1
Initial Date of Issue:	10-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	01-Jun-2022
Order No.:	740327	**Date Instructed:**	01-Jun-2022
No. of Samples:	2		
Turnaround (Wkdays):	7	**Results Due:**	13-Jun-2022
Date Approved:	10-Jun-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20520								
Chemtest Sample ID:	1440471								
Sample Ref:									
Sample ID:	BH104						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:									
Top Depth(m):	0.10								
Bottom Depth(m):	0.30								
Sampling Date:	25-May-2022								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			< 0.20	3	5	6
Loss On Ignition	2610	M	%			1.3	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			65	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				9.0	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.016	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0002	0.0004	0.0005	0.0035	0.5	2	25
Barium	1455	U	0.012	< 0.005	0.024	0.017	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0023	0.0023	0.0046	0.023	0.5	10	70
Copper	1455	U	0.0009	0.0008	0.0018	0.0012	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0024	0.0009	0.0047	0.011	0.5	10	30
Nickel	1455	U	0.0014	0.0015	0.0029	0.015	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	0.0005	< 0.0005	0.0010	0.0007	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	13	1.4	26	30	800	15000	25000
Fluoride	1220	U	0.29	0.12	< 1.0	1.4	10	150	500
Sulphate	1220	U	5.1	< 1.0	10	< 10	1000	20000	50000
Total Dissolved Solids	1020	N	98	46	200	530	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	6.1

Leachate Test Information	
Leachant volume 1st extract/l	0.339
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.240

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20520								
Chemtest Sample ID:	1440472								
Sample Ref:									
Sample ID:	BH106						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:									
Top Depth(m):	1.40								
Bottom Depth(m):	1.50								
Sampling Date:	25-May-2022								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			0.62	3	5	6
Loss On Ignition	2610	M	%			6.6	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			< 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				8.2	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.041	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0003	0.0002	0.0005	0.0023	0.5	2	25
Barium	1455	U	0.013	< 0.005	0.026	0.0085	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	0.0023	0.0026	0.0045	0.025	0.5	10	70
Copper	1455	U	0.0006	< 0.0005	0.0011	< 0.0005	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0004	0.0005	0.0009	0.0048	0.5	10	30
Nickel	1455	U	0.0019	0.0019	0.0037	0.019	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	0.0005	0.0022	0.0011	0.021	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	< 0.003	< 0.003	< 0.003	4	50	200
Chloride	1220	U	10	< 1.0	19	< 10	800	15000	25000
Fluoride	1220	U	0.62	0.15	1.2	1.8	10	150	500
Sulphate	1220	U	25	< 1.0	48	16	1000	20000	50000
Total Dissolved Solids	1020	N	98	20	190	240	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	4.6	< 2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	23

Leachate Test Information	
Leachant volume 1st extract/l	0.298
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.112

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

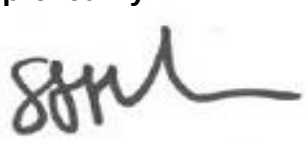
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20636-1
Initial Date of Issue:	10-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	06-Jun-2022
Order No.:	740327	**Date Instructed:**	06-Jun-2022
No. of Samples:	4		
Turnaround (Wkdays):	5	**Results Due:**	10-Jun-2022
Date Approved:	10-Jun-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20636	22-20636
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1440953	1440955
				Client Sample ID.:		BH101	BH102
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.10	0.30
				Bottom Depth (m):		2.20	0.75
				Date Sampled:		27-May-2022	27-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
pH	U	1010	2:1		N/A	7.5	10.3
Electrical Conductivity	U	1020	2:1	µS/cm	1.0	1600	430
Chloride	U	1220	2:1	mg/l	1.0	1.7	1.5
Ammoniacal Nitrogen	U	1220	2:1	mg/l	0.050	0.12	0.72
Nitrate	U	1220	2:1	mg/l	0.50	< 0.50	< 0.50
Sulphur	N	1220	2:1	mg/l	1.0	330	12
Sulphate	U	1220	2:1	mg/l	1.0	990	37
Cyanide (Total)	U	1300	2:1	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	2:1	mg/l	0.050	< 0.050	< 0.050
Sulphide	U	1325	2:1	mg/l	0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1455	2:1	µg/l	0.20	2.4	0.64
Boron (Dissolved)	U	1455	2:1	µg/l	10.0	41	16
Barium (Dissolved)	U	1455	2:1	µg/l	5.00	44	66
Beryllium (Dissolved)	U	1455	2:1	µg/l	1.00	< 1.0	< 1.0
Cadmium (Dissolved)	U	1455	2:1	µg/l	0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	2:1	µg/l	0.50	2.1	4.9
Copper (Dissolved)	U	1455	2:1	µg/l	0.50	1.2	2.4
Mercury (Dissolved)	U	1455	2:1	µg/l	0.05	< 0.05	< 0.05
Nickel (Dissolved)	U	1455	2:1	µg/l	0.50	1.6	2.2
Lead (Dissolved)	U	1455	2:1	µg/l	0.50	< 0.50	< 0.50
Selenium (Dissolved)	U	1455	2:1	µg/l	0.50	0.87	1.3
Zinc (Dissolved)	U	1455	2:1	µg/l	2.5	5.5	< 2.5
Chromium (Hexavalent)	U	1490	2:1	µg/l	20	< 20	< 20
Low-Level Chromium (Hexavalent)	N	1495	2:1	µg/l	0.10	< 0.10	1.2
Aliphatic TPH >C5-C6	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aromatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20636	22-20636
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1440953	1440955
				Client Sample ID.:		BH101	BH102
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.10	0.30
				Bottom Depth (m):		2.20	0.75
				Date Sampled:		27-May-2022	27-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Aromatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	1675	2:1	µg/l	2.0	< 2.0	< 2.0
Dichlorodifluoromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Chloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromomethane	N	1760	2:1	µg/l	2.0	< 2.0	< 2.0
Chloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
Trichloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Benzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Trichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Dibromomethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
Toluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
Tetrachloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
o-Xylene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Styrene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20636	22-20636
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1440953	1440955
				Client Sample ID.:		BH101	BH102
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.10	0.30
				Bottom Depth (m):		2.20	0.75
				Date Sampled:		27-May-2022	27-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Tribromomethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	2:1	µg/l	5.0	< 5.0	< 5.0
N-Propylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	2:1	µg/l	5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Phenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Chlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methylphenol (o-Cresol)	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachloroethane	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Nitrobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Isophorone	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20636	22-20636
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1440953	1440955
				Client Sample ID.:		BH101	BH102
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.10	0.30
				Bottom Depth (m):		2.20	0.75
				Date Sampled:		27-May-2022	27-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
1,2,4-Trichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Naphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chloroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Acenaphthylene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dimethylphthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Acenaphthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
3-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dibenzofuran	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chlorophenylphenylether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Fluorene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Diethyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Azobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Pentachlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Phenanthrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Carbazole	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Pyrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Butylbenzyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Chrysene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20636	22-20636
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1440953	1440955
				Client Sample ID.:		BH101	BH102
				Sample Type:		SOIL	SOIL
				Top Depth (m):		2.10	0.30
				Bottom Depth (m):		2.20	0.75
				Date Sampled:		27-May-2022	27-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Benzo[k]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[a]pyrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dibenz(a,h)Anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[g,h,i]perylene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Naphthalene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Acenaphthylene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Acenaphthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Fluorene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Phenanthrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Chrysene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	2:1	µg/l	0.20	< 0.20	< 0.20
PCB 28	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 52	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 90+101	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 118	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 153	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 138	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 180	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
Total Phenols	U	1920	2:1	mg/l	0.030	< 0.030	< 0.030

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1440953	1440954	1440955	1440956
		Client Sample ID.:			BH101	BH102	BH102	BH102
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			2.10	0.15	0.30	1.70
		Bottom Depth (m):			2.20	0.30	0.75	1.80
		Date Sampled:			27-May-2022	27-May-2022	27-May-2022	27-May-2022
		Asbestos Lab:			COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type	U	2192		N/A	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	14	5.6	4.4	12
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Sand	Sand	Clay
pH	M	2010		4.0	9.4	11.8	11.0	8.8
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.9	< 0.40	< 0.40	1.1
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.28	0.39	0.17	0.85
Sulphur (Elemental)	M	2180	mg/kg	1.0	2.8	1.3	< 1.0	< 1.0
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	20	3.7	1.4	1.6
Arsenic	M	2455	mg/kg	0.5	2.1	1.7	1.5	3.8
Barium	M	2455	mg/kg	0	64	78	120	33
Beryllium	U	2455	mg/kg	0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cadmium	M	2455	mg/kg	0.10	0.14	0.17	0.11	< 0.10
Chromium	M	2455	mg/kg	0.5	8.9	6.7	4.7	13
Copper	M	2455	mg/kg	0.50	15	5.2	3.0	9.2
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel	M	2455	mg/kg	0.50	9.3	6.6	7.6	13
Lead	M	2455	mg/kg	0.50	16	9.1	4.7	4.0
Selenium	M	2455	mg/kg	0.25	0.25	< 0.25	< 0.25	0.33
Zinc	M	2455	mg/kg	0.50	20	16	9.4	24
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fraction of Organic Carbon	M	2625		0.0010	0.012	0.012	0.0034	0.0029
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10	20	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	20	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1440953	1440954	1440955	1440956
		Client Sample ID.:			BH101	BH102	BH102	BH102
		Sample Type:			SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			2.10	0.15	0.30	1.70
		Bottom Depth (m):			2.20	0.30	0.75	1.80
		Date Sampled:			27-May-2022	27-May-2022	27-May-2022	27-May-2022
		Asbestos Lab:			COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10	1000	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	1000	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	< 2.0	1100	< 2.0	< 2.0
Dichlorodifluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Vinyl Chloride	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Bromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trans 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
cis 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Bromochloromethane	N	2760	µg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1,1-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Tetrachloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Benzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Bromodichloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
cis-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Toluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trans-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Tetrachloroethene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,3-Dichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dibromoethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440953	1440954	1440955	1440956
			Client Sample ID.:		BH101	BH102	BH102	BH102
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.10	0.15	0.30	1.70
			Bottom Depth (m):		2.20	0.30	0.75	1.80
			Date Sampled:		27-May-2022	27-May-2022	27-May-2022	27-May-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
1,1,1,2-Tetrachloroethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
m & p-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
o-Xylene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Styrene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Tribromomethane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Isopropylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Bromobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2,3-Trichloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
N-Propylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,3,5-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Tert-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2,4-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Sec-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Isopropyltoluene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,4-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
N-Butylbenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2,4-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Hexachlorobutadiene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2,3-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	2760	µg/kg	0.20	< 0.20	< 0.20	< 0.20	< 0.20
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440953	1440954	1440955	1440956
			Client Sample ID.:		BH101	BH102	BH102	BH102
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.10	0.15	0.30	1.70
			Bottom Depth (m):		2.20	0.30	0.75	1.80
			Date Sampled:		27-May-2022	27-May-2022	27-May-2022	27-May-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Isophorone	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Naphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Acenaphthylene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Acenaphthene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Fluorene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Azobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenanthrene	N	2790	mg/kg	0.050	< 0.050	0.14	< 0.050	< 0.050
Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Carbazole	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Fluoranthene	N	2790	mg/kg	0.050	< 0.050	0.35	< 0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440953	1440954	1440955	1440956
			Client Sample ID.:		BH101	BH102	BH102	BH102
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.10	0.15	0.30	1.70
			Bottom Depth (m):		2.20	0.30	0.75	1.80
			Date Sampled:		27-May-2022	27-May-2022	27-May-2022	27-May-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Pyrene	N	2790	mg/kg	0.050	< 0.050	0.32	< 0.050	< 0.050
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	2790	mg/kg	0.050	< 0.050	0.20	< 0.050	< 0.050
Chrysene	N	2790	mg/kg	0.050	< 0.050	0.25	< 0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050	0.29	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	< 0.050	0.32	< 0.050	< 0.050
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	< 0.050	0.12	< 0.050	< 0.050
Benzo[a]pyrene	N	2790	mg/kg	0.050	< 0.050	0.22	< 0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	< 0.050	0.14	< 0.050	< 0.050
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	< 0.050	0.16	< 0.050	< 0.050
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050	< 0.050	< 0.050	< 0.050
Naphthalene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	< 0.010	0.17	< 0.010	< 0.010
Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	2800	mg/kg	0.010	< 0.010	0.13	< 0.010	< 0.010
Pyrene	N	2800	mg/kg	0.010	< 0.010	0.13	< 0.010	< 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	2800	mg/kg	0.20	< 0.20	0.43	< 0.20	< 0.20
PCB 28	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20636	22-20636	22-20636	22-20636
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440953	1440954	1440955	1440956
			Client Sample ID.:		BH101	BH102	BH102	BH102
			Sample Type:		SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		2.10	0.15	0.30	1.70
			Bottom Depth (m):		2.20	0.30	0.75	1.80
			Date Sampled:		27-May-2022	27-May-2022	27-May-2022	27-May-2022
			Asbestos Lab:		COVENTRY	COVENTRY	COVENTRY	COVENTRY
Determinand	**Accred.**	**SOP**	**Units**	**LOD**				
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20636								
Chemtest Sample ID:	1440953								
Sample Ref:									
Sample ID:	BH101								
Sample Location:									
Top Depth(m):	2.10								
Bottom Depth(m):	2.20								
Sampling Date:	27-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20636								
Chemtest Sample ID:	1440955								
Sample Ref:									
Sample ID:	BH102								
Sample Location:									
Top Depth(m):	0.30								
Bottom Depth(m):	0.75								
Sampling Date:	27-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Test Methods

SOP	Title	Parameters included	Method summary
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

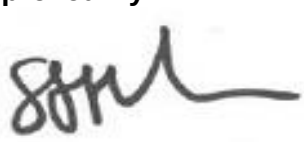
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20639-1
Initial Date of Issue:	14-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	06-Jun-2022
Order No.:	740327	**Date Instructed:**	06-Jun-2022
No. of Samples:	2		
Turnaround (Wkdays):	7	**Results Due:**	14-Jun-2022
Date Approved:	14-Jun-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20639								
Chemtest Sample ID:	1440962								
Sample Ref:									
Sample ID:	BH101								
Sample Location:									
Top Depth(m):	2.10								
Bottom Depth(m):	2.20								
Sampling Date:	27-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%			0.82	3	5	6
Loss On Ignition	2610	M	%			0.81	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			< 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				8.4	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.014	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0009	0.0009	0.0018	0.0091	0.5	2	25
Barium	1455	U	0.048	0.030	0.094	0.32	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0058	0.0020	0.011	0.024	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	0.0005	< 0.0005	0.0010	0.0006	0.1	0.5	7
Zinc	1455	U	0.005	< 0.003	0.010	0.005	4	50	200
Chloride	1220	U	2.7	< 1.0	< 10	< 10	800	15000	25000
Fluoride	1220	U	0.48	0.25	< 1.0	2.7	10	150	500
Sulphate	1220	U	500	69	980	1100	1000	20000	50000
Total Dissolved Solids	1020	N	660	170	1300	2200	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	16

Leachate Test Information	
Leachant volume 1st extract/l	0.318
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.183

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20639								
Chemtest Sample ID:	1440963								
Sample Ref:									
Sample ID:	BH102						**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Sample Location:									
Top Depth(m):	1.70								
Bottom Depth(m):	1.80								
Sampling Date:	27-May-2022								
Determinand	**SOP**	**Accred.**	**Units**						
Total Organic Carbon	2625	M	%			0.33	3	5	6
Loss On Ignition	2610	M	%			8.4	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			< 10	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			< 2.0	100	--	--
pH	2010	M				8.6	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.025	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0003	0.0002	0.0005	0.0022	0.5	2	25
Barium	1455	U	0.023	0.019	0.047	0.20	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.0030	0.0015	0.0059	0.017	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	50
Antimony	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	0.005	< 0.003	0.009	0.005	4	50	200
Chloride	1220	U	1.9	< 1.0	< 10	< 10	800	15000	25000
Fluoride	1220	U	0.40	0.21	< 1.0	2.3	10	150	500
Sulphate	1220	U	500	61	980	1100	1000	20000	50000
Total Dissolved Solids	1020	N	560	160	1100	2000	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	< 2.5	< 2.5	< 50	< 50	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	13

Leachate Test Information	
Leachant volume 1st extract/l	0.324
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.182

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

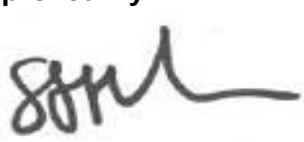
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20643-1
Initial Date of Issue:	14-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	06-Jun-2022
Order No.:	740327	**Date Instructed:**	08-Jun-2022
No. of Samples:	1		
Turnaround (Wkdays):	5	**Results Due:**	14-Jun-2022
Date Approved:	14-Jun-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type	U	2192		N/A	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected
Moisture	N	2030	%	0.020	12
Soil Colour	N	2040		N/A	Brown
Other Material	N	2040		N/A	Stones
Soil Texture	N	2040		N/A	Clay
pH	U	2010		4.0	9.2
Boron (Hot Water Soluble)	U	2120	mg/kg	0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	U	2120	g/l	0.010	0.089
Sulphur (Elemental)	U	2180	mg/kg	1.0	4.6
Cyanide (Free)	U	2300	mg/kg	0.50	< 0.50
Cyanide (Total)	U	2300	mg/kg	0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	5.7
Arsenic	U	2455	mg/kg	0.5	5.2
Barium	U	2455	mg/kg	0	160
Beryllium	U	2455	mg/kg	0.5	< 0.5
Cadmium	U	2455	mg/kg	0.10	2.1
Chromium	U	2455	mg/kg	0.5	7.0
Copper	U	2455	mg/kg	0.50	29
Mercury	U	2455	mg/kg	0.05	0.06
Nickel	U	2455	mg/kg	0.50	12
Lead	U	2455	mg/kg	0.50	280
Selenium	U	2455	mg/kg	0.25	0.29
Zinc	U	2455	mg/kg	0.50	440
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50
Fraction of Organic Carbon	U	2625		0.0010	0.0050
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	< 2.0
Dichlorodifluoromethane	N	2760	µg/kg	0.20	< 0.20
Chloromethane	N	2760	µg/kg	0.20	< 0.20
Vinyl Chloride	N	2760	µg/kg	0.20	< 0.20
Bromomethane	N	2760	µg/kg	0.20	< 0.20
Chloroethane	N	2760	µg/kg	0.20	< 0.20
Trichlorofluoromethane	N	2760	µg/kg	0.20	< 0.20
1,1-Dichloroethene	N	2760	µg/kg	0.20	< 0.20
Trans 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20
1,1-Dichloroethane	N	2760	µg/kg	0.20	< 0.20
cis 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20
Bromochloromethane	N	2760	µg/kg	0.50	< 0.50
Trichloromethane	N	2760	µg/kg	0.20	< 0.20
1,1,1-Trichloroethane	N	2760	µg/kg	0.20	< 0.20
Tetrachloromethane	N	2760	µg/kg	0.20	< 0.20
1,1-Dichloropropene	N	2760	µg/kg	0.20	< 0.20
Benzene	N	2760	µg/kg	0.20	< 0.20
1,2-Dichloroethane	N	2760	µg/kg	0.20	< 0.20
Trichloroethene	N	2760	µg/kg	0.20	< 0.20
1,2-Dichloropropane	N	2760	µg/kg	0.20	< 0.20
Dibromomethane	N	2760	µg/kg	0.20	< 0.20
Bromodichloromethane	N	2760	µg/kg	0.20	< 0.20
cis-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20
Toluene	N	2760	µg/kg	0.20	< 0.20
Trans-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20
1,1,2-Trichloroethane	N	2760	µg/kg	0.20	< 0.20
Tetrachloroethene	N	2760	µg/kg	0.20	< 0.20
1,3-Dichloropropane	N	2760	µg/kg	0.20	< 0.20
Dibromochloromethane	N	2760	µg/kg	0.20	< 0.20
1,2-Dibromoethane	N	2760	µg/kg	0.20	< 0.20
Chlorobenzene	N	2760	µg/kg	0.20	< 0.20

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
1,1,1,2-Tetrachloroethane	N	2760	µg/kg	0.20	< 0.20
Ethylbenzene	N	2760	µg/kg	0.20	< 0.20
m & p-Xylene	N	2760	µg/kg	0.20	< 0.20
o-Xylene	N	2760	µg/kg	0.20	< 0.20
Styrene	N	2760	µg/kg	0.20	< 0.20
Tribromomethane	N	2760	µg/kg	0.20	< 0.20
Isopropylbenzene	N	2760	µg/kg	0.20	< 0.20
Bromobenzene	N	2760	µg/kg	0.20	< 0.20
1,2,3-Trichloropropane	N	2760	µg/kg	0.20	< 0.20
N-Propylbenzene	N	2760	µg/kg	0.20	< 0.20
2-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20
1,3,5-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20
4-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20
Tert-Butylbenzene	N	2760	µg/kg	0.20	< 0.20
1,2,4-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20
Sec-Butylbenzene	N	2760	µg/kg	0.20	< 0.20
1,3-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20
4-Isopropyltoluene	N	2760	µg/kg	0.20	< 0.20
1,4-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20
N-Butylbenzene	N	2760	µg/kg	0.20	< 0.20
1,2-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	0.20	< 0.20
1,2,4-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20
Hexachlorobutadiene	N	2760	µg/kg	0.20	< 0.20
1,2,3-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20
Methyl Tert-Butyl Ether	N	2760	µg/kg	0.20	< 0.20
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050
Phenol	N	2790	mg/kg	0.050	< 0.050
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050
Isophorone	N	2790	mg/kg	0.050	< 0.050
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050
Naphthalene	N	2790	mg/kg	0.050	< 0.050
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050	< 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050
Acenaphthylene	N	2790	mg/kg	0.050	< 0.050
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050
Acenaphthene	N	2790	mg/kg	0.050	< 0.050
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050
Fluorene	N	2790	mg/kg	0.050	< 0.050
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050
Azobenzene	N	2790	mg/kg	0.050	< 0.050
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050
Phenanthrene	N	2790	mg/kg	0.050	< 0.050
Anthracene	N	2790	mg/kg	0.050	< 0.050
Carbazole	N	2790	mg/kg	0.050	< 0.050
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050
Fluoranthene	N	2790	mg/kg	0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Pyrene	N	2790	mg/kg	0.050	< 0.050
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050
Benzo[a]anthracene	N	2790	mg/kg	0.050	< 0.050
Chrysene	N	2790	mg/kg	0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	< 0.050
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	< 0.050
Benzo[a]pyrene	N	2790	mg/kg	0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	< 0.050
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	< 0.050
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	< 0.050
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050
Naphthalene	N	2800	mg/kg	0.010	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	< 0.010
Anthracene	N	2800	mg/kg	0.010	< 0.010
Fluoranthene	N	2800	mg/kg	0.010	< 0.010
Pyrene	N	2800	mg/kg	0.010	< 0.010
Benzo[a]anthracene	N	2800	mg/kg	0.010	< 0.010
Chrysene	N	2800	mg/kg	0.010	< 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	< 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	< 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	< 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	< 0.010
Total Of 16 PAH's	N	2800	mg/kg	0.20	< 0.20
PCB 28	U	2815	mg/kg	0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20643
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1440969
			Client Sample ID.:		DS101
			Sample Type:		SOIL
			Top Depth (m):		1.65
			Bottom Depth (m):		1.75
			Date Sampled:		31-May-2022
			Asbestos Lab:		DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**	
Total Phenols	U	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

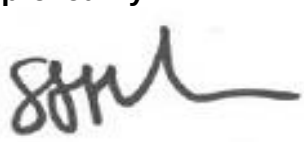
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20671-1
Initial Date of Issue:	10-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	06-Jun-2022
Order No.:	740327	**Date Instructed:**	06-Jun-2022
No. of Samples:	5		
Turnaround (Wkdays):	5	**Results Due:**	10-Jun-2022
Date Approved:	10-Jun-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20671	22-20671
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1441116	1441117
				Client Sample ID.:		DS101	DS101
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.00	0.30
				Bottom Depth (m):		0.30	0.44
				Date Sampled:		30-May-2022	30-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
pH	U	1010	2:1		N/A	9.0	8.9
Electrical Conductivity	U	1020	2:1	µS/cm	1.0	210	150
Chloride	U	1220	2:1	mg/l	1.0	3.2	3.8
Ammoniacal Nitrogen	U	1220	2:1	mg/l	0.050	0.12	0.15
Nitrate	U	1220	2:1	mg/l	0.50	5.7	1.2
Sulphur	N	1220	2:1	mg/l	1.0	1.2	2.3
Sulphate	U	1220	2:1	mg/l	1.0	3.5	6.9
Cyanide (Total)	U	1300	2:1	mg/l	0.050	< 0.050	< 0.050
Cyanide (Free)	U	1300	2:1	mg/l	0.050	< 0.050	< 0.050
Sulphide	U	1325	2:1	mg/l	0.050	< 0.050	< 0.050
Arsenic (Dissolved)	U	1455	2:1	µg/l	0.20	1.4	13
Boron (Dissolved)	U	1455	2:1	µg/l	10.0	13	20
Barium (Dissolved)	U	1455	2:1	µg/l	5.00	74	43
Beryllium (Dissolved)	U	1455	2:1	µg/l	1.00	< 1.0	6.9
Cadmium (Dissolved)	U	1455	2:1	µg/l	0.11	< 0.11	6.6
Chromium (Dissolved)	U	1455	2:1	µg/l	0.50	5.6	14
Copper (Dissolved)	U	1455	2:1	µg/l	0.50	4.9	8.8
Mercury (Dissolved)	U	1455	2:1	µg/l	0.05	< 0.05	0.08
Nickel (Dissolved)	U	1455	2:1	µg/l	0.50	2.5	11
Lead (Dissolved)	U	1455	2:1	µg/l	0.50	2.0	9.9
Selenium (Dissolved)	U	1455	2:1	µg/l	0.50	< 0.50	6.8
Zinc (Dissolved)	U	1455	2:1	µg/l	2.5	< 2.5	28
Low-Level Chromium (Hexavalent)	N	1495	2:1	µg/l	0.10	1.3	0.51
Aliphatic TPH >C5-C6	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	480	360
Aliphatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	2:1	µg/l	1.0	480	360
Aromatic TPH >C5-C7	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	1675	2:1	µg/l	0.010	< 0.010	< 0.010
Aromatic TPH >C8-C10	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20671	22-20671
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1441116	1441117
				Client Sample ID.:		DS101	DS101
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.00	0.30
				Bottom Depth (m):		0.30	0.44
				Date Sampled:		30-May-2022	30-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Aromatic TPH >C35-C44	N	1675	2:1	µg/l	0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	2:1	µg/l	1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	1675	2:1	µg/l	2.0	480	360
Dichlorodifluoromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Chloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromomethane	N	1760	2:1	µg/l	2.0	< 2.0	< 2.0
Chloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Trans 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
Trichloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Benzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Trichloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Dibromomethane	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
Toluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
Tetrachloroethene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	2:1	µg/l	0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
o-Xylene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Styrene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Tribromomethane	N	1760	2:1	µg/l	1.0	< 1.0	< 1.0

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20671	22-20671
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1441116	1441117
				Client Sample ID.:		DS101	DS101
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.00	0.30
				Bottom Depth (m):		0.30	0.44
				Date Sampled:		30-May-2022	30-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Isopropylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Bromobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	2:1	µg/l	5.0	< 5.0	< 5.0
N-Propylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	2:1	µg/l	5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	2:1	µg/l	0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	2:1	µg/l	0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Phenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Chlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methylphenol (o-Cresol)	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachloroethane	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Nitrobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Isophorone	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
1,2,4-Trichlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20671	22-20671
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1441116	1441117
				Client Sample ID.:		DS101	DS101
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.00	0.30
				Bottom Depth (m):		0.30	0.44
				Date Sampled:		30-May-2022	30-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Naphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chloroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Acenaphthylene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dimethylphthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Acenaphthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
3-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dibenzofuran	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Chlorophenylphenylether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Fluorene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Diethyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Nitroaniline	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Azobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Hexachlorobenzene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Pentachlorophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Phenanthrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Carbazole	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	0.52
Pyrene	N	1790	2:1	µg/l	0.050	< 0.050	0.89
Butylbenzyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Chrysene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[k]fluoranthene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050

Results - Leachate

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult				**Chemtest Job No.:**		22-20671	22-20671
Quotation No.: Q22-27796				**Chemtest Sample ID.:**		1441116	1441117
				Client Sample ID.:		DS101	DS101
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.00	0.30
				Bottom Depth (m):		0.30	0.44
				Date Sampled:		30-May-2022	30-May-2022
Determinand	**Accred.**	**SOP**	**Type**	**Units**	**LOD**		
Benzo[a]pyrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Dibenz(a,h)Anthracene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Benzo[g,h,i]perylene	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
4-Nitrophenol	N	1790	2:1	µg/l	0.050	< 0.050	< 0.050
Naphthalene	N	1800	2:1	µg/l	0.010	0.56	0.51
Acenaphthylene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Acenaphthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Fluorene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Phenanthrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Chrysene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	2:1	µg/l	0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	2:1	µg/l	0.20	0.56	0.51
PCB 28	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 52	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 90+101	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 118	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 153	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 138	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
PCB 180	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	2:1	µg/l	0.010	< 0.010	< 0.010
Total Phenols	U	1920	2:1	mg/l	0.030	< 0.030	< 0.030

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1441114	1441115	1441116	1441117	1441118
		Client Sample ID.:			BH103	BH103	DS101	DS101	DS101
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.14	1.50	0.00	0.30	0.44
		Bottom Depth (m):			0.40	1.60	0.30	0.44	0.60
		Date Sampled:			30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
ACM Type	U	2192		N/A	-	-	-	-	-
Asbestos Identification	U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture	N	2030	%	0.020	10	14	15	8.1	6.0
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones	None	Stones	Stones	Stones
Soil Texture	N	2040		N/A	Gravel	Clay	Loam	Clay	Gravel
pH	M	2010		4.0	11.2	8.9	9.0	9.2	9.5
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.58	< 0.40	0.41	< 0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	0.70	0.092	0.045	0.029	0.029
Sulphur (Elemental)	M	2180	mg/kg	1.0	2.8	1.3	5.2	1.7	2.5
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	2.4	2.3	4.3	4.5	5.2
Arsenic	M	2455	mg/kg	0.5	1.6	5.6	13	5.5	2.0
Barium	M	2455	mg/kg	0	690	120	230	130	240
Beryllium	U	2455	mg/kg	0.5	< 0.5	0.6	0.7	< 0.5	< 0.5
Cadmium	M	2455	mg/kg	0.10	0.14	< 0.10	0.36	0.41	0.19
Chromium	M	2455	mg/kg	0.5	5.2	19	25	14	6.2
Copper	M	2455	mg/kg	0.50	4.2	13	59	21	3.9
Mercury	M	2455	mg/kg	0.05	< 0.05	< 0.05	0.29	0.13	0.05
Nickel	M	2455	mg/kg	0.50	7.6	22	52	21	6.0
Lead	M	2455	mg/kg	0.50	8.2	8.8	190	51	12
Selenium	M	2455	mg/kg	0.25	< 0.25	0.37	0.83	0.49	0.48
Zinc	M	2455	mg/kg	0.50	17	28	120	60	23
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Fraction of Organic Carbon	M	2625		0.0010	0.0094	0.0049	0.029	0.034	0.0048
Aliphatic TPH >C5-C6	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	2680	mg/kg	0.10	< 0.10	< 0.10	130	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	2680	mg/kg	1.0	< 1.0	< 1.0	130	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	2680	mg/kg	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1441114	1441115	1441116	1441117	1441118
			Client Sample ID.:		BH103	BH103	DS101	DS101	DS101
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.14	1.50	0.00	0.30	0.44
			Bottom Depth (m):		0.40	1.60	0.30	0.44	0.60
			Date Sampled:		30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Aromatic TPH >C8-C10	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C10-C12	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	2680	mg/kg	0.10	1800	< 0.10	350	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	2680	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	2680	mg/kg	1.0	1800	< 1.0	350	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	2680	mg/kg	2.0	1800	< 2.0	480	< 2.0	< 2.0
Dichlorodifluoromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Chloromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Vinyl Chloride	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Bromomethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Chloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,1-Dichloroethene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Trans 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,1-Dichloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
cis 1,2-Dichloroethene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Bromochloromethane	N	2760	µg/kg	0.50	< 0.50		< 0.50	< 0.50	< 0.50
Trichloromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,1,1-Trichloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Tetrachloromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,1-Dichloropropene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Benzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2-Dichloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Trichloroethene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2-Dichloropropane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Dibromomethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Bromodichloromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
cis-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Toluene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Trans-1,3-Dichloropropene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,1,2-Trichloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Tetrachloroethene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,3-Dichloropropane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2-Dibromoethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Chlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1441114	1441115	1441116	1441117	1441118
		Client Sample ID.:			BH103	BH103	DS101	DS101	DS101
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.14	1.50	0.00	0.30	0.44
		Bottom Depth (m):			0.40	1.60	0.30	0.44	0.60
		Date Sampled:			30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
1,1,1,2-Tetrachloroethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Ethylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
m & p-Xylene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
o-Xylene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Styrene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Tribromomethane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Isopropylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Bromobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2,3-Trichloropropane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
N-Propylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
2-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,3,5-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
4-Chlorotoluene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Tert-Butylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2,4-Trimethylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Sec-Butylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,3-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
4-Isopropyltoluene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,4-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
N-Butylbenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2-Dichlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2-Dibromo-3-Chloropropane	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2,4-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Hexachlorobutadiene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
1,2,3-Trichlorobenzene	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	2760	µg/kg	0.20	< 0.20		< 0.20	< 0.20	< 0.20
N-Nitrosodimethylamine	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Phenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Chlorophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Methylphenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Hexachloroethane	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
4-Methylphenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1441114	1441115	1441116	1441117	1441118
		Client Sample ID.:			BH103	BH103	DS101	DS101	DS101
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.14	1.50	0.00	0.30	0.44
		Bottom Depth (m):			0.40	1.60	0.30	0.44	0.60
		Date Sampled:			30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Nitrobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Isophorone	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Nitrophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
1,2,4-Trichlorobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Naphthalene	N	2790	mg/kg	0.050	< 0.050		0.17	< 0.050	< 0.050
4-Chloroaniline	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	2790	mg/kg	0.050	0.078		0.18	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Nitroaniline	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Acenaphthylene	N	2790	mg/kg	0.050	< 0.050		0.095	< 0.050	< 0.050
Dimethylphthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Acenaphthene	N	2790	mg/kg	0.050	< 0.050		0.20	< 0.050	< 0.050
3-Nitroaniline	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Dibenzofuran	N	2790	mg/kg	0.050	< 0.050		0.13	< 0.050	< 0.050
4-Chlorophenylphenylether	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Fluorene	N	2790	mg/kg	0.050	< 0.050		0.15	< 0.050	< 0.050
Diethyl Phthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
4-Nitroaniline	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Azobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Hexachlorobenzene	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Pentachlorophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Phenanthrene	N	2790	mg/kg	0.050	0.10		1.9	0.25	< 0.050
Anthracene	N	2790	mg/kg	0.050	< 0.050		0.50	0.076	< 0.050
Carbazole	N	2790	mg/kg	0.050	< 0.050		0.14	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Fluoranthene	N	2790	mg/kg	0.050	0.067		4.0	0.64	< 0.050

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult		**Chemtest Job No.:**			22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796		**Chemtest Sample ID.:**			1441114	1441115	1441116	1441117	1441118
		Client Sample ID.:			BH103	BH103	DS101	DS101	DS101
		Sample Type:			SOIL	SOIL	SOIL	SOIL	SOIL
		Top Depth (m):			0.14	1.50	0.00	0.30	0.44
		Bottom Depth (m):			0.40	1.60	0.30	0.44	0.60
		Date Sampled:			30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
		Asbestos Lab:			DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Pyrene	N	2790	mg/kg	0.050	0.089		3.6	0.59	< 0.050
Butylbenzyl Phthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	2790	mg/kg	0.050	< 0.050		2.1	0.39	< 0.050
Chrysene	N	2790	mg/kg	0.050	0.078		2.1	0.37	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	2790	mg/kg	0.050	0.067		2.9	0.56	< 0.050
Benzo[k]fluoranthene	N	2790	mg/kg	0.050	< 0.050		1.1	0.19	< 0.050
Benzo[a]pyrene	N	2790	mg/kg	0.050	< 0.050		2.2	0.40	< 0.050
Indeno(1,2,3-c,d)Pyrene	N	2790	mg/kg	0.050	< 0.050		1.3	0.27	< 0.050
Dibenz(a,h)Anthracene	N	2790	mg/kg	0.050	< 0.050		0.32	0.076	< 0.050
Benzo[g,h,i]perylene	N	2790	mg/kg	0.050	< 0.050		1.5	0.29	< 0.050
4-Nitrophenol	N	2790	mg/kg	0.050	< 0.050		< 0.050	< 0.050	< 0.050
Naphthalene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.58	0.44	< 0.010
Acenaphthylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.23	0.089	< 0.010
Acenaphthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.40	0.42	< 0.010
Fluorene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.34	0.24	< 0.010
Phenanthrene	N	2800	mg/kg	0.010	0.19	< 0.010	4.6	1.9	0.19
Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.97	0.40	0.10
Fluoranthene	N	2800	mg/kg	0.010	0.18	< 0.010	9.6	2.9	0.20
Pyrene	N	2800	mg/kg	0.010	0.19	< 0.010	9.3	2.6	0.17
Benzo[a]anthracene	N	2800	mg/kg	0.010	0.18	< 0.010	5.1	1.4	< 0.010
Chrysene	N	2800	mg/kg	0.010	0.12	< 0.010	5.3	1.2	< 0.010
Benzo[b]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	6.1	1.9	< 0.010
Benzo[k]fluoranthene	N	2800	mg/kg	0.010	< 0.010	< 0.010	2.1	0.53	< 0.010
Benzo[a]pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	5.9	1.6	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	2800	mg/kg	0.010	< 0.010	< 0.010	3.2	0.98	< 0.010
Dibenz(a,h)Anthracene	N	2800	mg/kg	0.010	< 0.010	< 0.010	0.50	0.18	< 0.010
Benzo[g,h,i]perylene	N	2800	mg/kg	0.010	< 0.010	< 0.010	3.1	0.98	< 0.010
Total Of 16 PAH's	N	2800	mg/kg	0.20	0.86	< 0.20	57	18	0.66
PCB 28	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 52	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 90+101	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 118	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 153	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 138	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
PCB 180	U	2815	mg/kg	0.010	< 0.010		< 0.010	< 0.010	< 0.010
Total PCBs (7 Congeners)	U	2815	mg/kg	0.10	< 0.10		< 0.10	< 0.10	< 0.10

Results - Soil

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-20671	22-20671	22-20671	22-20671	22-20671
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1441114	1441115	1441116	1441117	1441118
			Client Sample ID.:		BH103	BH103	DS101	DS101	DS101
			Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL
			Top Depth (m):		0.14	1.50	0.00	0.30	0.44
			Bottom Depth (m):		0.40	1.60	0.30	0.44	0.60
			Date Sampled:		30-May-2022	30-May-2022	30-May-2022	30-May-2022	30-May-2022
			Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	**Accred.**	**SOP**	**Units**	**LOD**					
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20671								
Chemtest Sample ID:	1441116								
Sample Ref:									
Sample ID:	DS101								
Sample Location:									
Top Depth(m):	0.00								
Bottom Depth(m):	0.30								
Sampling Date:	30-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20671								
Chemtest Sample ID:	1441117								
Sample Ref:									
Sample ID:	DS101								
Sample Location:									
Top Depth(m):	0.30								
Bottom Depth(m):	0.44								
Sampling Date:	30-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon							3	5	6
Loss on Ignition							--	--	10
Total BTEX							6	--	--
Total PCBs (7 congeners)							1	--	--
TPH Total WAC (Mineral Oil)							500	--	--
Total (of 17) PAHs							100	--	--
pH							--	>6	--
Acid Neutralisation Capacity							--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic							0.5	2	25
Barium							20	100	300
Cadmium							0.04	1	5
Chromium							0.5	10	70
Copper							2	50	100
Mercury							0.01	0.2	2
Molybdenum							0.5	10	30
Nickel							0.4	10	40
Lead							0.5	10	50
Antimony							0.06	0.7	5
Selenium							0.1	0.5	7
Zinc							4	50	200
Chloride							800	15000	25000
Fluoride							10	150	500
Sulphate							1000	20000	50000
Total Dissolved Solids							4000	60000	100000
Phenol Index							1	-	-
Dissolved Organic Carbon							500	800	1000

Solid Information	
Dry mass of test portion/kg	
Moisture (%)	

Leachate Test Information	
Leachant volume 1st extract/l	
Leachant volume 2nd extract/l	
Eluant recovered from 1st extract/l	

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2180	Sulphur (Elemental) in Soils by HPLC	Sulphur	Dichloromethane extraction / HPLC with UV detection
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry

Test Methods

SOP	Title	Parameters included	Method summary
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N–dimethyl-p-phenylenediamine.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2790	Semi-Volatile Organic Compounds (SVOCs) in Soils by GC-MS	Semi-volatile organic compounds(cf. USEPA Method 8270)	Acetone/Hexane extraction / GC-MS
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

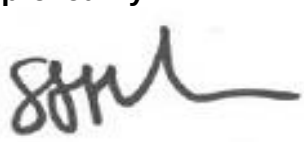
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-20674-1
Initial Date of Issue:	14-Jun-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	06-Jun-2022
Order No.:	740327	**Date Instructed:**	06-Jun-2022
No. of Samples:	1		
Turnaround (Wkdays):	7	**Results Due:**	14-Jun-2022
Date Approved:	14-Jun-2022		

Approved By:



Details: Stuart Henderson, Technical Manager

Results - 2 Stage WAC

Project: LKC 22 1225 B401 Manchester Airport

							Landfill Waste Acceptance Criteria Limits		
Chemtest Job No:	22-20674								
Chemtest Sample ID:	1441133								
Sample Ref:									
Sample ID:	DS101								
Sample Location:									
Top Depth(m):	0.00								
Bottom Depth(m):	0.30								
Sampling Date:	30-May-2022								
Determinand	**SOP**	**Accred.**	**Units**				**Inert Waste Landfill**	**Stable, Non-reactive hazardous waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon	2625	M	%			1.5	3	5	6
Loss On Ignition	2610	M	%			29	--	--	10
Total BTEX	2760	M	mg/kg			< 0.010	6	--	--
Total PCBs (7 Congeners)	2815	M	mg/kg			< 0.10	1	--	--
TPH Total WAC	2670	M	mg/kg			58	500	--	--
Total (Of 17) PAH's	2700	N	mg/kg			18	100	--	--
pH	2010	M				8.7	--	>6	--
Acid Neutralisation Capacity	2015	N	mol/kg			0.015	--	To evaluate	To evaluate
Eluate Analysis			**2:1 mg/l**	**8:1 mg/l**	**2:1 mg/kg**	**Cumulative mg/kg 10:1**	**Limit values for compliance leaching test using BS EN 12457 at L/S 10 l/kg**		
Arsenic	1455	U	0.0008	0.0021	0.0016	0.020	0.5	2	25
Barium	1455	U	0.077	0.054	0.15	0.55	20	100	300
Cadmium	1455	U	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.04	1	5
Chromium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.5	10	70
Copper	1455	U	0.0033	0.0036	0.0066	0.0021	2	50	100
Mercury	1455	U	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.01	0.2	2
Molybdenum	1455	U	0.012	0.0064	0.025	0.068	0.5	10	30
Nickel	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.4	10	40
Lead	1455	U	< 0.0005	0.0030	< 0.0005	0.028	0.5	10	50
Antimony	1455	U	0.0022	0.0013	0.0043	0.014	0.06	0.7	5
Selenium	1455	U	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.1	0.5	7
Zinc	1455	U	< 0.003	0.003	< 0.003	0.028	4	50	200
Chloride	1220	U	2.1	1.2	< 10	13	800	15000	25000
Fluoride	1220	U	1.3	0.86	2.6	8.9	10	150	500
Sulphate	1220	U	5.7	1.8	11	20	1000	20000	50000
Total Dissolved Solids	1020	N	140	91	270	940	4000	60000	100000
Phenol Index	1920	U	< 0.030	< 0.030	< 0.30	< 0.50	1	-	-
Dissolved Organic Carbon	1610	U	5.8	10	< 50	98	500	800	1000

Solid Information	
Dry mass of test portion/kg	0.175
Moisture (%)	14

Leachate Test Information	
Leachant volume 1st extract/l	0.321
Leachant volume 2nd extract/l	1.400
Eluant recovered from 1st extract/l	0.111

Waste Acceptance Criteria

Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes. This analysis is only applicable for hazardous waste landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Test Methods

SOP	Title	Parameters included	Method summary
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1610	Total/Dissolved Organic Carbon in Waters	Organic Carbon	TOC Analyser using Catalytic Oxidation
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2010	pH Value of Soils	pH	pH Meter
2015	Acid Neutralisation Capacity	Acid Reserve	Titration
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2610	Loss on Ignition	loss on ignition (LOI)	Determination of the proportion by mass that is lost from a soil by ignition at 550°C.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2760	Volatile Organic Compounds (VOCs) in Soils by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics.(cf. USEPA Method 8260)*please refer to UKAS schedule	Automated headspace gas chromatographic (GC) analysis of a soil sample, as received, with mass spectrometric (MS) detection of volatile organic compounds.
2815	Polychlorinated Biphenyls (PCB) ICES7Congeners in Soils by GC-MS	ICES7 PCB congeners	Acetone/Hexane extraction / GC-MS
640	Characterisation of Waste (Leaching C10)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge
650	Characterisation of Waste (Leaching WAC)	Waste material including soil, sludges and granular waste	ComplianceTest for Leaching of Granular Waste Material and Sludge

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix C

Certificates of Analysis – Groundwater

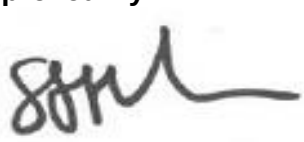
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	22-23896-1
Initial Date of Issue:	06-Jul-2022
Client	LK Consult
Client Address:	Unit 29 Eton Business Park Eton Hill Road Radcliffe Manchester Lancashire M26 2ZS
Contact(s):	Colin Crompton Contaminated Land
Project	LKC 22 1225 B401 Manchester Airport

Quotation No.:	Q22-27796	**Date Received:**	27-Jun-2022
Order No.:	740400	**Date Instructed:**	30-Jun-2022
No. of Samples:	6		
Turnaround (Wkdays):	5	**Results Due:**	06-Jul-2022
Date Approved:	06-Jul-2022		

Approved By:



Details:	Stuart Henderson, Technical Manager

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-23896	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1455758	1455759	1455760	1455761	1455762	1455763
			Client Sample ID.:		BH101	BH102	BH103	BH104	BH105	BH106
			Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
pH	U	1010		N/A	7.9	7.6	7.5	7.3	7.6	7.7
Electrical Conductivity	U	1020	µS/cm	1.0	320	460	700	320	610	390
Chloride	U	1220	mg/l	1.0	69	31	69	710	290	430
Ammoniacal Nitrogen	U	1220	mg/l	0.050	0.41	0.40	1.2	1.6	1.2	2.8
Nitrate	U	1220	mg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphur	N	1220	mg/l	1.0	83	320	280	300	100	430
Sulphate	U	1220	mg/l	1.0	250	970	840	890	300	1300
Cyanide (Total) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Cyanide (Free) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Sulphide	U	1325	mg/l	0.050	[B] < 0.050	[B] < 0.050	[B] < 0.050	[B] < 0.050	[B] < 0.050	[B] < 0.050
Calcium	U	1455	mg/l	2.00	150	410	280	460	180	420
Magnesium	U	1455	mg/l	0.20	32	57	5.6	41	62	76
Sodium	U	1455	mg/l	1.50	30	40	85	330	160	210
Total Potassium	N	1455	mg/l	0.50	5.0	6.9	8.5	11	3.6	4.0
Total Hardness as CaCO3	U	1270	mg/l	15	500	1300	720	1300	700	1400
Arsenic (Dissolved)	U	1455	µg/l	0.20	1.3	3.3	2.3	1.2	1.2	3.1
Boron (Dissolved)	U	1455	µg/l	10.0	140	93	13	88	72	150
Barium (Dissolved)	U	1455	µg/l	5.00	77	79	79	110	98	55
Beryllium (Dissolved)	U	1455	µg/l	1.00	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	0.62	< 0.50
Copper (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	3.5	< 0.50	< 0.50	< 0.50
Mercury (Dissolved)	U	1455	µg/l	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	5.1
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Selenium (Dissolved)	U	1455	µg/l	0.50	< 0.50	0.67	2.9	< 0.50	1.5	0.69
Vanadium (Dissolved)	U	1455	µg/l	0.50	< 0.50	< 0.50	3.4	< 0.50	< 0.50	< 0.50
Zinc (Dissolved)	U	1455	µg/l	2.5	< 2.5	3.5	< 2.5	< 2.5	< 2.5	< 2.5
Low-Level Chromium (Hexavalent)	U	1495	µg/l	0.10	[B] 2.5	[B] < 0.10	[B] 0.78	[B] 0.35	[B] 3.7	[B] < 0.10
Aliphatic TPH >C5-C6	N	1675	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C6-C8	N	1675	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aliphatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aliphatic Hydrocarbons	N	1675	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic TPH >C5-C7	N	1675	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C7-C8	N	1675	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Aromatic TPH >C8-C10	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-23896	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1455758	1455759	1455760	1455761	1455762	1455763
			Client Sample ID.:		BH101	BH102	BH103	BH104	BH105	BH106
			Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Aromatic TPH >C10-C12	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C12-C16	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C16-C21	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C21-C35	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aromatic TPH >C35-C44	N	1675	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Aromatic Hydrocarbons	N	1675	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Petroleum Hydrocarbons	N	1675	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Dichlorodifluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Vinyl Chloride	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromomethane	N	1760	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Chloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichlorofluoromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dichloromethane	N	1760	µg/l	50	< 50	< 50	< 50	< 50	< 50	< 50
Trans 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
cis 1,2-Dichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromochloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1-Trichloroethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tetrachloromethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1-Dichloropropene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Trichloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichloropropane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibromomethane	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromodichloromethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Trans-1,3-Dichloropropene	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	N	1760	µg/l	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Tetrachloroethene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichloropropane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Dibromochloromethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	N	1760	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Chlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,1,1,2-Tetrachloroethane	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Ethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
m & p-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-23896	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1455758	1455759	1455760	1455761	1455762	1455763
			Client Sample ID.:		BH101	BH102	BH103	BH104	BH105	BH106
			Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
o-Xylene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Styrene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tribromomethane	N	1760	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Bromobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
N-Propylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
2-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3,5-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Chlorotoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Tert-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,4-Trimethylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Sec-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,3-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
4-Isopropyltoluene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,4-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Butylbenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2-Dibromo-3-Chloropropane	N	1760	µg/l	5	< 5	< 5	< 5	< 5	< 5	< 5
1,2,4-Trichlorobenzene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Hexachlorobutadiene	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
1,2,3-Trichlorobenzene	N	1760	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Methyl Tert-Butyl Ether	N	1760	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
N-Nitrosodimethylamine	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Chlorophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis-(2-Chloroethyl)Ether	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,3-Dichlorobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,4-Dichlorobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
1,2-Dichlorobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylphenol (o-Cresol)	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis(2-Chloroisopropyl)Ether	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachloroethane	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
N-Nitrosodi-n-propylamine	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Methylphenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Nitrobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Isophorone	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Nitrophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dimethylphenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis(2-Chloroethoxy)Methane	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dichlorophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-23896	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1455758	1455759	1455760	1455761	1455762	1455763
			Client Sample ID.:		BH101	BH102	BH103	BH104	BH105	BH106
			Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
1,2,4-Trichlorobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Naphthalene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chloroaniline	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorobutadiene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chloro-3-Methylphenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methylnaphthalene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorocyclopentadiene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4,6-Trichlorophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4,5-Trichlorophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Chloronaphthalene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Nitroaniline	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Acenaphthylene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dimethylphthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,6-Dinitrotoluene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Acenaphthene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
3-Nitroaniline	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dibenzofuran	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Chlorophenylphenylether	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2,4-Dinitrotoluene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Fluorene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Diethyl Phthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Nitroaniline	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
2-Methyl-4,6-Dinitrophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Azobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Bromophenylphenyl Ether	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Hexachlorobenzene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Pentachlorophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenanthrene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Anthracene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Carbazole	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Di-N-Butyl Phthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Fluoranthene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Pyrene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Butylbenzyl Phthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]anthracene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Chrysene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Bis(2-Ethylhexyl)Phthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Di-N-Octyl Phthalate	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[b]fluoranthene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[k]fluoranthene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[a]pyrene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult			**Chemtest Job No.:**		22-23896	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796			**Chemtest Sample ID.:**		1455758	1455759	1455760	1455761	1455762	1455763
			Client Sample ID.:		BH101	BH102	BH103	BH104	BH105	BH106
			Sample Type:		WATER	WATER	WATER	WATER	WATER	WATER
			Date Sampled:		23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**						
Indeno(1,2,3-c,d)Pyrene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Dibenz(a,h)Anthracene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Benzo[g,h,i]perylene	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
4-Nitrophenol	N	1790	µg/l	0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Naphthalene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
PCB 28	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 52	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 90+101	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 118	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 153	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 138	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
PCB 180	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total PCBs (7 congeners)	N	1815	µg/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Phenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Chlorophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Methylphenol (o-Cresol)	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
3-Methylphenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Methylphenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Nitrophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,4-Dimethylphenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,4-Dichlorophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,6-Dichlorophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Chloro-3-Methylphenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,3,4-Trichlorophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,3,5-Trichlorophenol	N	1900	µg/l	0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20

Results - Water

Project: LKC 22 1225 B401 Manchester Airport

Client: LK Consult					**Chemtest Job No.:**	22-23896	22-23896	22-23896	22-23896	22-23896
Quotation No.: Q22-27796					**Chemtest Sample ID.:**	1455758	1455759	1455760	1455761	1455762	1455763
					Client Sample ID.:	BH101	BH102	BH103	BH104	BH105	BH106
					Sample Type:	WATER	WATER	WATER	WATER	WATER	WATER
					Date Sampled:	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022	23-Jun-2022
Determinand	**Accred.**	**SOP**	**Units**	**LOD**							
2,3,6-Trichlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,4,6-Trichlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,4,5-Trichlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
4-Nitrophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,3,4,5-Tetrachlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,3,4,6-Tetrachlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2,3,5,6-Tetrachlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
3,4,5-Trichlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Methyl-4,6-Dinitrophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Pentachlorophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
2-Sec-Butyl-4,6-Dinitrophenol	N	1900	µg/l	0.20		< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Total Phenols	N	1900	µg/l	5.00		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1455758		BH101		23-Jun-2022	B	Coloured Winchester 1000ml
1455758		BH101		23-Jun-2022	B	EPA Vial 40ml
1455758		BH101		23-Jun-2022	B	Plastic Bottle 1000ml
1455759		BH102		23-Jun-2022	B	Coloured Winchester 1000ml
1455759		BH102		23-Jun-2022	B	EPA Vial 40ml
1455759		BH102		23-Jun-2022	B	Plastic Bottle 1000ml
1455760		BH103		23-Jun-2022	B	Coloured Winchester 1000ml
1455760		BH103		23-Jun-2022	B	EPA Vial 40ml
1455760		BH103		23-Jun-2022	B	Plastic Bottle 1000ml
1455761		BH104		23-Jun-2022	B	Coloured Winchester 1000ml
1455761		BH104		23-Jun-2022	B	EPA Vial 40ml
1455761		BH104		23-Jun-2022	B	Plastic Bottle 1000ml
1455762		BH105		23-Jun-2022	B	Coloured Winchester 1000ml
1455762		BH105		23-Jun-2022	B	EPA Vial 40ml
1455762		BH105		23-Jun-2022	B	Plastic Bottle 1000ml
1455763		BH106		23-Jun-2022	B	Coloured Winchester 1000ml
1455763		BH106		23-Jun-2022	B	EPA Vial 40ml
1455763		BH106		23-Jun-2022	B	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1270	Total Hardness of Waters	Total hardness	Calculation applied to calcium and magnesium results, expressed as mg l-1 CaCO3 equivalent.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N–dimethyl-pphenylenediamine.
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
1495	Low Level Hexavalent Chromium in Waters	Chromium [VI]	Colorimetric determination of hexavalent chromium expressed as Cr (VI) µg/l in water, using Ion Chromatography and UV-visible spectrophotometry.
1675	TPH Aliphatic/Aromatic split in Waters by GC-FID(cf. Texas Method 1006 / TPH CWG)	Aliphatics: >C5–C6, >C6–C8, >C8– C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Pentane extraction / GCxGC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1790	Semi-Volatile Organic Compounds (SVOCs) in Waters by GC-MS	Semi-volatile organic compounds	Solvent extraction / GCMS detection
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1815	Polychlorinated Biphenyls (PCB) ICES7 Congeners in Waters by GC-MS	ICES7 PCB congeners	Solvent extraction / GCMS detection
1900	Phenols in Waters by GC-MS	Approximately 24 substituted Phenols, including Chlorophenols	Solvent extraction / GCMS detection

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix D

Gas Monitoring Results

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	16/06/2022
Engineer	RP
Visit	1 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-111324	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Steady
Atmospheric pressure (prev 24hrs)	Steady
Weather Conditions	Dry, sunny, warm
Ground Conditions	Dry

Borehole ID	Date & Time	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	Peak CO_2 (%v/v)	Min O_2 (%v/v)	% LEL[2]	Peak CO (ppm)	Peak H_2S (ppm)	Balance (%)	Barometric Pressure (mb)	Relative Pressure (mb)	Internal Flow[3] (l/hr)	PID (ppm)	Standing water level (mbgl)	Installation base depth (mbgl)	Notes
BH101	16/06/2022 11:26	0.0	0.0	16.7	0.0	0.2	16.7	0	1	0	83.3	1011	2.99	0.0	3.2	1.66	3.07	
BH102	16/06/2022 11:47	0.0	0.0	12.6	0.0	0.0	12.6	0	1	0	87.4	1011	2.02	0.0	2.2	1.45	4.46	
BH103	16/06/2022 10:24	0.0	0.1	18.8	0.0	0.1	18.8	0	0	0	81.1	1011	3.06	0.0	1.2	2.48	3.05	
BH104	16/06/2022 00:00	UR - borehole damaged and bung not in top of standpipe														3.79	5.60	Repairs effected
BH105	16/06/2022 12:07	0.0	0.5	20.2	0.0	0.9	19.6	0	1	0	79.3	1011	3.95	0.0	2.0	UR	UR	Unable to GW monitor - borehole driven over and bung stuck
BH106	16/06/2022 11:04	0.0	2.2	11.8	0.6	6.2	1.8	0	1	0	86.0	1011	0.01	0.0	0.9	3.06	4.99	

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	23/06/2022
Engineer	RP
Visit	2 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-111324	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Variable
Atmospheric pressure (prev 24hrs)	Falling
Weather Conditions	Dry, sunny, slight breeze
Ground Conditions	Dry

Borehole ID	Date & Time	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	Peak CO_2 (%v/v)	Min O_2 (%v/v)	% LEL[2]	Peak CO (ppm)	Peak H_2S (ppm)	Balance (%)	Barometric Pressure (mb)	Relative Pressure (mb)	Internal Flow[3] (l/hr)	PID (ppm)	Standing water level (mbgl)	Installation base depth (mbgl)	Notes
BH101	23/06/2022 11:12	0.0	0.0	16.1	0.2	0.7	15.9	0	5	0	83.9	1004	-1.96	0.0	3.4	1.70	3.08	Steady CO = 1ppm.
BH102	23/06/2022 09:26	0.0	0.1	17.3	0.0	0.2	17.3	0	2	0	82.6	1004	0.09	-0.1	3.0	1.44	4.30	Steady CO = 1ppm.
BH103	23/06/2022 09:47	0.0	0.2	18.9	0.0	0.2	18.8	0	3	0	80.9	1005	-12.13	0.0	1.6	2.35	3.08	Steady CO = 0ppm.
BH104	23/06/2022 10:08	0.0	0.1	20.2	0.0	0.1	19.7	0	4	0	79.7	1005	-11.92	0.0	1.6	3.80	5.70	Steady CO = 1ppm.
BH105	23/06/2022 10:31	0.0	0.4	20.3	0.0	0.9	19.9	0	6	0	79.3	1005	-12.16	0.0	3.3	3.37	6.76	Extracted bung and replaced with new bung. Steady CO = 1ppm.
BH106	23/06/2022 10:50	0.7	4.8	10.1	2.5	10.4	0.8	14	6	0	84.4	1004	-7.36	0.0	1.5	3.14	4.94	Steady CO = 1ppm.

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	30/06/2022
Engineer	RP
Visit	3 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-111324	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Falling then rising
Weather Conditions	Showery, breezy, partly cloudy
Ground Conditions	Damp

Borehole ID	Date & Time	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	Peak CO_2 (%v/v)	Min O_2 (%v/v)	% LEL[2]	Peak CO (ppm)	Peak H_2S (ppm)	Balance (%)	Barometric Pressure (mb)	Relative Pressure (mb)	Internal Flow[3] (l/hr)	PID (ppm)	Standing water level (mbgl)	Installation base depth (mbgl)	Notes
BH101	30/06/2022 10:34	0.0	0.0	16.6	0.0	0.1	16.6	0	1	0	83.4	1004	-5.00	0.0	2.5	1.70	3.05	Steady CO = 0ppm.
BH102	30/06/2022 09:03	0.0	0.1	18.0	0.0	0.2	18.0	0	3	0	81.9	1004	-0.16	0.0	1.8	1.57	4.36	Steady CO = 2ppm.
BH103	30/06/2022 09:20	0.0	0.1	19.4	0.0	0.2	19.4	0	2	0	80.5	1004	-0.05	-0.1	1.1	2.49	3.06	Steady CO = 0ppm.
BH104	30/06/2022 09:51	0.0	1.7	17.2	0.0	1.7	17.2	0	1	0	81.1	1004	-1.31	0.4	1.6	3.66	5.68	Flow initially 7.5, gradually falling to 1.8 after 3 mins, steady at 0.4 after 10 mins
BH105	30/06/2022 10:12	0.0	0.2	21.0	0.0	0.7	20.4	0	3	0	78.8	1004	-7.64	0.0	1.7	3.39	6.67	Steady CO = 0ppm.
BH106	30/06/2022 10:59	0.8	4.3	10.8	2.9	12.1	0.5	16	2	0	84.1	1005	-5.30	0.9	1.4	3.14	4.94	Peak flow = 1.2l/hr. Steady CO = 0ppm.

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	07/07/2022
Engineer	RP
Visit	4 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-111324	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Falling then rising
Weather Conditions	Overcast, breezy, dry
Ground Conditions	Dry

Borehole ID	**Date & Time**	**CH_4 (%v/v)**	**CO_2 (%v/v)**	**O_2 (%v/v)**	**Peak CH_4 (%v/v)**	**Peak CO_2 (%v/v)**	**Min O_2 (%v/v)**	**% LEL[2]**	**Peak CO (ppm)**	**Peak H_2S (ppm)**	**Balance (%)**	**Barometric Pressure (mb)**	**Relative Pressure (mb)**	**Internal Flow[3] (l/hr)**	**PID (ppm)**	**Standing water level (mbgl)**	**Installation base depth (mbgl)**	**Notes**
BH101	07/07/2022 10:45	0.0	0.0	17.8	0.0	0.3	17.4	0	1	0	82.2	1024	-6.20	0.0	3.0	1.43	3.03	Steady CO = 0ppm.
BH102	07/07/2022 08:57	0.0	0.1	19.3	0.0	0.2	18.8	0	1	0	80.6	1023	-4.18	0.0	1.6	1.55	4.36	
BH103	07/07/2022 09:15	0.0	0.1	18.4	0.0	0.2	18.4	0	0	0	81.5	1023	-5.31	0.0	0.8	2.39	3.06	
BH104	07/07/2022 09:36	0.0	3.9	12.8	0.0	3.9	12.8	0	2	0	83.3	1023	-8.90	-0.1	2.2	3.65	5.68	Steady CO = 1ppm.
BH105	07/07/2022 09:56	0.0	0.2	20.7	0.0	0.7	20.4	0	3	0	79.1	1024	-7.84	-0.1	2.1	3.50	6.73	Steady CO = 0ppm.
BH106	07/07/2022 10:22	0.4	1.5	17.2	2.4	3.8	4.1	8	1	0	80.9	1024	-6.76	-1.0	0.9	3.21	4.93	Flow initially -3.3, -1.7 after 3 mins, -1.3 after 5 mins, steady at -1.0 at 10 mins. Steady CO = 1ppm.

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	14/07/2022
Engineer	RP
Visit	5 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-111324	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Rising
Weather Conditions	Overcast, windy, dry
Ground Conditions	Dry

Borehole ID	Date & Time	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	Peak CO_2 (%v/v)	Min O_2 (%v/v)	% LEL[2]	Peak CO (ppm)	Peak H_2S (ppm)	Balance (%)	Barometric Pressure (mb)	Relative Pressure (mb)	Internal Flow[3] (l/hr)	PID (ppm)	Standing water level (mbgl)	Installation base depth (mbgl)	Notes
BH101	14/07/2022 13:21	0.0	0.0	17.1	0.0	0.1	17.1	0	2	0	82.9	1018	-6.76	0.0	4.2	1.44	3.01	Steady CO = 1ppm.
BH102	14/07/2022 11:54	0.0	0.1	18.9	0.0	0.3	18.5	0	2	0	81	1018	-5.23	0.0	1.5	1.60	4.35	Steady CO = 1ppm.
BH103	14/07/2022 12:13	0.0	0.2	18.6	0.0	0.2	18.5	0	2	0	81.2	1018	-6.65	0.0	1.3	2.34	3.06	Steady CO = 0ppm.
BH104	14/07/2022 12:38	0.0	4.7	11.8	0.0	4.7	11.8	0	4	0	83.5	1019	-5.84	-0.1	2.5	3.57	5.55	CO_2 steadily rising from 3mins, steady after 8mins. Steady CO = 2ppm.
BH105	14/07/2022 12:58	0.0	0.2	20.8	0.0	0.8	20.3	0	7	0	79	1019	-6.87	0.0	2.8	3.42	6.70	Well cover driven over. Bung pushed into standpipe, bung extracted and repaired. Steady CO = 0ppm.
BH106	14/07/2022 13:46	0.2	1.7	17.3	2.3	6.2	0.4	4	2	0	80.8	1019	-6.92	0.2	1.3	3.17	4.95	Flow +0.7l/hr after 3mins, 0.2l/hr after 5mins, steady at 0.2l/hr. Peak gas reading noted after 30sec, gradually reducing after 1min 30sec, steady after 4mins. Steady CO = 0ppm.

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

LK CONSULT LTD

GAS MONITORING RECORD

Site	Building 401, Manchester Airport
Job Number	LKC 22 1225
Date	20/07/2022
Engineer	RP
Visit	6 of 6

Equipment[1]		
Instrument	**Serial Number**	**Comments**
Gas Analyser GA5000	G502417	Serviced, calibrated, gas checked.
Geotech Oil-in-Water Interface Meter	81454-14	Operating normally.
Pho-Check Tiger	T-106802	Serviced, calibrated.

Atmospheric / Ground Conditions	
Atmospheric pressure trend onsite	Rising
Atmospheric pressure (prev 24hrs)	Rising
Weather Conditions	Overcast, breezy, dry, mild
Ground Conditions	Dry

Borehole ID	Date & Time	CH_4 (%v/v)	CO_2 (%v/v)	O_2 (%v/v)	Peak CH_4 (%v/v)	Peak CO_2 (%v/v)	Min O_2 (%v/v)	% LEL[2]	Peak CO (ppm)	Peak H_2S (ppm)	Balance (%)	Barometric Pressure (mb)	Relative Pressure (mb)	Internal Flow[3] (l/hr)	PID (ppm)	Standing water level (mbgl)	Installation base depth (mbgl)	Notes
BH101	20/07/2022 10:27	0.0	0.0	17.1	0.0	0.7	17.1	0	2	0	82.9	1009	-6.78	0.0	2.0	1.61	3.02	Steady CO = 1ppm
BH102	20/07/2022 09:29	0.0	0.1	18.7	0.0	0.2	18.3	0	2	0	81.2	1008	-4.50	0.0	1.7	1.64	4.40	
BH103	20/07/2022 09:52	0.0	0.2	19.2	0.0	0.3	19.0	0	2	0	80.6	1009	-3.04	0.0	1.3	2.31	3.03	Steady CO = 0ppm
BH104	20/07/2022 10:08	0.0	5.9	9.1	0.0	5.9	8.8	0	4	0	85	1009	-4.32	0.0	1.8	3.44	5.66	Steady CO = 2ppm
BH105	20/07/2022 11:18	0.0	0.1	19.8	0.0	0.8	19.7	0	11	0	80.1	1010	-7.66	0.0	1.8	3.35	6.70	Steady CO = 1ppm
BH106	20/07/2022 10:59	0.3	2.2	15.8	2.5	4.8	0.4	6	2	0	81.7	1009	2.21	2.6	0.3	3.10	4.95	Steady CO = 0ppm, Steady flow = 0.8 l/hr after 8 minutes.

ABBREVIATIONS	
ND	Not detected
NR	Not recorded
UR	Unable to record
OS	Off recordable scale
N/A	Not applicable
ppm	Parts per million
mb	Millibars
l/hr	Litres per hour
mbgl	Metres below ground level
LEL	Lower explosive limit in air

NOTES

All monitoring is carried out in line with LK Consult Ltd procedures, with reference to CIRIA C665.

[1]Equipment is serviced and checked as recommended by the manufacturer. Refer to calibration records and service certificates.

[2]CH4 is explosive between the range of 5-15%v/v. 100% lower explosive limit is equal to 5%v/v CH4.

[3]Flow readings are based on a 1 minute average value where flow is detected (equipment range of +/- 12 ltr/hr).

CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 11-Jun-2022

Certificate Number: G502417_2/30605

Issued by: QED Environmental Systems Ltd.

Customer: **L K Consult Limited**
Unit 29 Eton Business Park Eton HIll Road Radcliffe
Manchester M26 2ZS UNITED KINGDOM

Description: Gas Analyser

Model: GA5000

Serial Number: G502417

UKAS Accredited results:

Results after adjustment :

Methane (CH_4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.072
15.0	15.0	0.13
60.0	59.8	0.42

Carbon Dioxide (CO_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.9	0.074
15.0	14.9	0.13
40.0	40.0	0.29

Oxygen (O_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
21.1	21.2	0.25

The inwards assessment was carried out 17-May-2022.
The maximum adjustment is larger than the specification limit.
Inwards assessment data is available if requested.

All concentrations are molar.

CH_4, CO_2 readings recorded at : 32.2 °C ± 2.5 °C

O2 readings recorded at : 21.0 °C ± 2.5 °C

Barometric Pressure : 1010 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.
The results relate only to the item calibrated

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:114 IGC Instance:114

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 11-Jun-2022

Certificate Number: G502417_2/30605

Issued by: QED Environmental Systems Ltd.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Calibrations marked 'Non-UKAS Accredited results' on this certificate have been included for completeness.

Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	**Instrument Reading**
1010	1010

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	499	499
H_2S	259	259

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5.0	5.0
10.0	10.0

Date of Issue : 20-Jun-2022 **Approved by Signatory**

Keeley Knight

Laboratory Inspection

End of Certificate

This certificate is issued in accordance with the laboratory accreditation requirements of the United Kingdom Accreditation Service. It provides traceability of measurement to the SI system of units and/or to units of measurement realised at the National Physical Laboratory or other recognised national metrology institutes. This certificate may not be reproduced other than in full, except with the prior written approval of the issuing laboratory.

Calibration Instance:114 IGC Instance:114

www.qedenv.com +44 (0) 333 800 0088 sales@qedenv.co.uk

QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

Appendix E

Certificate of Analysis – Geotechnical

TEST AMENDMENT NOTICE

PSL
Professional Soils Laboratory

(Please tick boxes as appropriate)

From: Bradley Harmer

To: Rachel Peart

Date: 18 / 07 /2022

Laboratory Ref: 4389 + PSL 4391

Contract Number:

Location:

☑ BH ○ TP Sample Number 106

Depth (m): 8.50 - 10.0 / 10.0 - 11.50 4389 / 11.50 - 13.00 / 13.0 - 14.50

Sample Type: ○ U ○ B ☑ D ○ W ○ P ☑ C

Test/s: UCS

10.00 - 11.50 4391

17.00 - 18.50

The above sample cannot be tested for the following reasons:

- ☐ The Sample has not been received
- ☐ There is insufficient material for BS1377: 1990 testing
  - Maximum Grain Size (Minimum 10%): ○ Fine ○ Medium ○ Coarse
  - Sample Mass (kg): .....
  - Required Mass (kg): .....
- ☐ The Sample has been previously tested.
- ☐ The Sample has been misplaced in the Laboratory.
- ☑ The Sample is unsuitable for testing because: insufficient material suitable for UCS. PLT carried out.

Please advise action required:

- ☐ Perform original test on the following alternative Sample:
  - ○ BH ○ TP Sample Number: Depth (m):
  - Sample Type: ○ U ○ B ○ D ○ W ○ P ○ C
- ☐ Combine original Sample with the following sample:
  - ○ BH ○ TP Sample Number: Depth (m):
  - Sample Type: ○ U ○ B ○ D ○ W ○ P ○ C
- ☐ Perform the following alternative test/s on the original Sample
- ☐ Perform non-standard test on material available
- ☐ Take no further action.

Signed ..... Date .....
(Project Engineer)

LABORATORY REPORT

4043

Contract Number: PSL22/4388

Report Date: 20 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 19/7/2022

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)
R Berriman (Quality Manager)
S Royle (Laboratory Manager)
L Knight (Senior Technician)
S Eyre (Senior Technician)
T Watkins (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: awatkins@prosoils.co.uk
rberriman@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH101		B	1.50		Brown slightly gravelly very sandy CLAY.
BH101		UT	2.00	2.45	Stiff brown slightly gravelly very sandy CLAY.
BH101		S	3.00	3.45	Brown sandy CLAY.
BH101		S	4.00	4.45	Reddish brown sandy CLAY.
BH101		S	4.50	4.95	Reddish brown sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH101		B	1.50		16			25	15	10	89	Low Plasticity CL
BH101		UT	2.00	2.45	16							
BH101		S	3.00	3.45	17			39	19	20	100	Intermediate Plasticity CI
BH101		S	4.00	4.45	13			38	19	19	100	Intermediate Plasticity CI
BH101		S	4.50	4.95	15			38	18	20	100	Intermediate Plasticity CI
BH101		-	4.50	5.50	4.8							
BH101		-	5.50	7.00	7.9							
BH101		-	8.50	10.00	7.2							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

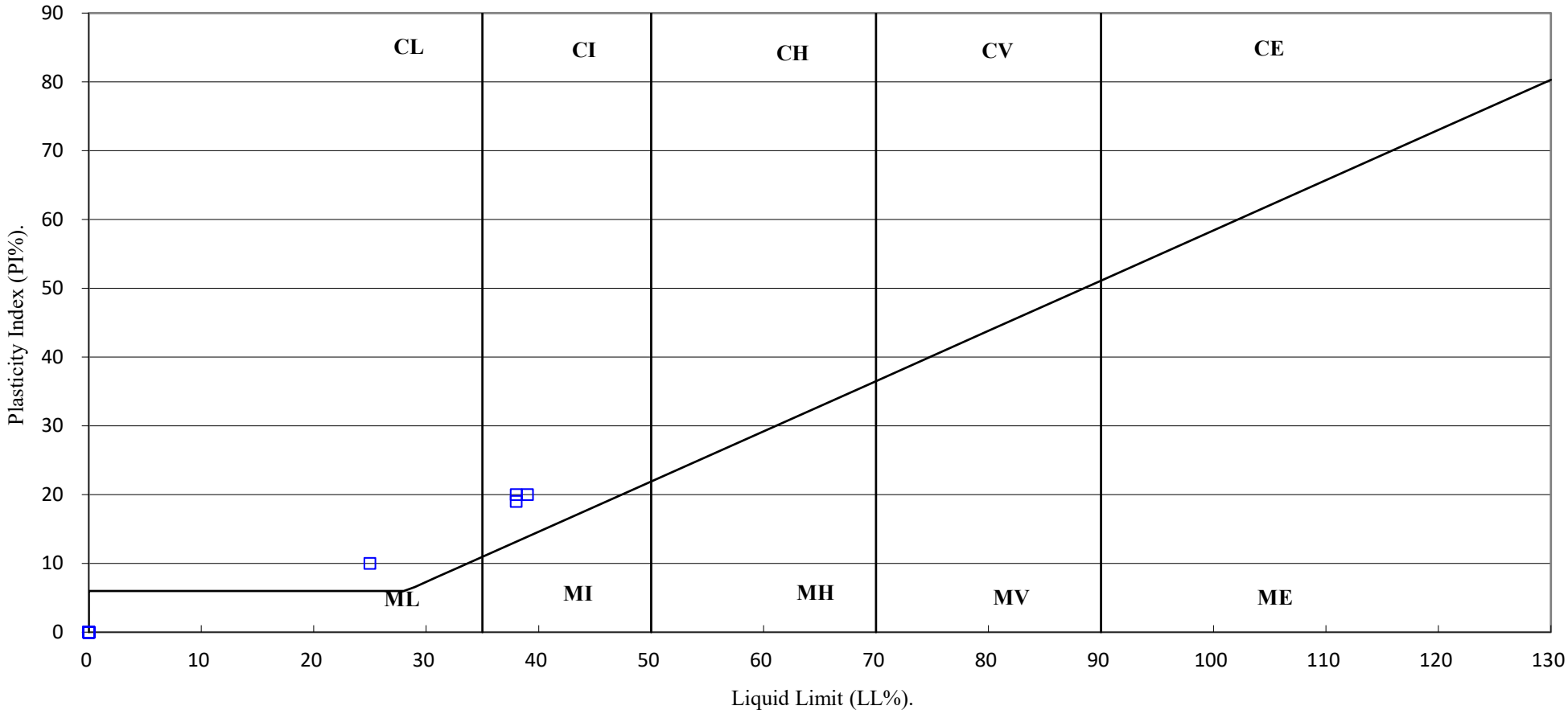
Contract No:

PSL22/4388

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4388 Client Ref: LKC 22 1225

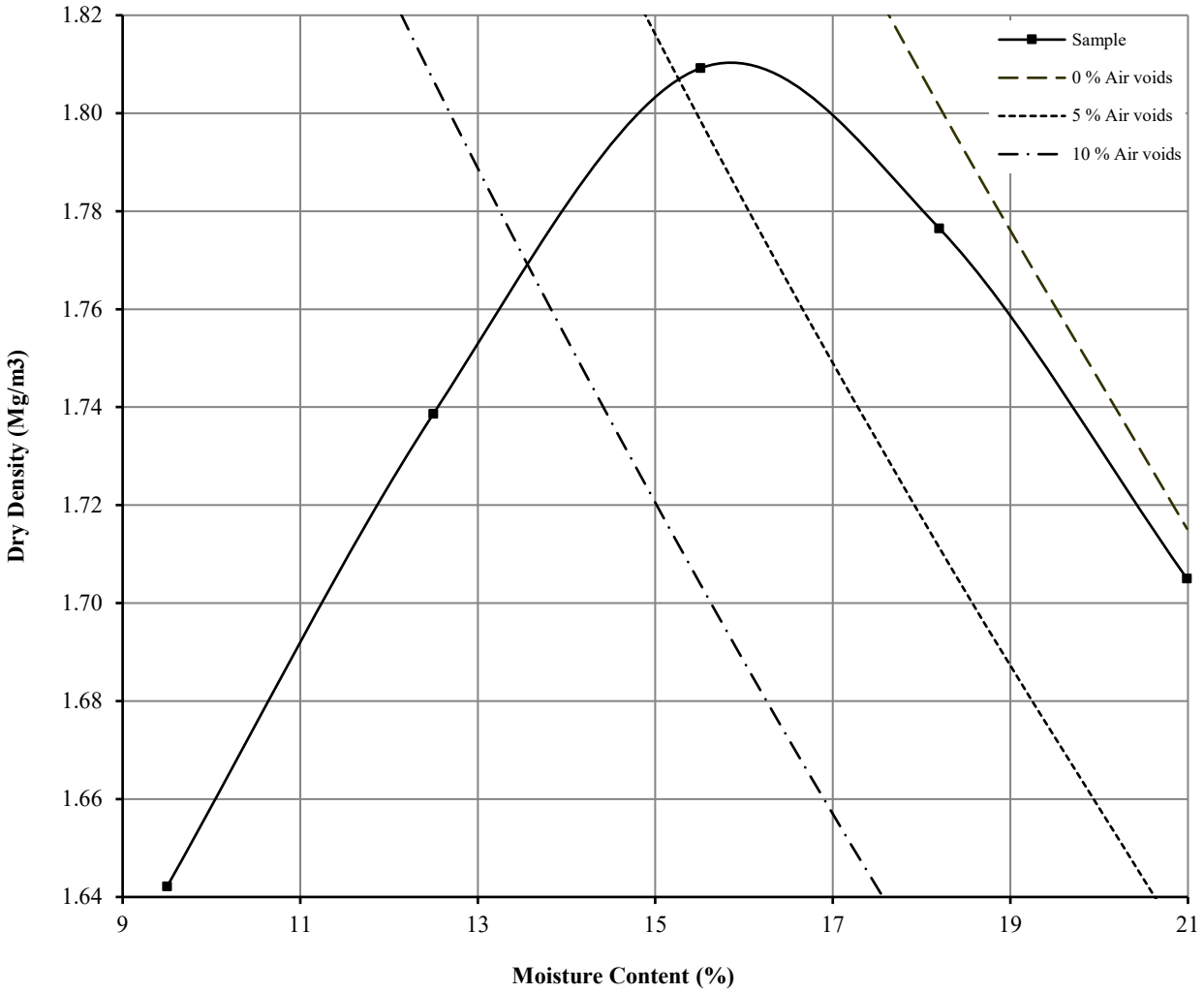
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number: BH101 **Top Depth (m) :** 1.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		16	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.81	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		16			
Remarks See summary of soil descriptions					

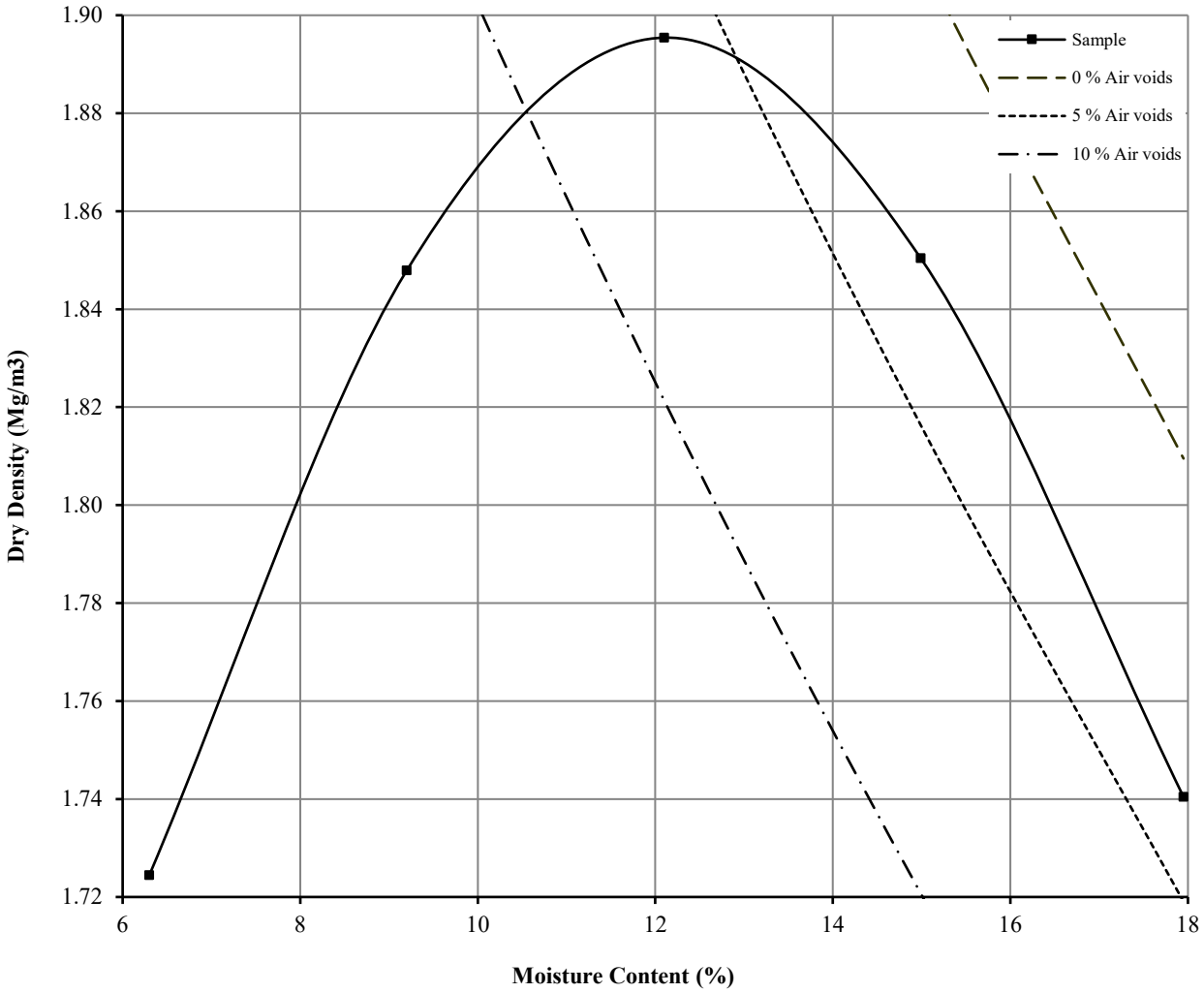
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.5 : 1990

Hole Number: BH101 **Top Depth (m) :** 1.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		16	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.90	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		12			
Remarks See summary of soil descriptions					

PARTICLE SIZE DISTRIBUTION TEST

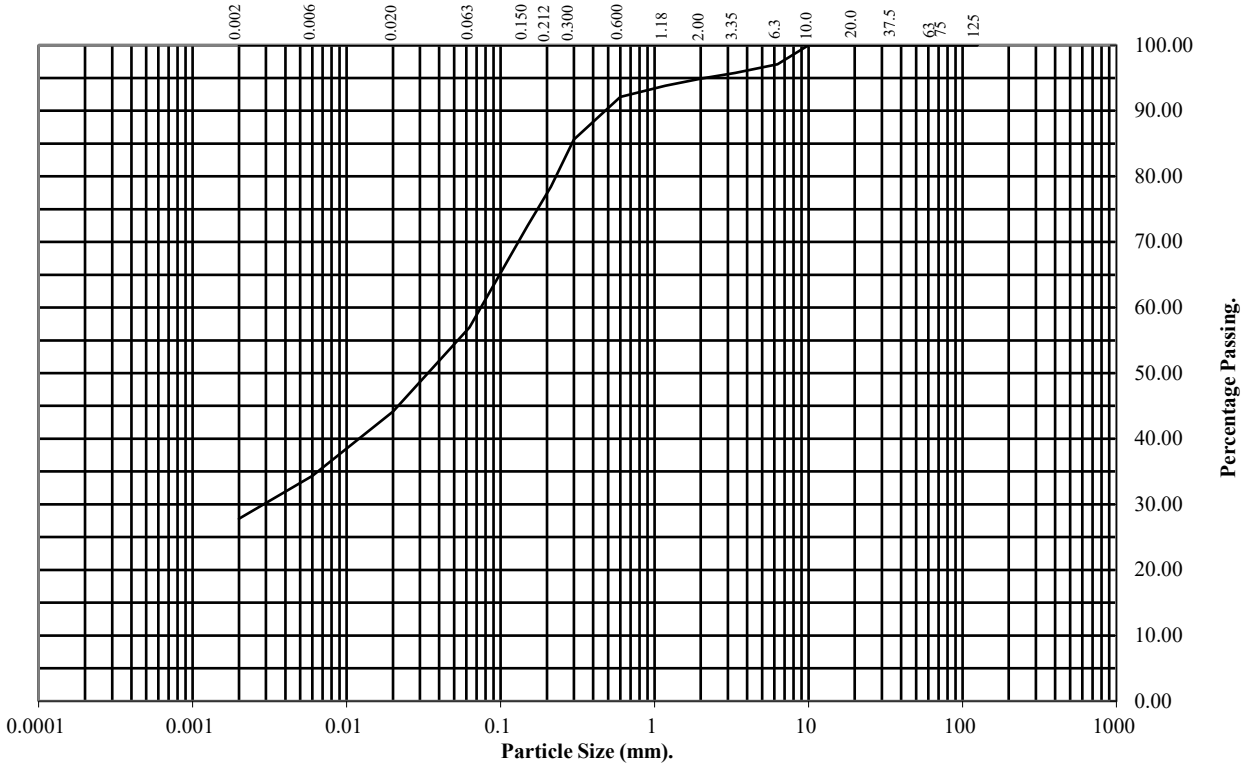
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **BH101** **Top Depth (m):** **1.50**

Sample Number: **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	97
3.35	96
2	95
1.18	94
0.6	92
0.3	86
0.212	78
0.15	72
0.063	57

Particle Diameter	Percentage Passing
0.02	44
0.006	34
0.002	28

Soil Fraction	Total Percentage
Cobbles	0
Gravel	5
Sand	38
Silt	29
Clay	28

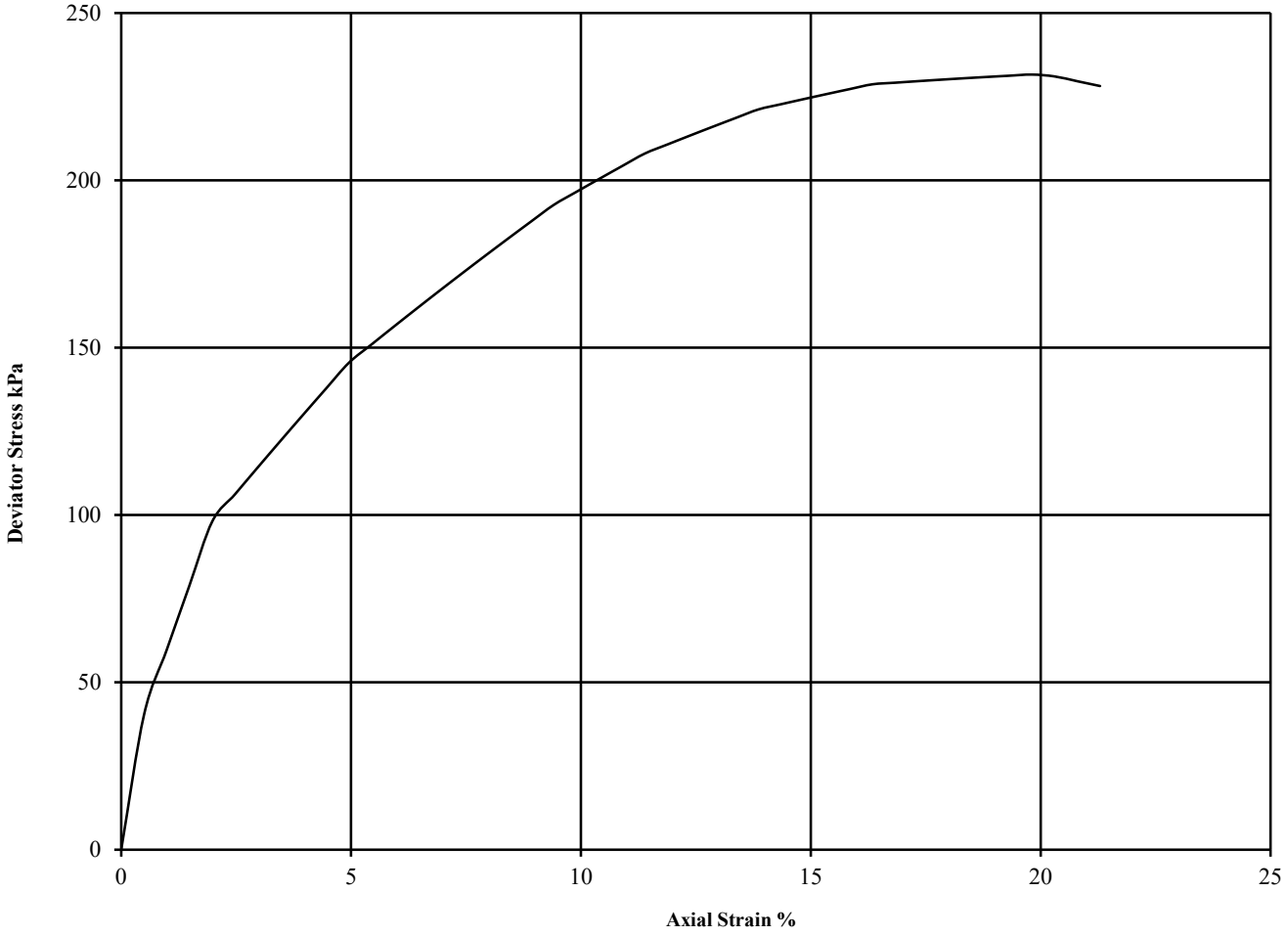
Remarks:
See Summary of Soil Descriptions

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH101**	**Top Depth (m):**	**2.00**
Sample Number:		**Base Depth (m):**	**2.45**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33
1	16	2.16	1.87	40	232	116	19.8	Plastic	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4388 **Client Ref:** LKC 22 1225

SUMMARY OF SOIL DENSITY RELATED TESTS

(BS1377 : PART 2 & 4 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Retained 20mm %	Retained 37.5mm %	Method of compaction kg	Maximum Dry Density Mg/m^3	Minimum Dry Density Mg/m^3	Remarks
BH101		UT	2.00	2.45	16	2.16	1.87						

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Type	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH101	4.50		I	Perp	80	25	2000	2546.48	50.46	-	0.24	0.09	1.004	0.09	Valid	
BH101	4.50		I	Perp	38	25	950	1209.58	34.78	-	0.30	0.25	0.849	0.21	Valid	
BH101	4.50		I	Perp	42	26	1092	1390.38	37.29	-	0.21	0.15	0.876	0.13	Valid	
BH101	5.50		I	Perp	55	27	1485	1890.76	43.48	-	0.47	0.25	0.939	0.23	Valid	
BH101	5.50		I	Perp	37	30	1110	1413.30	37.59	-	0.50	0.35	0.880	0.31	Valid	
BH101	5.50		I	Perp	33	23	759	966.39	31.09	-	0.37	0.38	0.807	0.31	Valid	
BH101	8.50		I	Perp	50	25	1250	1591.55	39.89	-	0.30	0.19	0.903	0.17	Valid	
BH101	8.50		I	Perp	30	24	720	916.73	30.28	-	0.22	0.24	0.798	0.19	Valid	
BH101	8.50		I	Perp	40	30	1200	1527.89	39.09	-	0.33	0.22	0.895	0.19	Valid	
BH101	20.50		I	Perp	61	41	2501	3184.37	56.43	-	0.41	0.13	1.056	0.14	Valid	
BH101	20.50		I	Perp	55	46	2530	3221.30	56.76	-	0.37	0.11	1.059	0.12	Valid	
BH101	20.50		I	Perp	34	30	1020	1298.70	36.04	-	0.24	0.18	0.863	0.16	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No:

PSL22/4388

Client Ref:

LKC 22 1225

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:**
			PSL22/4388
			Client Ref:
			LKC 22 1225

UKAS TESTING
2531

CHEMTECH environmental part of Cawood

ANALYTICAL TEST REPORT

Contract no: 111174

Contract name: B401 Manchester Airport

Client reference: PSL22/4388

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by: M. Harris

Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			111174-1	111174-2	111174-3	111174-4
Sample id			BH101	BH101	BH101	BH101
Depth (m)			1.50	4.50-5.50	8.50-10.00	20.50-22.00
Sample Type			B	RC	RC	RC
Date sampled			-	-	-	-
Test	**Method**	**Units**				
pH	CE004 [U]	units	8.2	8.2	8.2	8.3
Magnesium (2:1 water soluble)	CE061	mg/l Mg	47	58	85	96
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	9.7	7.1	5.4	18
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	<1	<1	<1	<1
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	1761	1797	1944	2012
Sulphate (total)	CE062 [U]	mg/kg SO_4	10116	11370	113897	31478
Sulphur (total)	CE119	mg/kg S	3663	4290	49813	10955
Sulphur (total)	CE119	% w/w S	0.37	0.43	4.98	1.10

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111174-1	BH101	1.50	Y	All (NSD)
111174-2	BH101	4.50-5.50	Y	All (NSD)
111174-3	BH101	8.50-10.00	Y	All (NSD)
111174-4	BH101	20.50-22.00	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

LABORATORY REPORT

4043

Contract Number: PSL22/4387

Report Date: 20 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 20/07/2022

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

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)
R Berriman (Quality Manager)
S Royle (Laboratory Manager)

L Knight (Assistant Laboratory Manager)
S Eyre (Senior Technician)
M Fennell (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH102		UT	1.20	1.65	Very stiff brown slightly gravelly sandy CLAY.
BH102		B	2.00	2.45	Brown slightly gravelly very sandy CLAY.
BH102		S	2.00	2.45	Brown slightly gravelly very sandy CLAY.
BH102		UT	3.00	3.45	Firm brown gravelly very sandy CLAY.
BH102		S	4.00	4.45	Brown slightly gravelly very sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH102		UT	1.20	1.65	18							
BH102		S	2.00	2.45	11			26	12	14	96	Low Plasticity CL
BH102		UT	3.00	3.45	14							
BH102		S	4.00	4.45	23			47	23	24	97	Intermediate Plasticity CI
BH102		RC	8.00	9.50	2.4							
BH102		RC	9.50	11.00	7.4							
BH102		RC	14.00	15.50	8.0							
BH102		RC	20.00	21.30	8.8							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

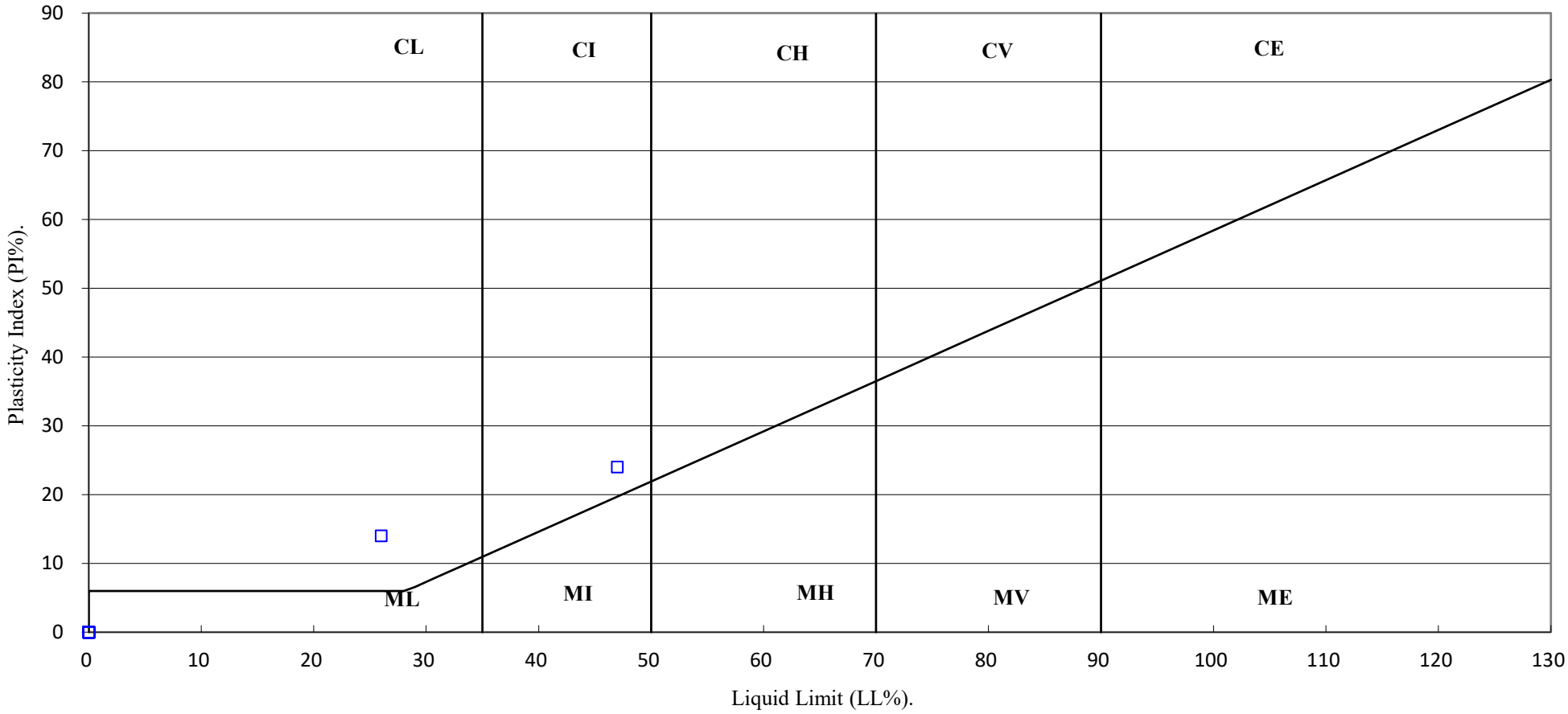
Contract No:

PSL22/4387

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4387 Client Ref: LKC 22 1225

SUMMARY OF SOIL DENSITY RELATED TESTS

(BS1377 : PART 2 & 4 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Retained 20mm %	Retained 37.5mm %	Method of compaction kg	Maximum Dry Density Mg/m^3	Minimum Dry Density Mg/m^3	Remarks
BH102		UT	1.20	1.65	18.0	2.10	1.79						
BH102		UT	3.00	3.45	14	2.14	1.88						

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

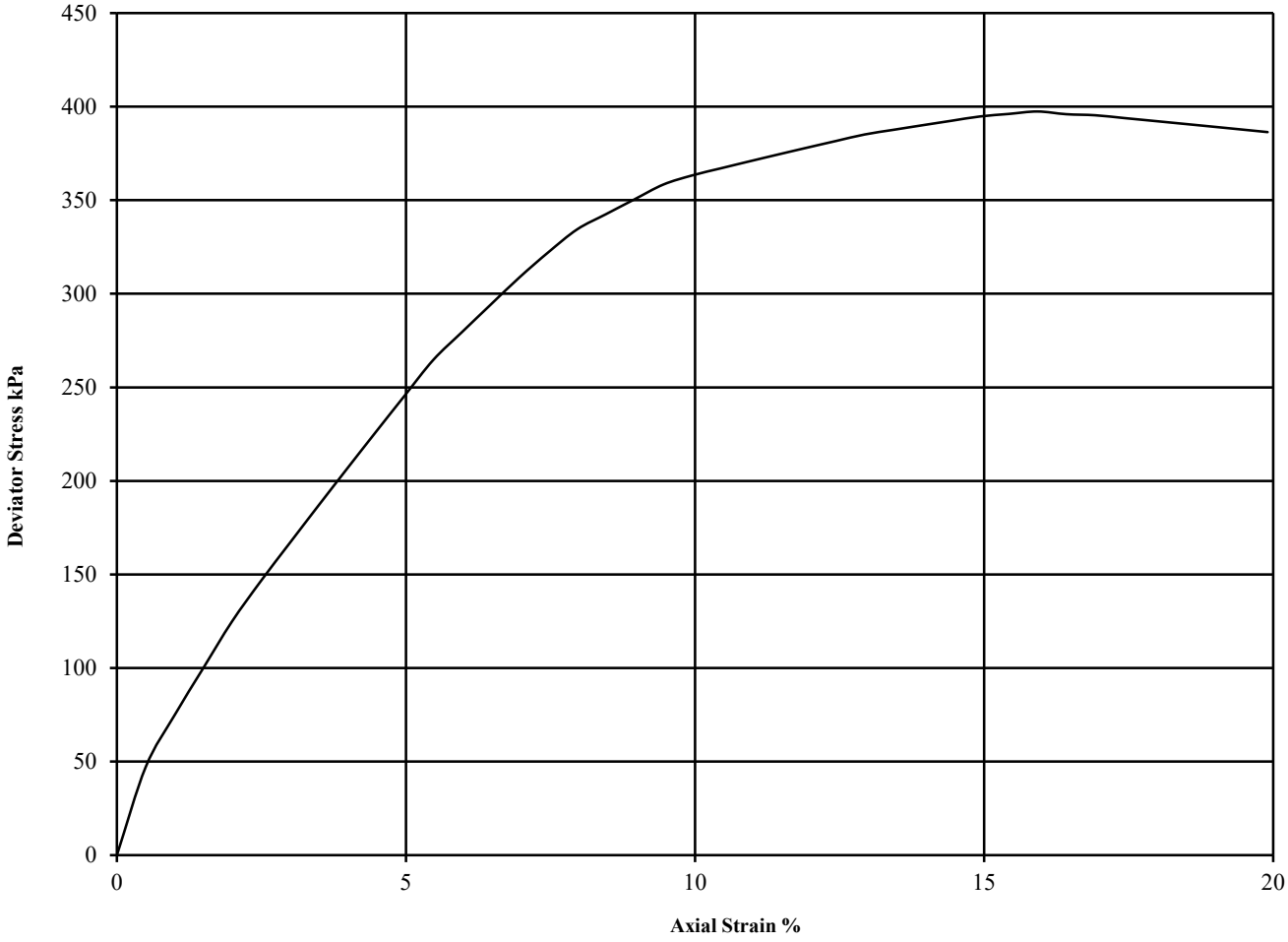
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: **BH102** **Top Depth (m):** **1.20**

Sample Number: **Base Depth (m):** **1.65**

Sample Type **UT**



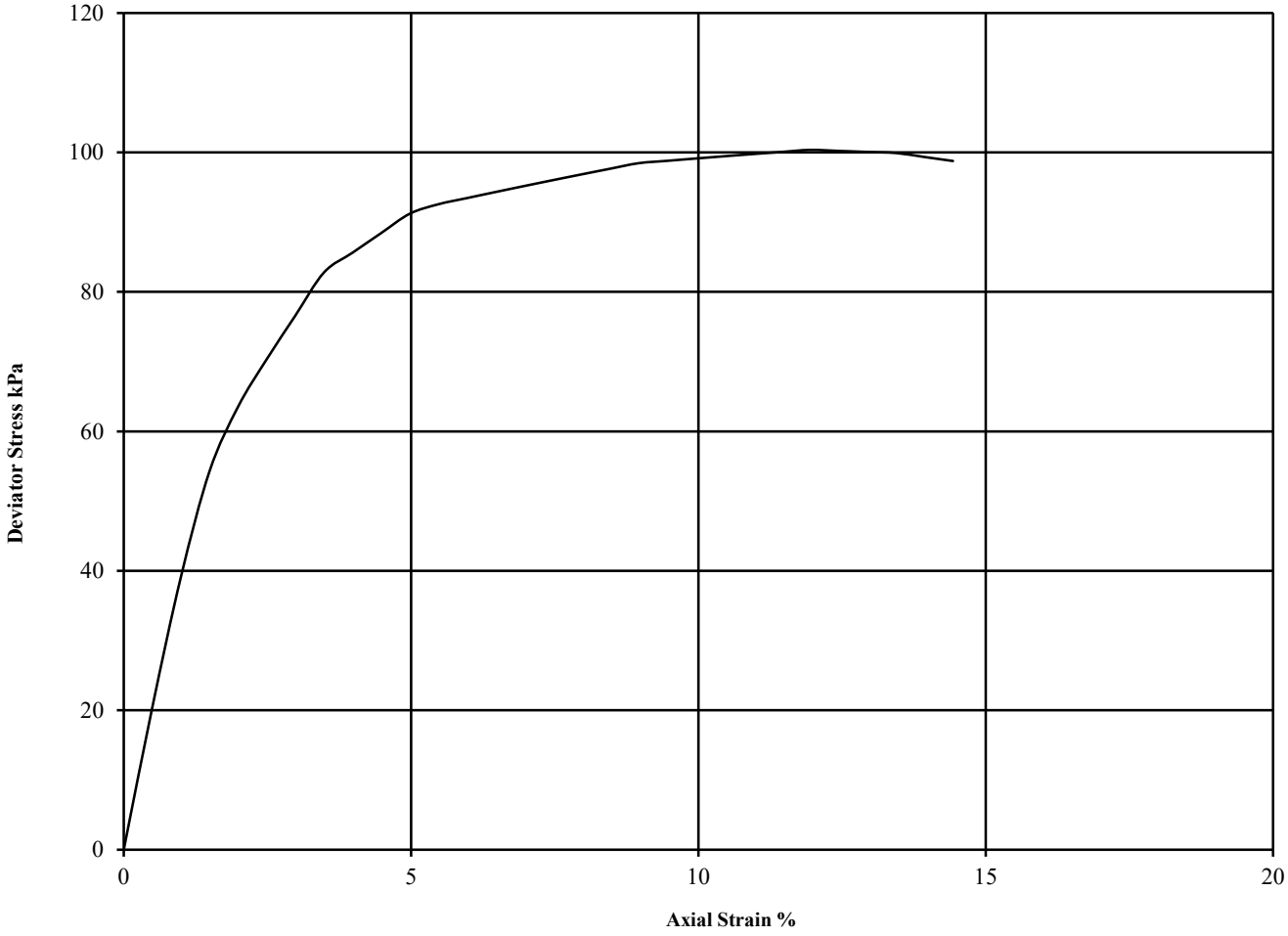
Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density 3628	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Disturbed Sample Remoulded Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	18	2.10	1.79	20	397	199	15.9	Intermediate	See summary of soil descriptions

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH102**	**Top Depth (m):**	**3.00**
Sample Number:		**Base Depth (m):**	**3.45**
Sample Type	**UT**		



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35
1	14	2.14	1.87	60	100	50	11.9	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

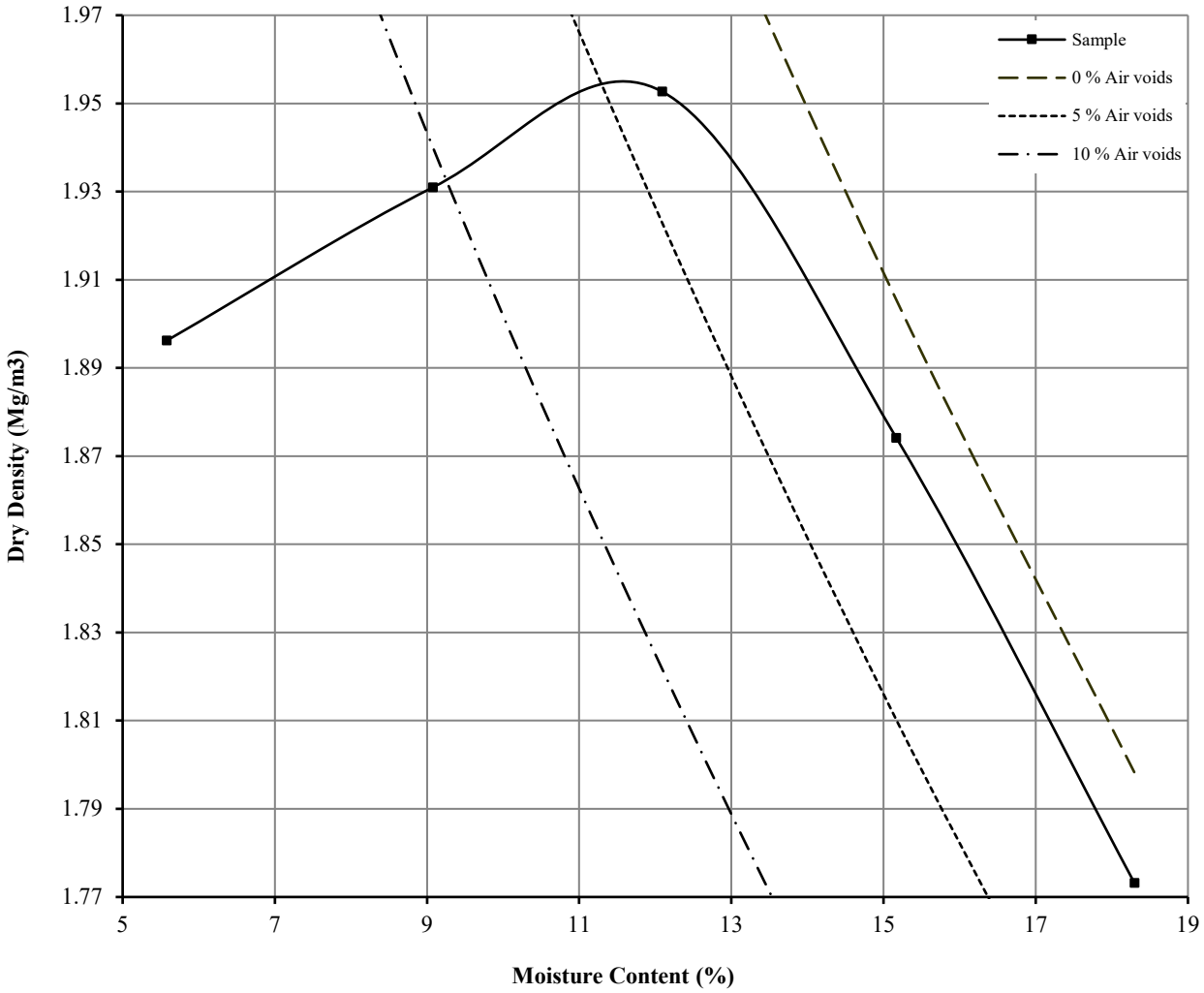
B401 Manchester Airport

Contract No:
PSL22/4387
Client Ref:
LKC 22 1225

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**BH102**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		

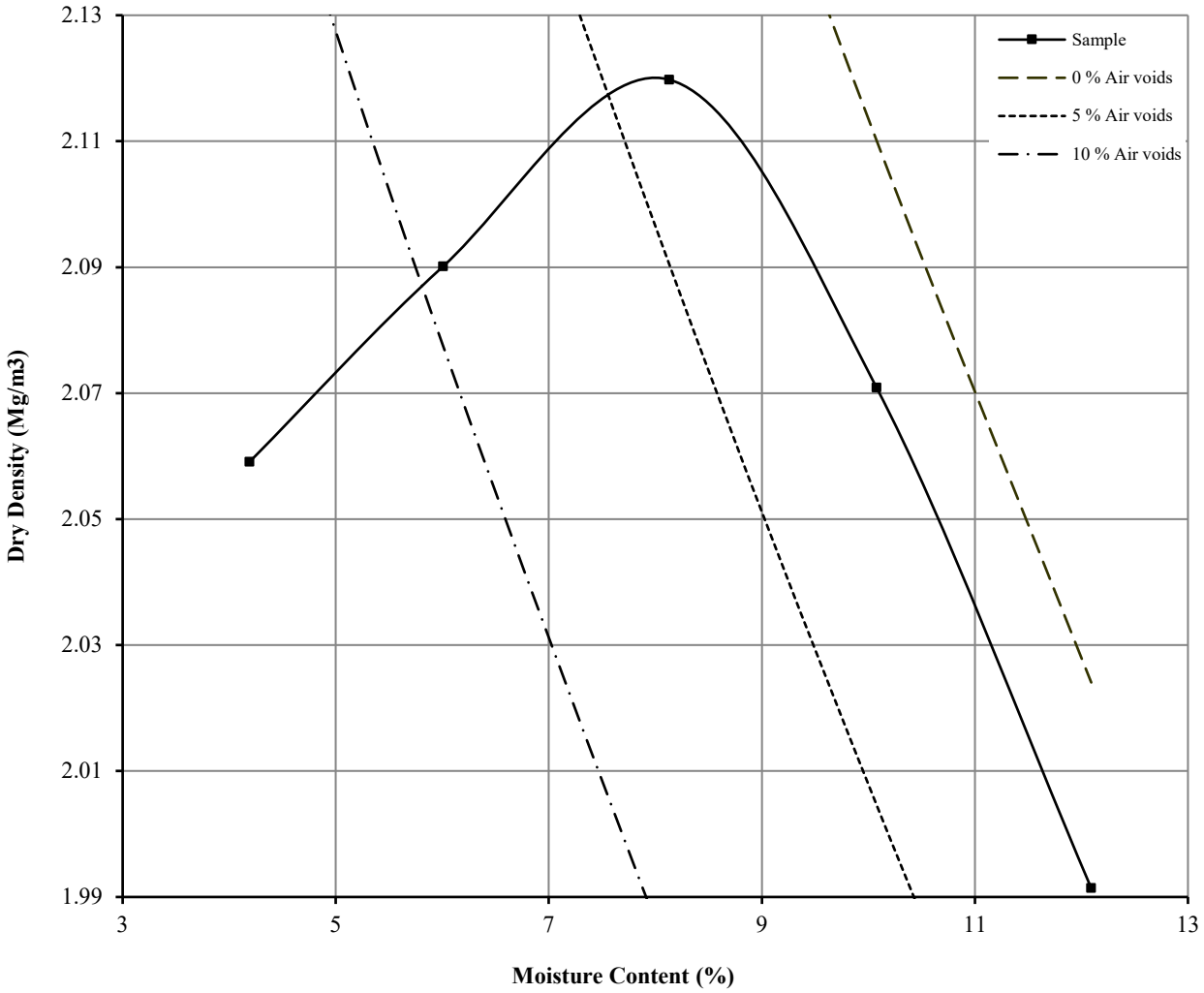


Initial Moisture Content:		12	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.95	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		12			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.5 : 1990

Hole Number:	**BH102**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		



Initial Moisture Content:		12	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		2.12	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		8			
Remarks See summary of soil descriptions					

ONE DIMENSIONAL CONSOLIDATION TEST

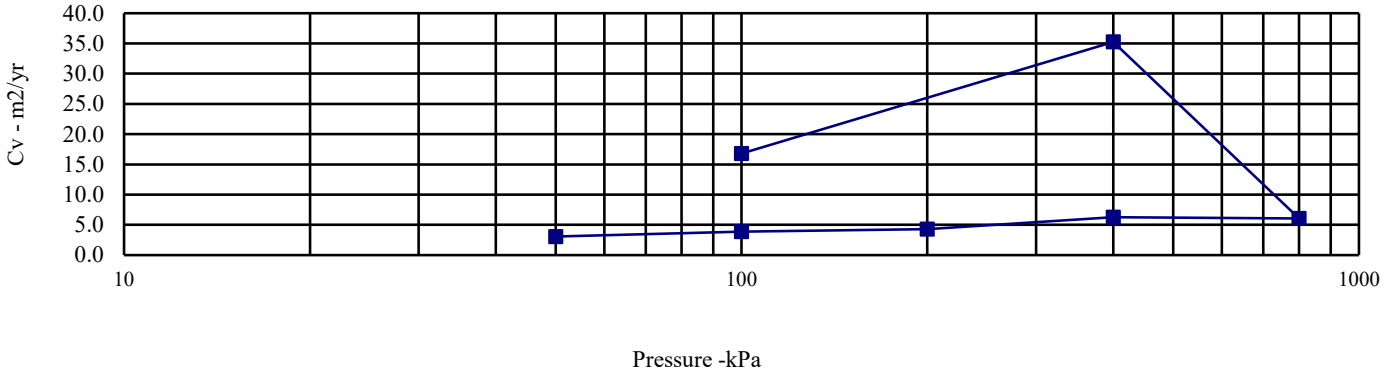
BS 1377: Part 5: 1990: Clause 3

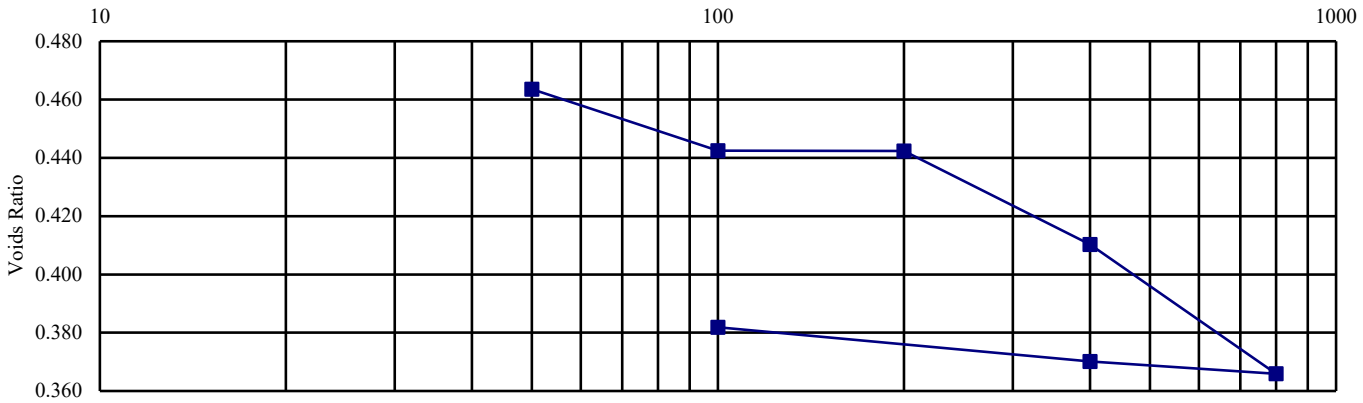
Hole Number: **BH102** **Top Depth (m):** **1.20**

Sample Number: **Base Depth (m) :** **1.65**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	19						
Bulk Density (Mg/m3):	2.10	0	50	0.551	3.073	Method used to	
Dry Density (Mg/m3):	1.76	50	100	0.289	3.864	determine CV:	T90
Voids Ratio:	0.505	100	200	0.000	4.279	Nominal temperature	
Degree of saturation:	101.4	200	400	0.111	6.254	during test ' C:	20
Height (mm):	20.07	400	800	0.079	6.071	Remarks:	
Diameter (mm)	75.06	800	400	0.008	35.248	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	400	100	0.029	16.782		





UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No: PSL22/4387

Client Ref:

ONE DIMENSIONAL CONSOLIDATION TEST

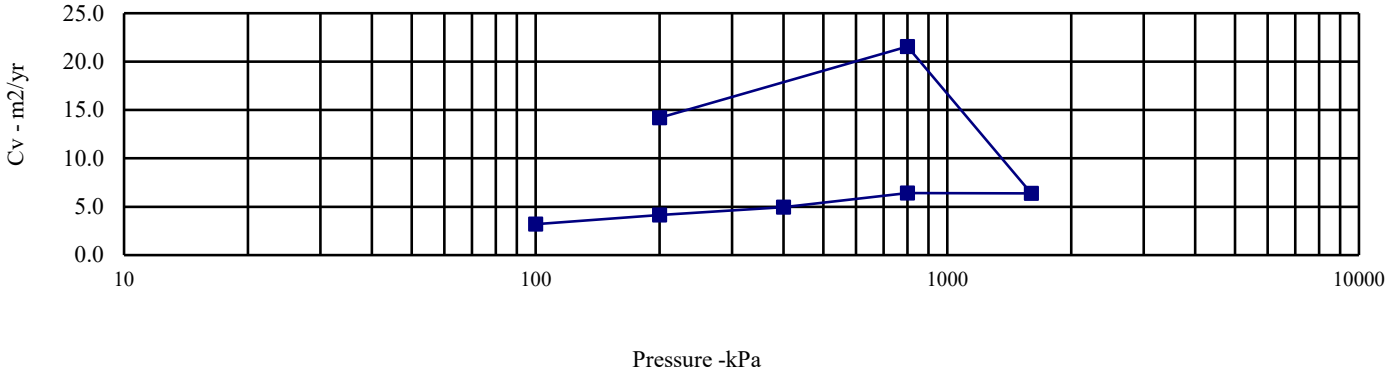
BS 1377: Part 5: 1990: Clause 3

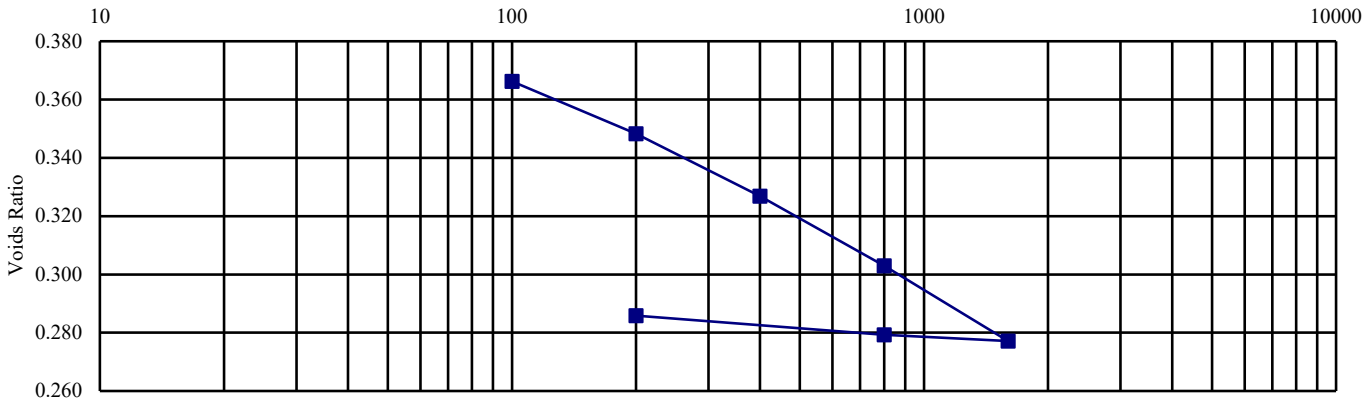
Hole Number: **BH102** **Top Depth (m):** **3.00**

Sample Number: **Base Depth (m) :** **3.45**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	14						
Bulk Density (Mg/m3):	2.11	0	100	0.411	3.197	Method used to	
Dry Density (Mg/m3):	1.86	100	200	0.132	4.128	determine CV:	T90
Voids Ratio:	0.425	200	400	0.080	4.962	Nominal temperature	
Degree of saturation:	84.7	400	800	0.045	6.421	during test ' C:	20
Height (mm):	20.05	800	1600	0.025	6.376	Remarks:	
Diameter (mm)	75.06	1600	800	0.002	21.556	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	800	200	0.009	14.196		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No: PSL22/4387** **Client Ref: LKC 22 1225**

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH102	8.00		I	Perp	30	18	540	687.55	26.22	-	0.21	0.31	0.748	0.23	Valid	
BH102	8.00		I	Perp	24	20	480	611.15	24.72	-	0.24	0.39	0.728	0.29	Valid	
BH102	9.50		I	Perp	80	30	2400	3055.77	55.28	-	0.33	0.11	1.046	0.11	Valid	
BH102	9.50		I	Perp	60	24	1440	1833.46	42.82	-	0.40	0.22	0.933	0.20	Valid	
BH102	9.50		I	Perp	34	20	680	865.80	29.42	-	0.24	0.28	0.788	0.22	Valid	
BH102	14.00		I	Perp	80	34	2720	3463.21	58.85	-	0.33	0.10	1.076	0.10	Valid	
BH102	14.00		I	Perp	80	20	1600	2037.18	45.14	-	0.42	0.21	0.955	0.20	Valid	
BH102	14.00		I	Perp	46	21	966	1229.95	35.07	-	0.15	0.12	0.852	0.10	Valid	
BH102	20.00		I	Perp	80	20	1600	2037.18	45.14	-	0.43	0.21	0.955	0.20	Valid	
BH102	20.00		I	Perp	40	20	800	1018.59	31.92	-	0.32	0.31	0.817	0.26	Valid	
BH102	20.00		I	Perp	38	18	684	870.90	29.51	-	0.30	0.34	0.789	0.27	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No:

PSL22/4387

Client Ref:

LKC 22 1225

2531

ANALYTICAL TEST REPORT

Contract no: 111176

Contract name: B401 Manchester Airport

Client reference: PSL22/4387

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			111176-1	111176-2
Sample id			BH102	BH102
Depth (m)			2.00-2.45	8.00-9.50
Sample Type			B	RC
Date sampled			-	-
Test	**Method**	**Units**		
pH	CE004 [U]	units	8.5	8.2
Magnesium (2:1 water soluble)	CE061	mg/l Mg	23	87
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	12	18
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	15	3.0
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	296	1982
Sulphate (total)	CE062 [U]	mg/kg SO_4	1093	14496
Sulphur (total)	CE119	mg/kg S	552	5327
Sulphur (total)	CE119	% w/w S	0.06	0.53

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111176-1	BH102	2.00-2.45	Y	All (NSD)
111176-2	BH102	8.00-9.50	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

LABORATORY REPORT

4043

Contract Number: PSL22/4390

Report Date: 19 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 19/7/2022

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)
R Berriman (Quality Manager)
S Royle (Laboratory Manager)
L Knight (Senior Technician)
S Eyre (Senior Technician)
T Watkins (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: awatkins@prosoils.co.uk
rberriman@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH103		UT	1.20	1.65	Very stiff brown slightly gravelly very sandy CLAY.
BH103		B	2.00	2.45	Brown slightly gravelly sandy CLAY.
BH103		UT	3.00	3.45	Stiff brown gravelly sandy CLAY.
BH103		B	4.00	4.45	Brown gravelly sandy CLAY.
BH103		S	4.00	4.45	Brown gravelly sandy CLAY.
BH103		S	5.00	5.45	Brown gravelly sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH103		UT	1.20	1.65	13			25	14	11	90	Low Plasticity CL
BH103		UT	3.00	3.45	11			26	15	11	88	Low Plasticity CL
BH103		S	4.00	4.45	16			38	19	19	86	Intermediate Plasticity CI
BH103		S	5.00	5.45	16			36	18	18	89	Intermediate Plasticity CI

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

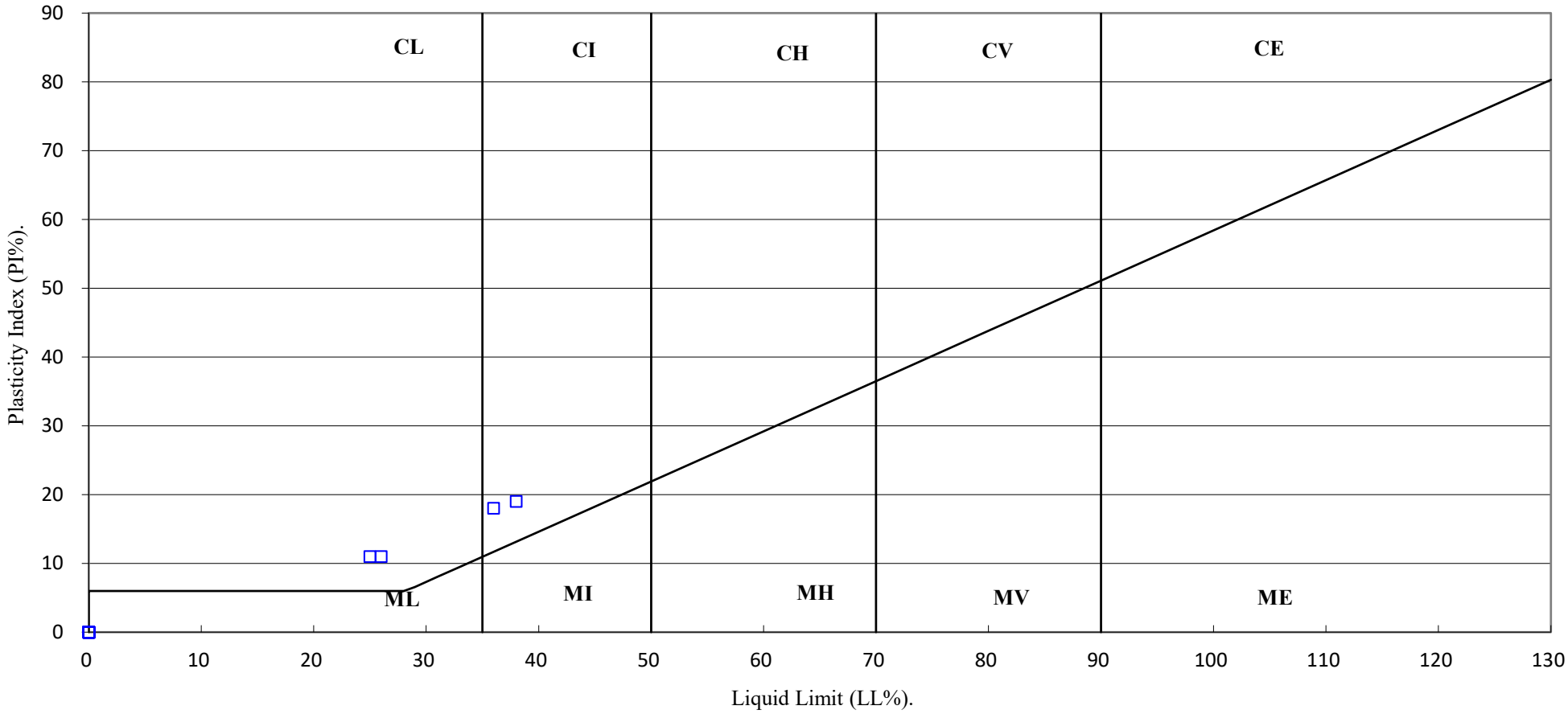
Contract No:

PSL22/4390

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4390 Client Ref: LKC 22 1225

PARTICLE SIZE DISTRIBUTION TEST

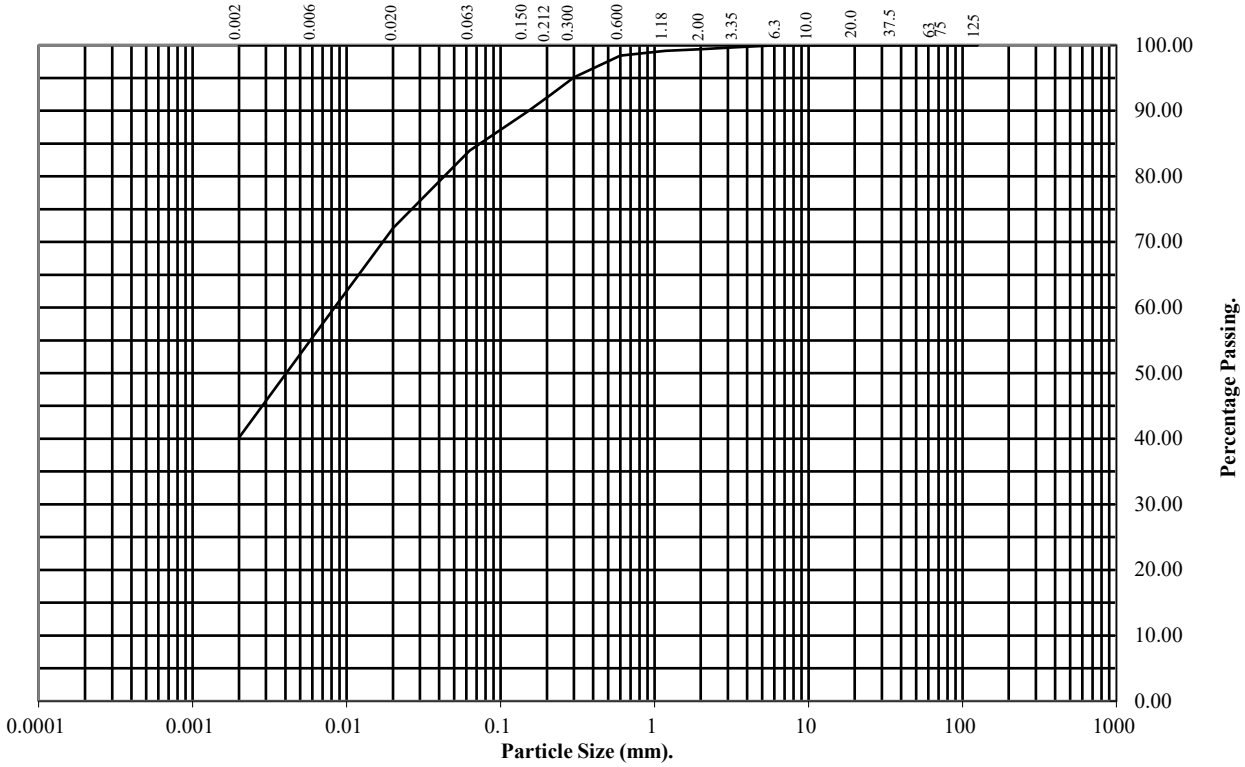
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **BH103** **Top Depth (m):** **2.00**

Sample Number: **Base Depth(m):** **2.45**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	100
2	99
1.18	99
0.6	98
0.3	95
0.212	92
0.15	90
0.063	84

Particle Diameter	Percentage Passing
0.02	72
0.006	55
0.002	40

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	15
Silt	44
Clay	40

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

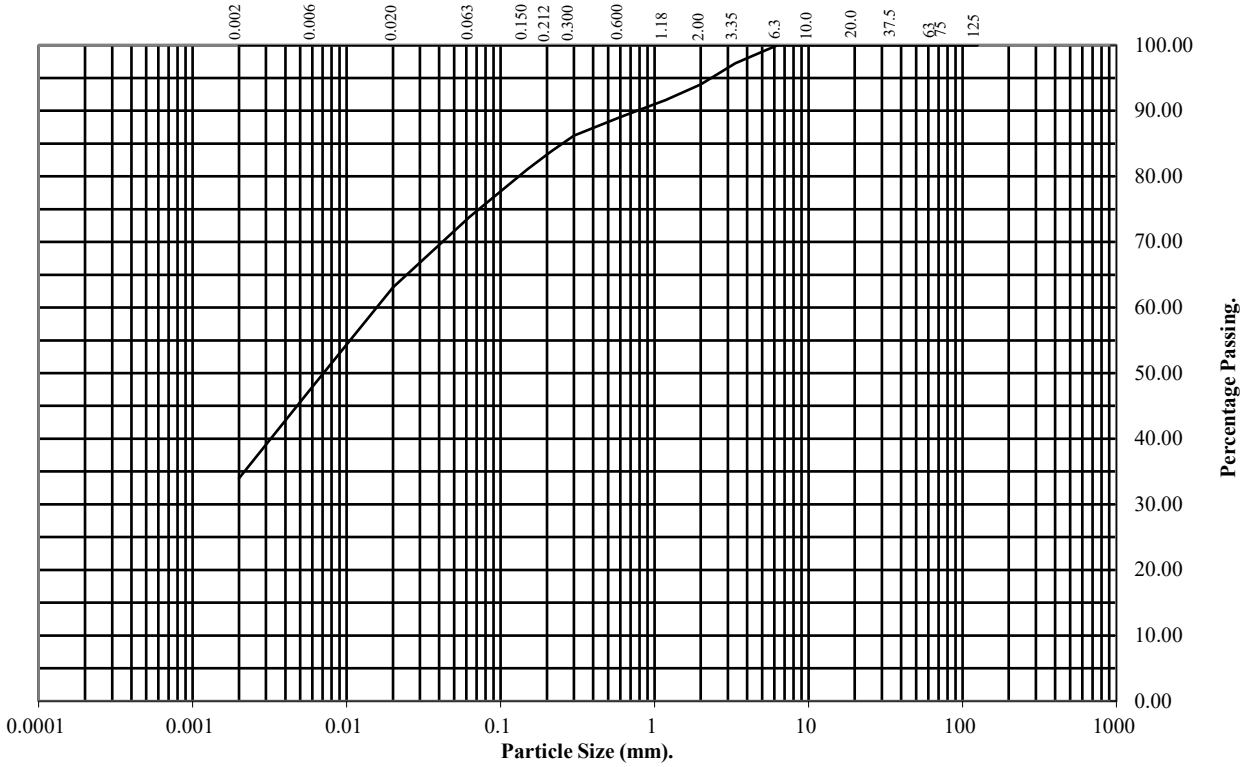
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: BH103 **Top Depth (m):** 4.00

Sample Number: **Base Depth(m):** 4.45

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	97
2	94
1.18	92
0.6	89
0.3	86
0.212	84
0.15	81
0.063	74

Particle Diameter	Percentage Passing
0.02	63
0.006	48
0.002	34

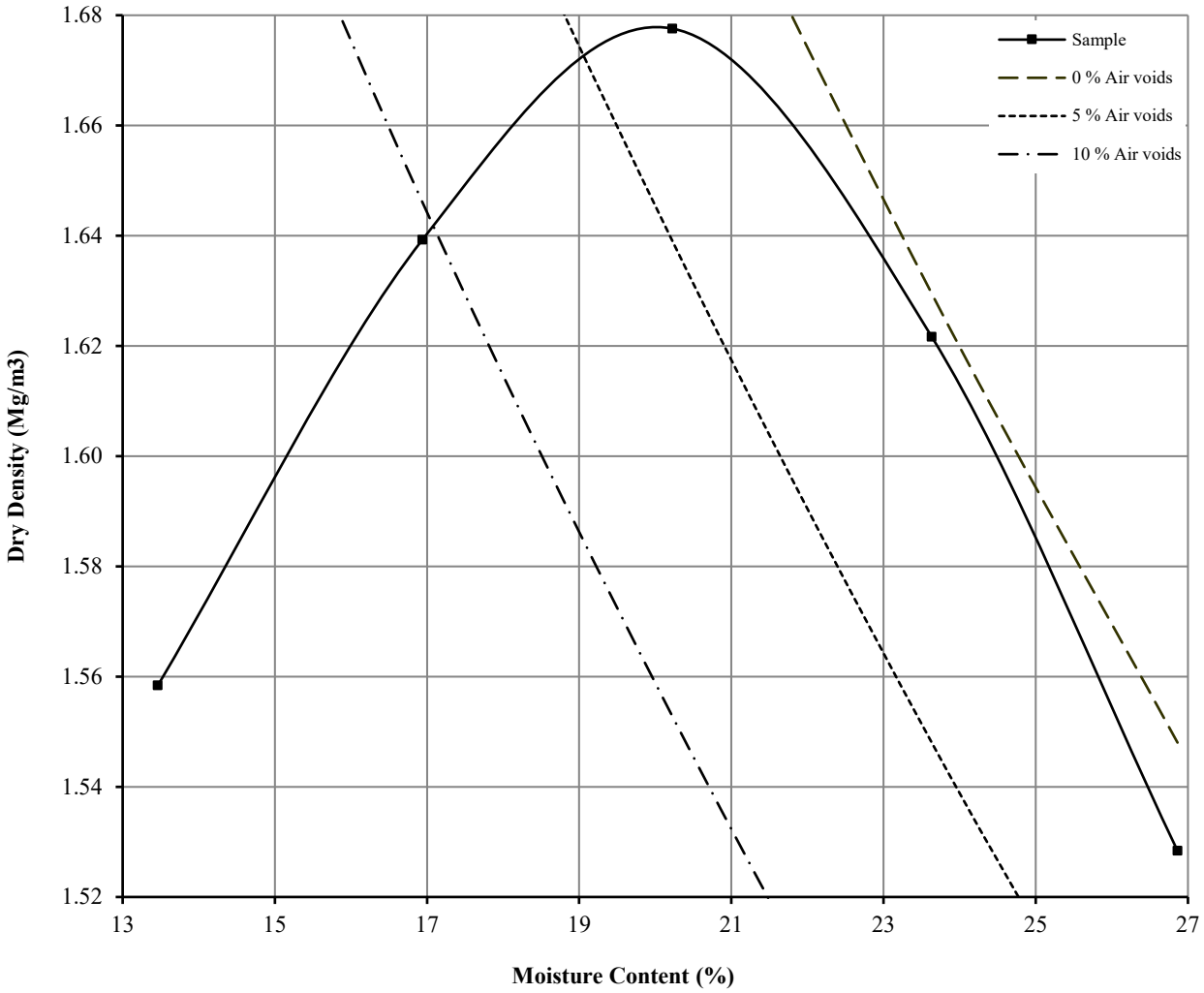
Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	20
Silt	40
Clay	34

Remarks:
See Summary of Soil Descriptions

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**BH103**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		

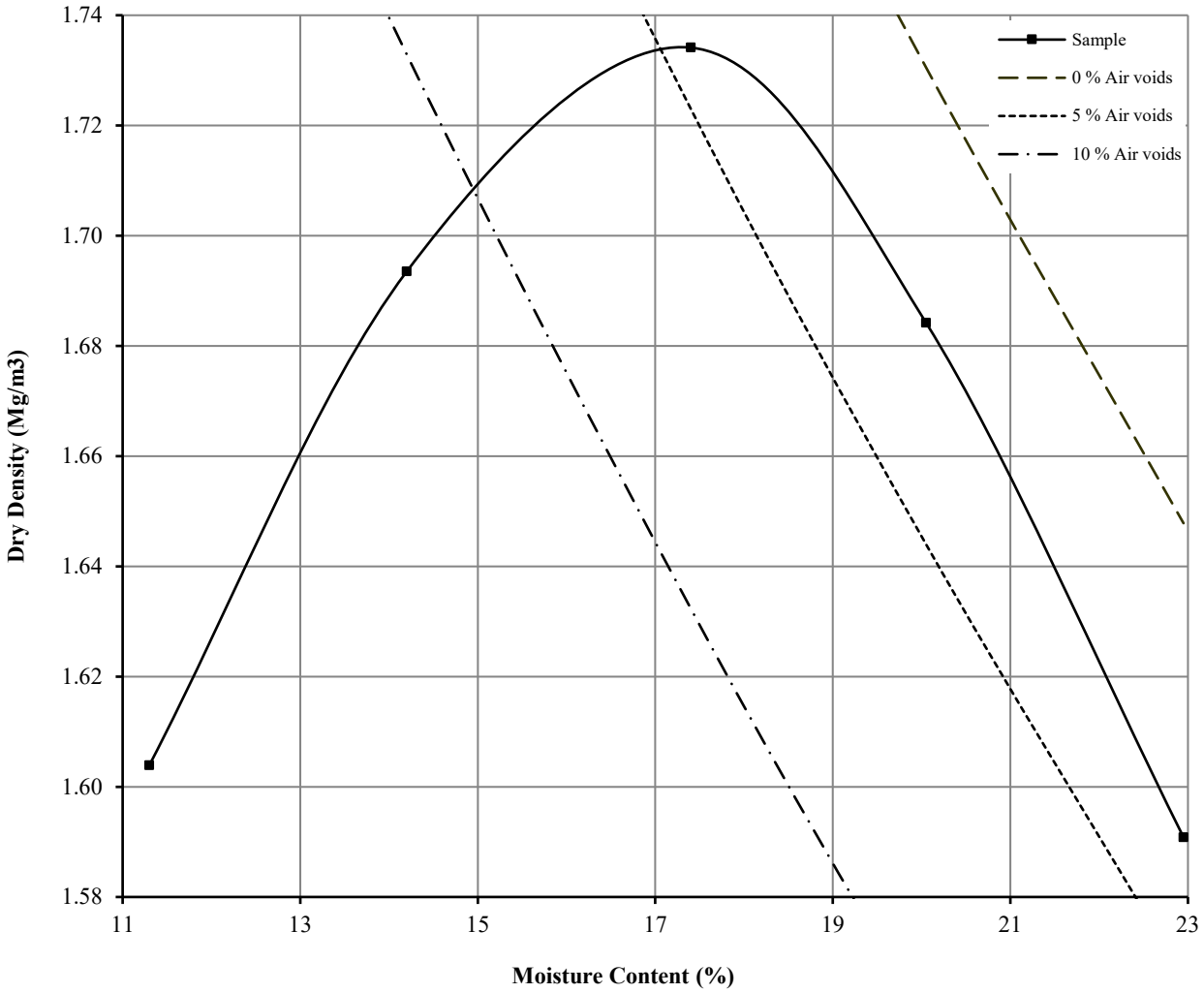


Initial Moisture Content:		24	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.68	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		20			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**BH103**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		



Initial Moisture Content:		24	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.73	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		17			
Remarks See summary of soil descriptions					

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

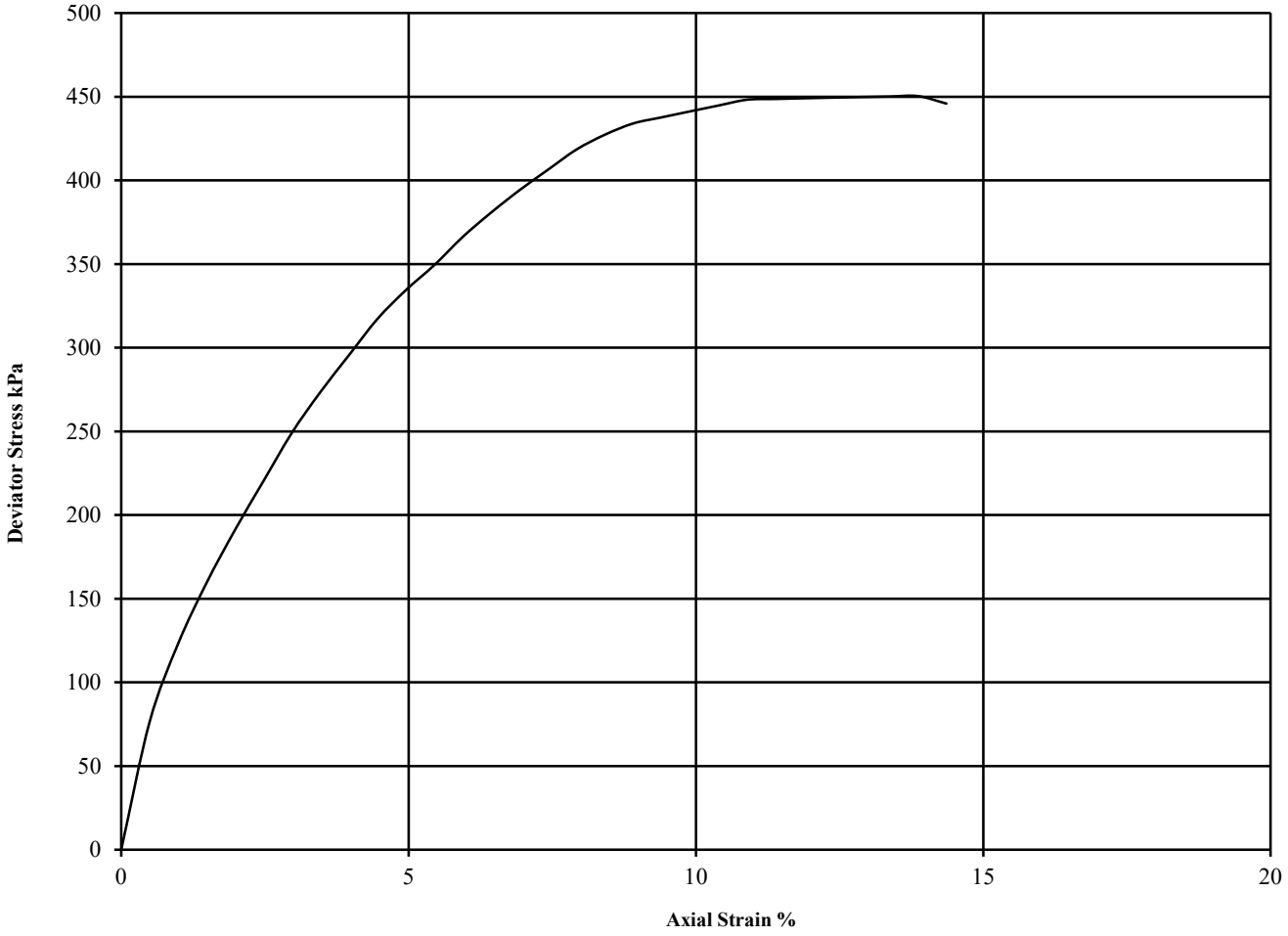
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: **BH103** **Top Depth (m):** **1.20**

Sample Number: **Base Depth (m):** **1.65**

Sample Type **UT**



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35
1	13	2.11	1.87	24	450	225	13.9	Brittle	See summary of soil descriptions

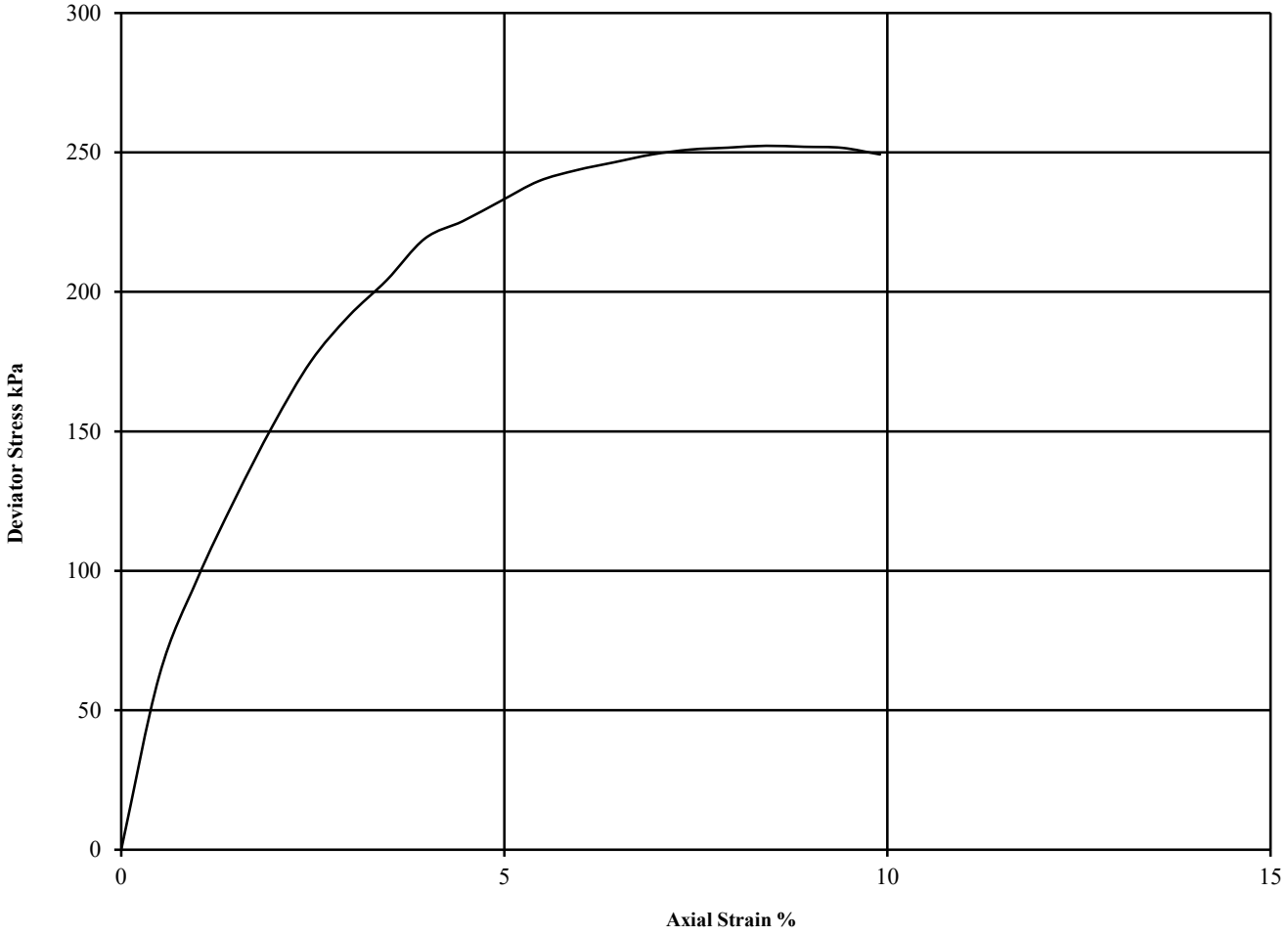
UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4390 **Client Ref:** LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH103**	**Top Depth (m):**	**3.00**
Sample Number:		**Base Depth (m):**	**3.45**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.36
1	11	2.23	2.01	60	252	126	8.4	Brittle	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4390 **Client Ref:** LKC 22 1225

ONE DIMENSIONAL CONSOLIDATION TEST

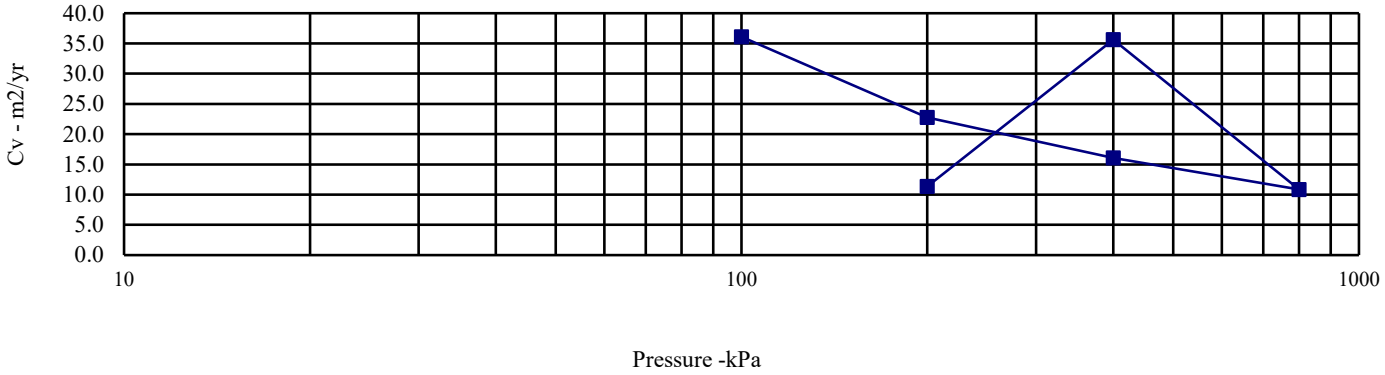
BS 1377: Part 5: 1990: Clause 3

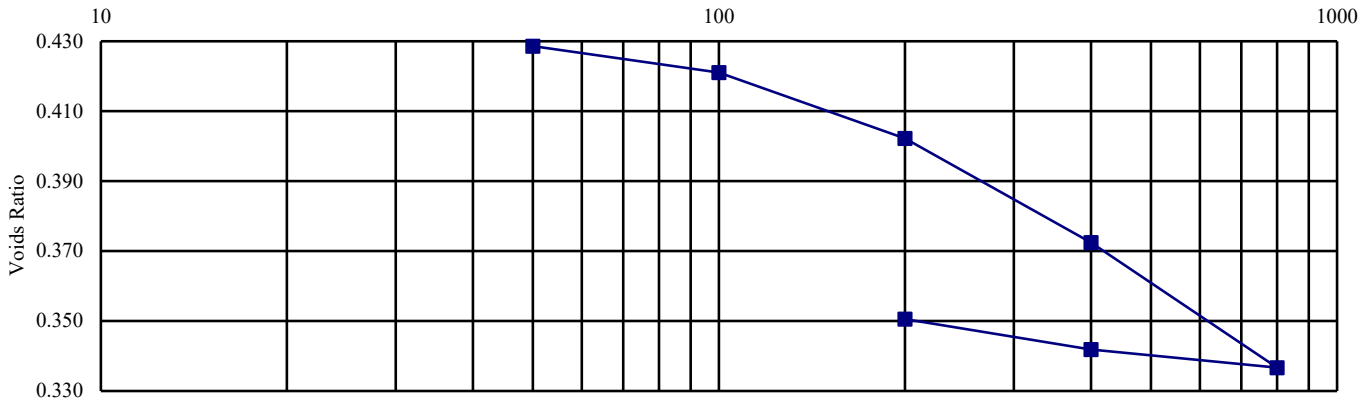
Hole Number: **BH103** **Top Depth (m):** **1.20**

Sample Number: **Base Depth (m) :** **1.65**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	13						
Bulk Density (Mg/m3):	2.08	0	50	Swelling	Swelling	Method used to	
Dry Density (Mg/m3):	1.85	50	100	0.105	36.100	determine CV:	T90
Voids Ratio:	0.436	100	200	0.133	22.750	Nominal temperature	
Degree of saturation:	77.5	200	400	0.106	16.068	during test ' C:	20
Height (mm):	20.04	400	800	0.065	10.858	Remarks:	
Diameter (mm)	75.06	800	400	0.010	35.613	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	400	200	0.033	11.345		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4390 **Client Ref:** LKC 22 1225

ONE DIMENSIONAL CONSOLIDATION TEST

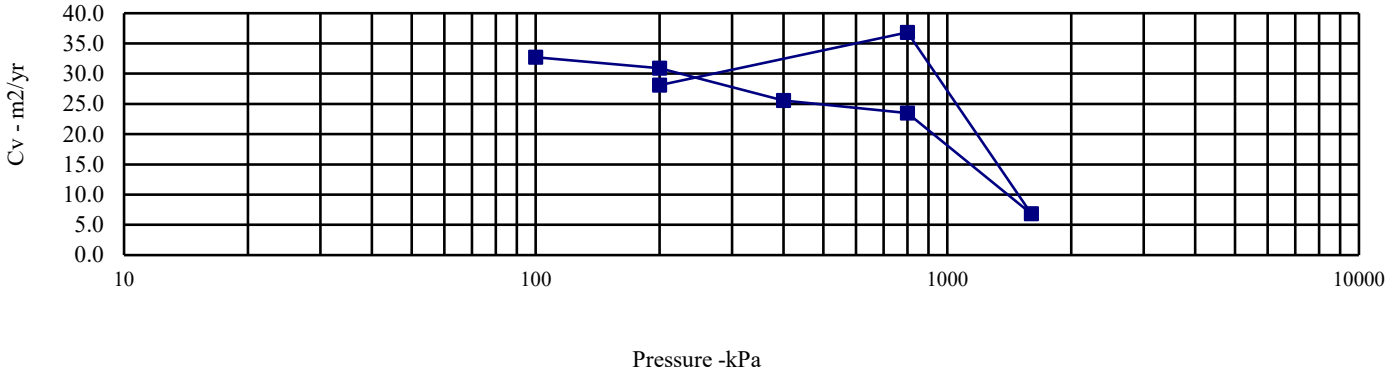
BS 1377: Part 5: 1990: Clause 3

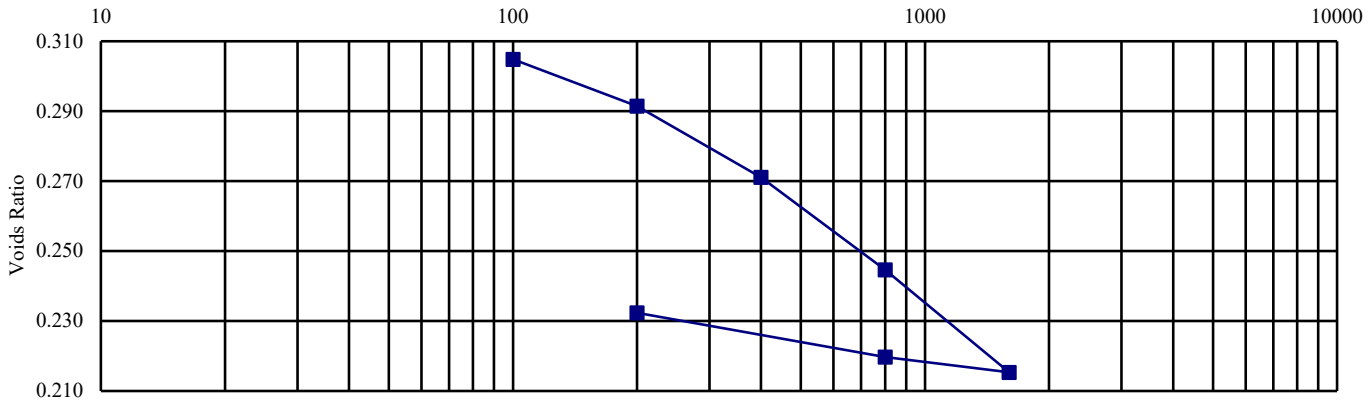
Hole Number: **BH103** **Top Depth (m):** **3.00**

Sample Number: **Base Depth (m) :** **3.45**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	11						
Bulk Density (Mg/m3):	2.24	0	100	0.114	32.720	Method used to	
Dry Density (Mg/m3):	2.01	100	200	0.103	30.917	determine CV:	T90
Voids Ratio:	0.320	200	400	0.079	25.567	Nominal temperature	
Degree of saturation:	94.8	400	800	0.052	23.514	during test ' C:	20
Height (mm):	20.07	800	1600	0.029	6.834	Remarks:	
Diameter (mm)	75.06	1600	800	0.004	36.832	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	800	200	0.017	28.121		





UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No: PSL22/4390

Client Ref: LKC 22 1225

UKAS TESTING
2531

CHEMTECH environmental part of Cawood

ANALYTICAL TEST REPORT

Contract no: 111190

Contract name: B401 Manchester Airport

Client reference: PSL22/4390

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Rachael Burton
Reporting Team Lead

Chemtech Environmental Limited

SOILS

Lab number			111190-1	111190-2	111190-3
Sample id			BH103	BH103	BH103
Depth (m)			0.75	2.00-2.45	4.00-4.45
Sample Type			D	B	B
Date sampled			-	-	-
Test	**Method**	**Units**			
pH	CE004 [U]	units	8.5	8.3	7.8
Magnesium (2:1 water soluble)	CE061	mg/l Mg	13	11	49
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	8.2	7.5	7.4
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	54	71	59
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	96	167	1741
Sulphate (total)	CE062 [U]	mg/kg SO_4	418	405	95913
Sulphur (total)	CE119	mg/kg S	197	209	37076
Sulphur (total)	CE119	% w/w S	0.02	0.02	3.71

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111190-1	BH103	0.75	Y	All (NSD)
111190-2	BH103	2.00-2.45	Y	All (NSD)
111190-3	BH103	4.00-4.45	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

LABORATORY REPORT

4043

Contract Number: PSL22/4391

Report Date: 20 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 19/07/2022

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

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)

R Berriman (Quality Manager)

S Royle (Laboratory Manager)

L Knight (Assistant Laboratory Manager)

S Eyre (Senior Technician)

M Fennell (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH104		S	1.20	1.65	Brown slightly gravelly sandy CLAY.
BH104		UT	2.20	2.65	Stiff brown slightly gravelly sandy CLAY.
BH104		U	4.00	4.45	Firm brown slightly gravelly very sandy CLAY.
BH104		D	4.50		Brown slightly gravelly very sandy CLAY.
BH104		S	7.00	7.25	Brown slightly gravelly very sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH104		S	1.20	1.65	18			44	22	22	99	Intermediate Plasticity CI
BH104		D	4.50		19			36	17	19	98	Intermediate Plasticity CI
BH104		S	7.00	7.25	9.1			27	14	13	93	Low Plasticity CL
BH104		RC	10.00	11.50	4.1							
BH104		RC	14.00	15.00	1.3							
BH104		RC	17.00	18.50	3.5							
BH104		RC	18.50	20.00	4.5							
BH104		RC	23.00	24.50	6.1							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

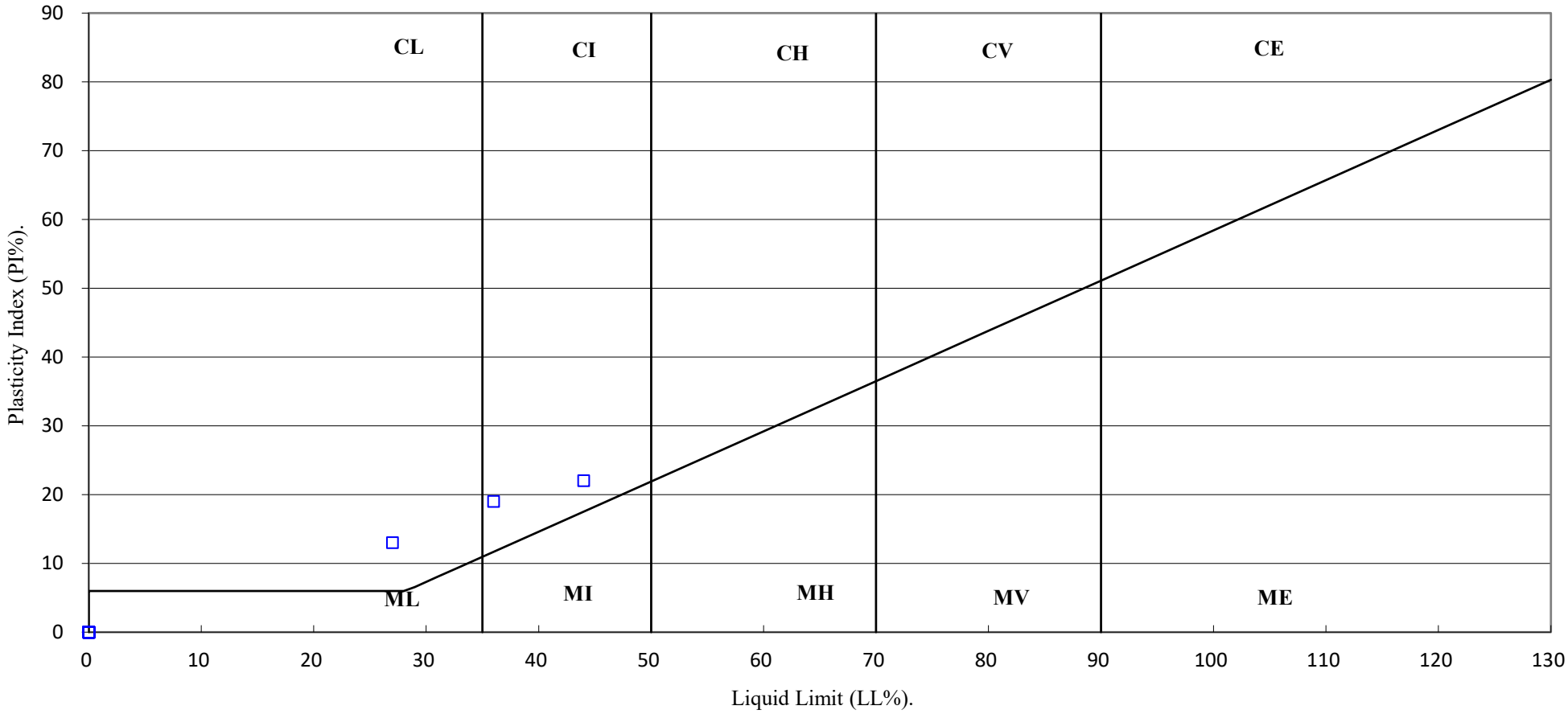
Contract No:

PSL22/4391

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



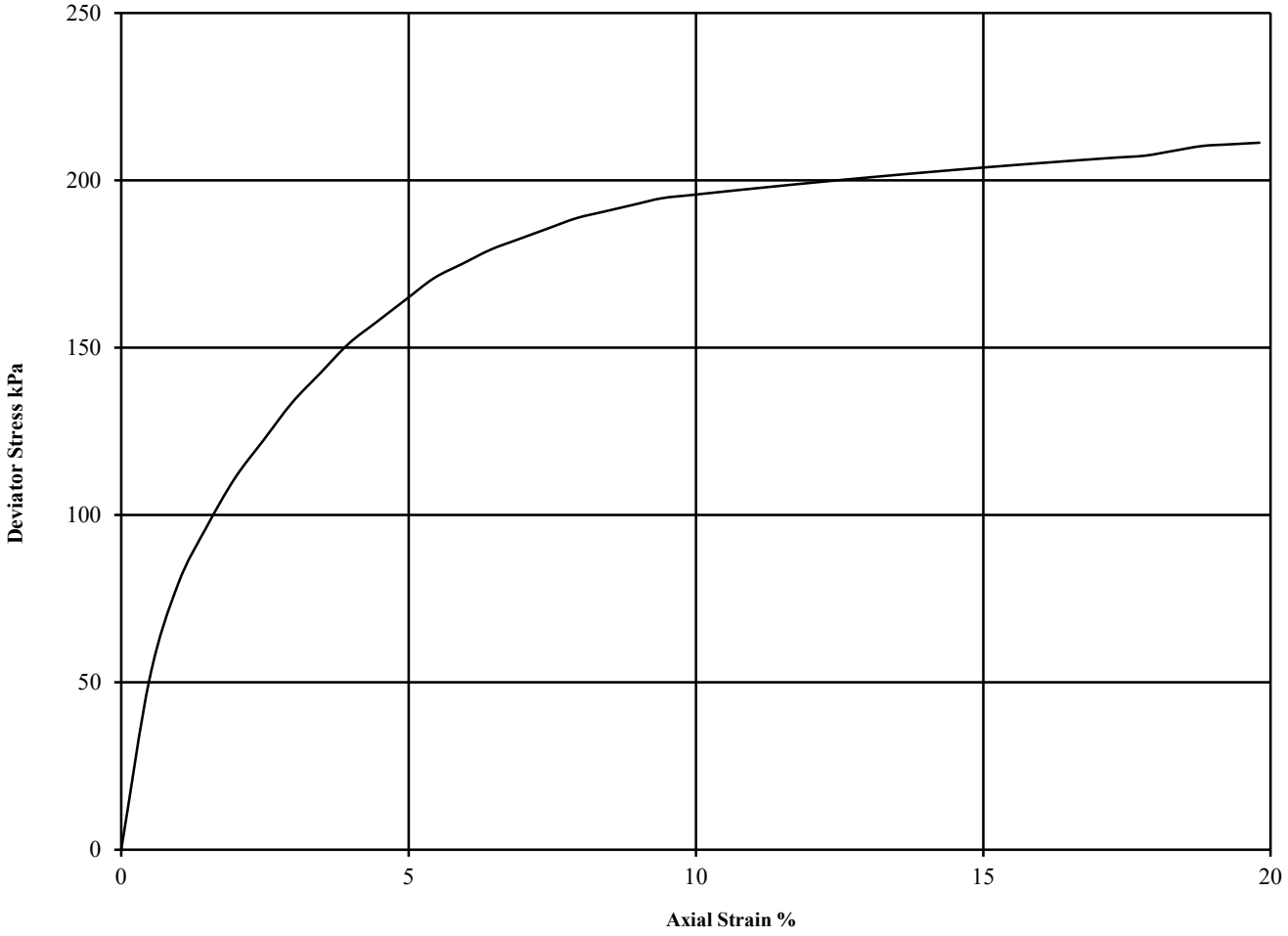
UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4391 Client Ref: LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH104**	**Top Depth (m):**	**2.20**
Sample Number:		**Base Depth (m):**	**2.65**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33
1	21	2.10	1.73	44	213	106	21.3	Intermediate	See summary of soil descriptions

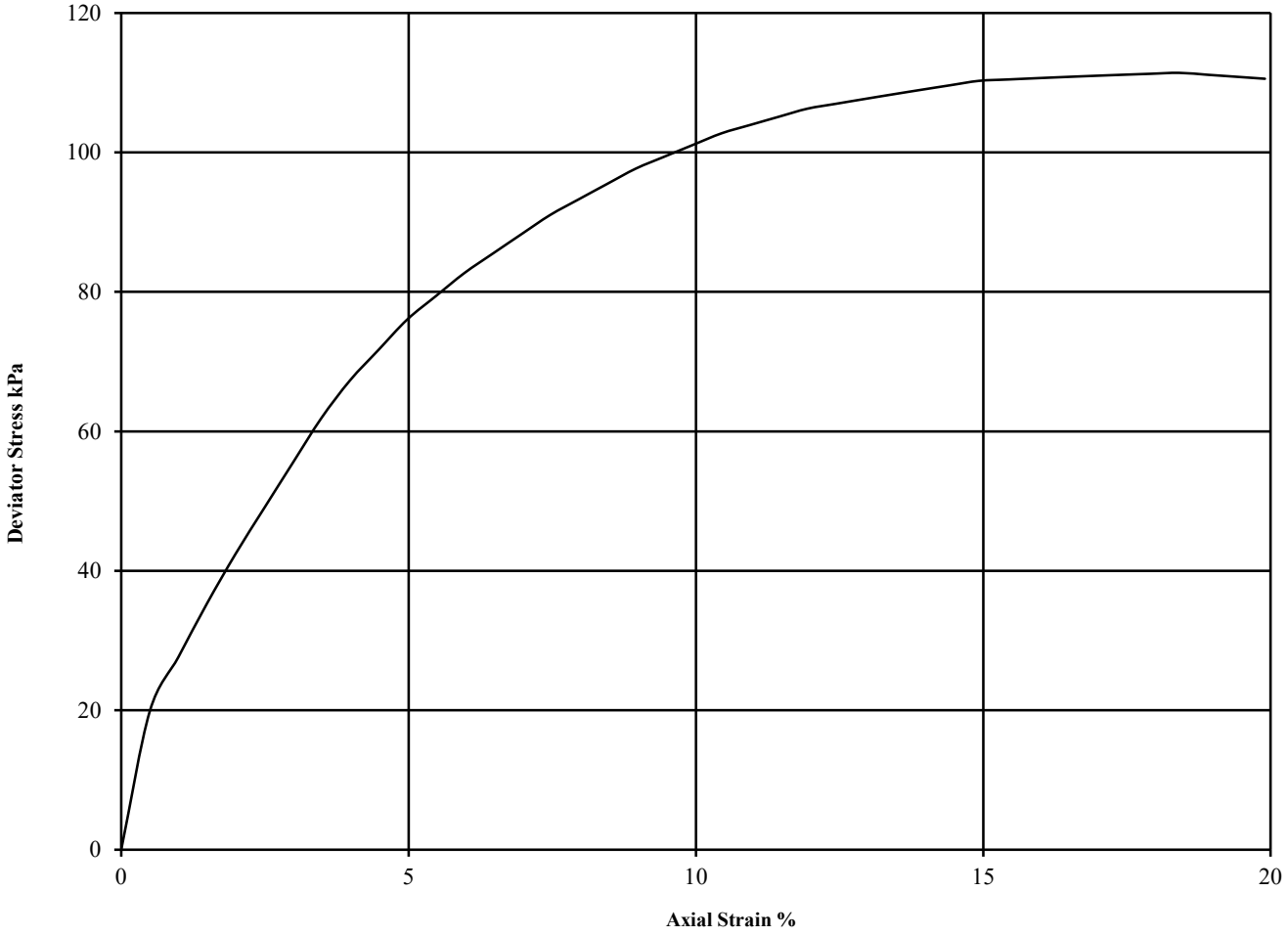
UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4391 **Client Ref:** LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH104**	**Top Depth (m):**	**4.00**
Sample Number:		**Base Depth (m):**	**4.45**
Sample Type	**U**		



Diameter (mm):		102	Height (mm):		205	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	16	2.11	1.81	80	111	56	18.4	Plastic	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4391 **Client Ref:** LKC 22 1225

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH104	10.00		I	Perp	50	20	1000	1273.24	35.68	-	17.41	13.67	0.859	11.75	Valid	
BH104	10.00		I	Perp	30	20	600	763.94	27.64	-	0.24	0.31	0.766	0.24	Valid	
BH104	14.00		I	Perp	50	19	950	1209.58	34.78	-	0.39	0.32	0.849	0.27	Valid	
BH104	14.00		I	Perp	46	30	1380	1757.07	41.92	-	0.31	0.18	0.924	0.16	Valid	
BH104	14.00		I	Perp	32	14	448	570.41	23.88	-	0.21	0.37	0.717	0.26	Valid	
BH104	17.00		I	Perp	60	30	1800	2291.83	47.87	-	0.88	0.38	0.981	0.38	Valid	
BH104	17.00		I	Perp	60	24	1440	1833.46	42.82	-	0.74	0.40	0.933	0.38	Valid	
BH104	17.00		I	Perp	51	26	1326	1688.32	41.09	-	0.55	0.33	0.915	0.30	Valid	
BH104	18.50		A	Perp	85	47	3995	5086.59	71.32	-	0.66	0.13	1.173	0.15	Valid	
BH104	18.50		I	Perp	47	30	1410	1795.27	42.37	-	0.54	0.30	0.928	0.28	Valid	
BH104	18.50		I	Perp	37	28	1036	1319.08	36.32	-	0.45	0.34	0.866	0.30	Valid	
BH104	23.00		I	Perp	40	21	840	1069.52	32.70	-	0.48	0.45	0.826	0.37	Valid	
BH104	23.00		I	Perp	40	16	640	814.87	28.55	-	0.32	0.39	0.777	0.31	Valid	
BH104	23.00		I	Perp	38	18	684	870.90	29.51	-	0.27	0.31	0.789	0.24	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No:

PSL22/4391

Client Ref:

LKC 22 1225

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH104	18.50		D	Par	-	85	7225	85.00	-	0.77	0.107	1.270	0.14	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4391 Client Ref: LKC 22 1225

2531

ANALYTICAL TEST REPORT

Contract no: 111166

Contract name: B401 Manchester Airport (LKC 22 1225)

Client reference: PSL22/4391

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by:

Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			111166-1	111166-2
Sample id			BH104	BH104
Depth (m)			11.50-13.00	17.00-18.50
Sample Type			RC	RC
Date sampled			-	-
Test	**Method**	**Units**		
pH	CE004 [U]	units	7.9	8.0
Magnesium (2:1 water soluble)	CE061	mg/l Mg	72	53
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	8.2	6.2
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	56	57
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	1867	1633
Sulphate (total)	CE062 [U]	mg/kg SO_4	166899	232161
Sulphur (total)	CE119	mg/kg S	60163	54811
Sulphur (total)	CE119	% w/w S	6.02	5.48

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111166-1	BH104	11.50-13.00	Y	All (NSD)
111166-2	BH104	17.00-18.50	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

LABORATORY REPORT

4043

Contract Number: PSL22/4393

Report Date: 19 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 19/7/2022

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)
R Berriman (Quality Manager)
S Royle (Laboratory Manager)
L Knight (Senior Technician)
S Eyre (Senior Technician)
T Watkins (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: awatkins@prosoils.co.uk
rberriman@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH105		UT	1.00	1.45	Firm brown slightly gravelly sandy CLAY.
BH105		B	2.00	2.45	Brown mottled grey sandy CLAY.
BH105		S	2.00	2.45	Brown mottled grey sandy CLAY.
BH105		UT	3.00	3.45	Stiff brown sandy CLAY.
BH105		B	4.00	4.45	Brown slightly gravelly sandy CLAY.
BH105		S	6.00	6.45	Brown mottled grey slightly gravelly very sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH105		UT	1.00	1.45	18							
BH105		S	2.00	2.45	19			36	18	18	100	Intermediate Plasticity CI
BH105		S	6.00	6.45	17			33	16	17	100	Low Plasticity CL

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

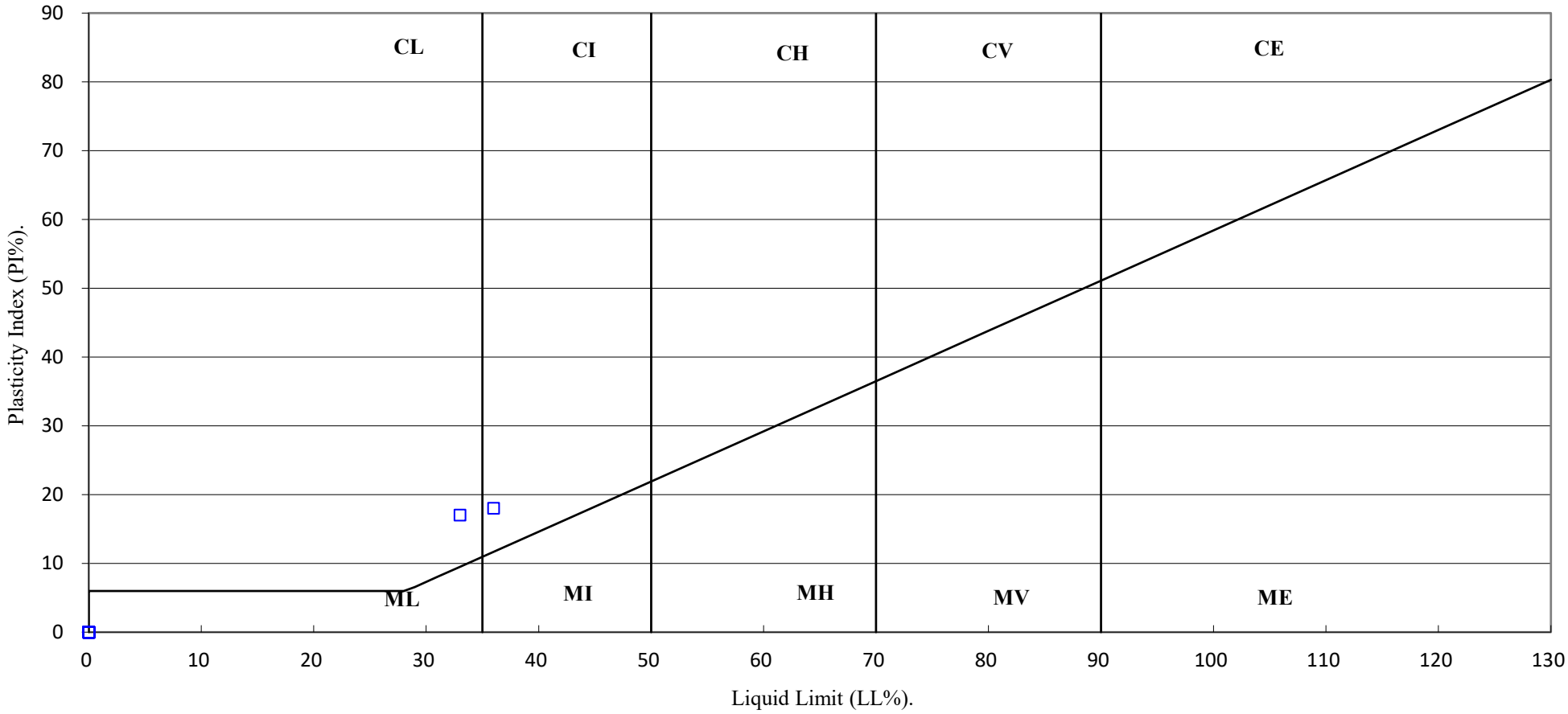
Contract No:

PSL22/4393

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4393 Client Ref: LKC 22 1225

PARTICLE SIZE DISTRIBUTION TEST

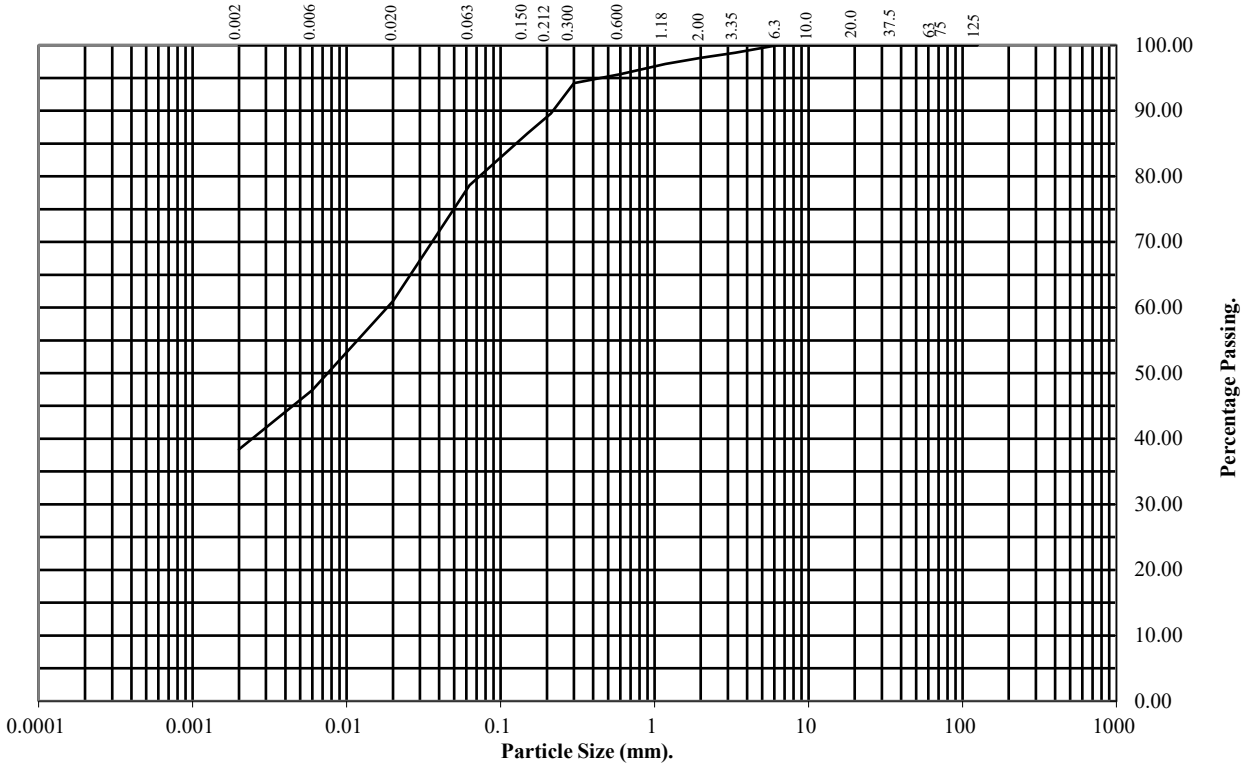
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: BH105 **Top Depth (m):** 4.00

Sample Number: **Base Depth(m):** 4.50

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	98
1.18	97
0.6	96
0.3	94
0.212	90
0.15	87
0.063	79

Particle Diameter	Percentage Passing
0.02	61
0.006	47
0.002	38

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	19
Silt	41
Clay	38

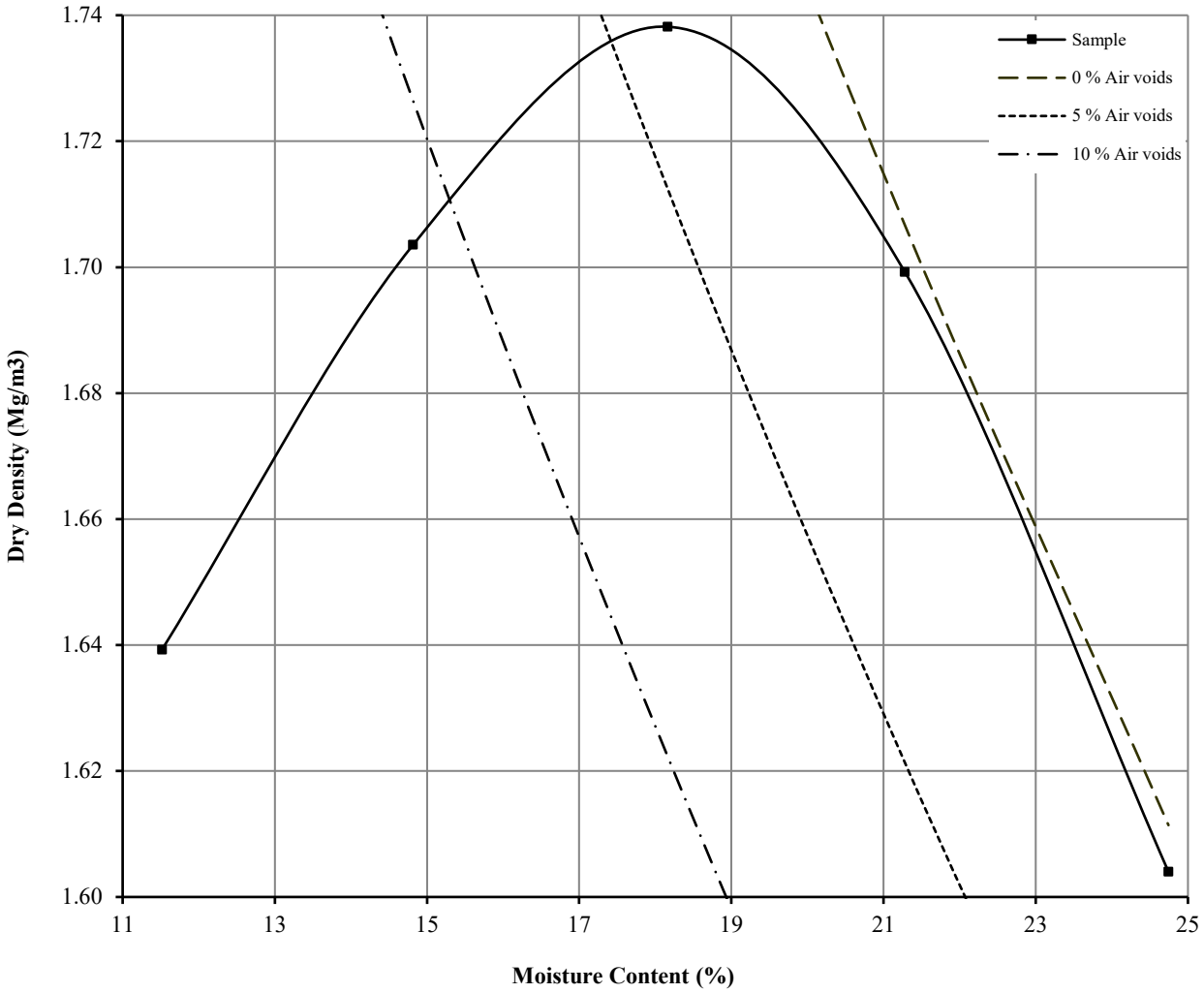
Remarks:

See Summary of Soil Descriptions

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**BH105**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		

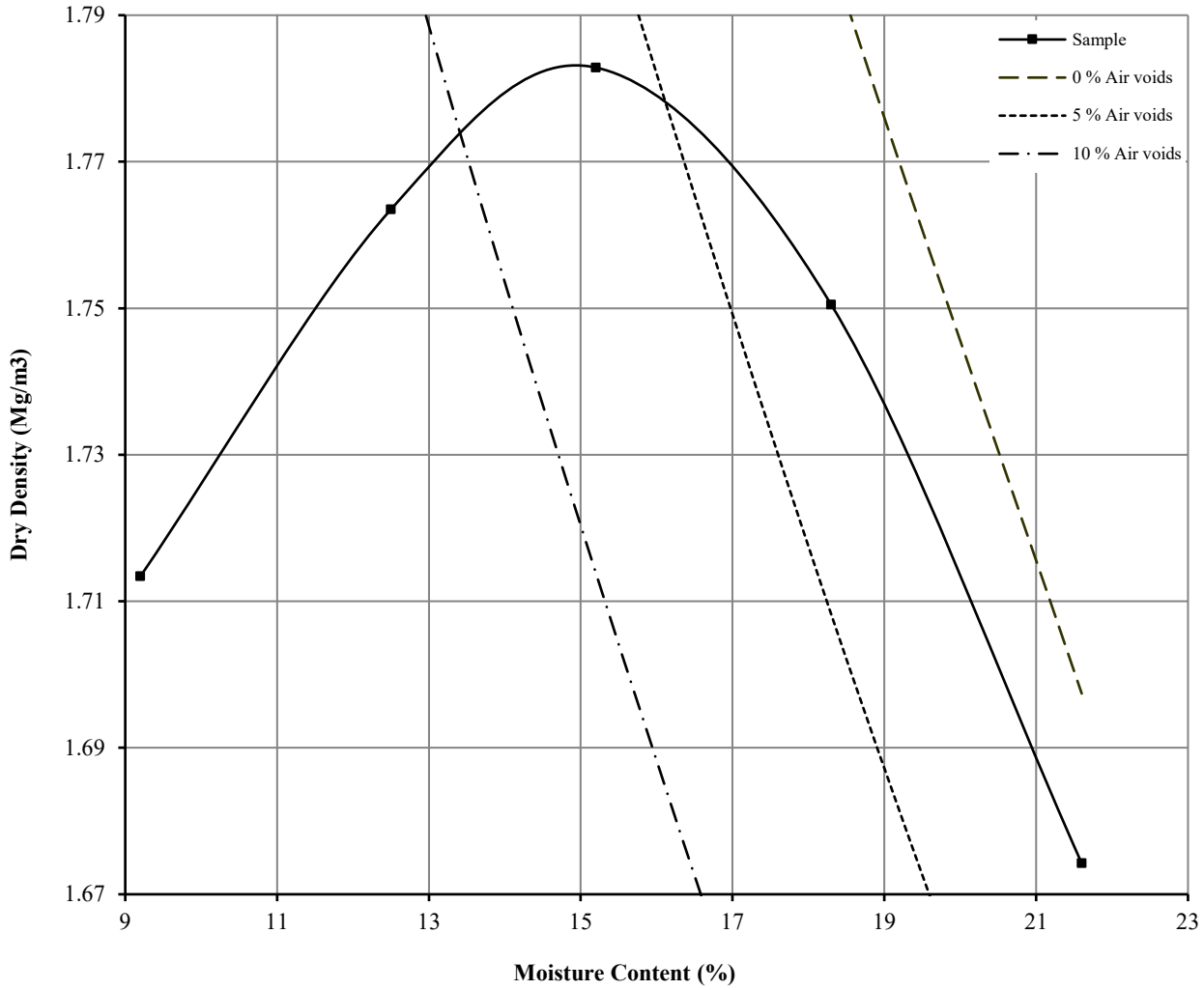


Initial Moisture Content:		21	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.74	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		18			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.5 : 1990

Hole Number:	**BH105**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		



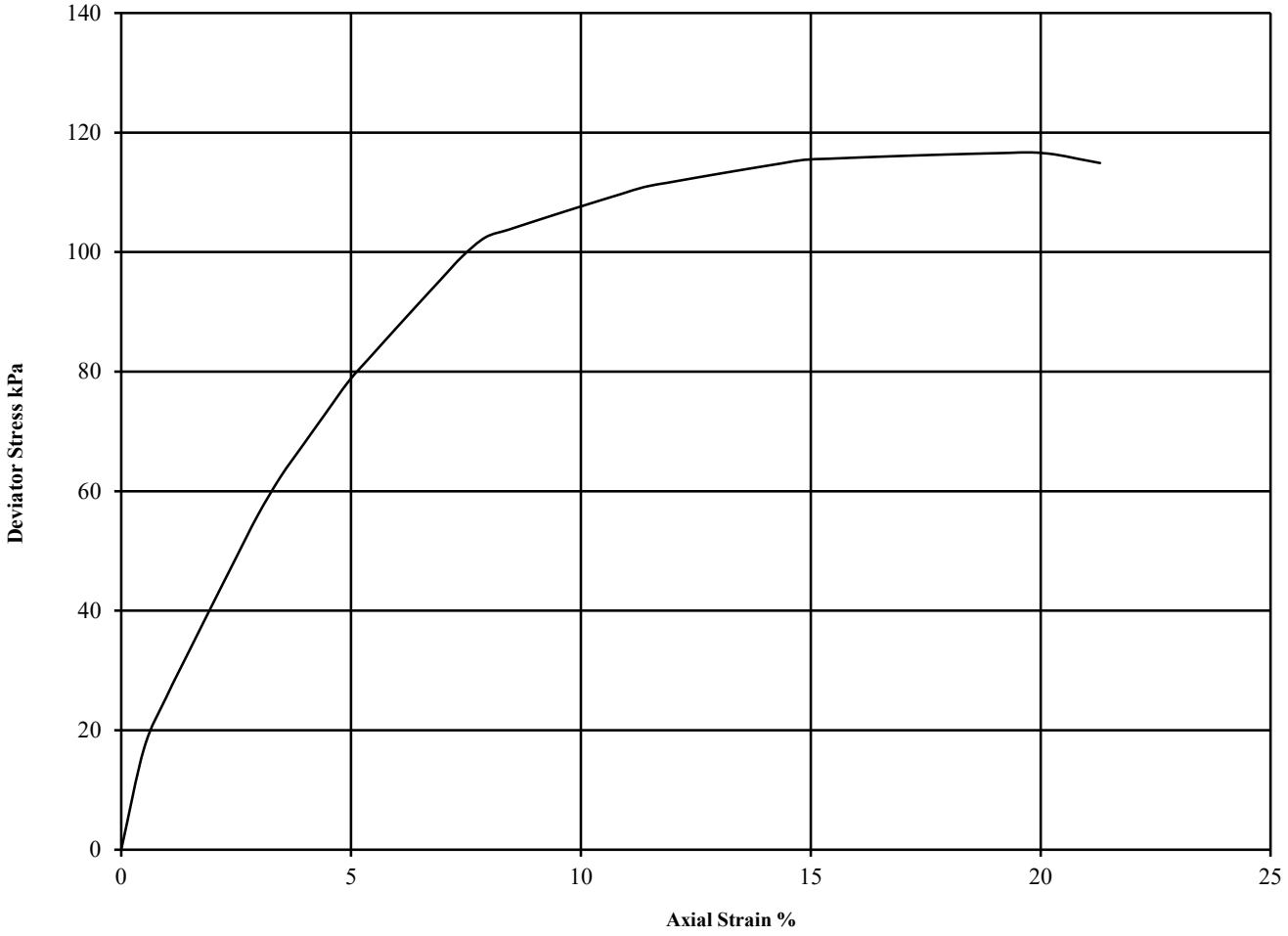
Initial Moisture Content:		21	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.78	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		15			
Remarks See summary of soil descriptions					

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH105**	**Top Depth (m):**	**1.00**
Sample Number:		**Base Depth (m):**	**1.45**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33
1	20	2.09	1.74	20	117	58	19.8	Plastic	See summary of soil descriptions

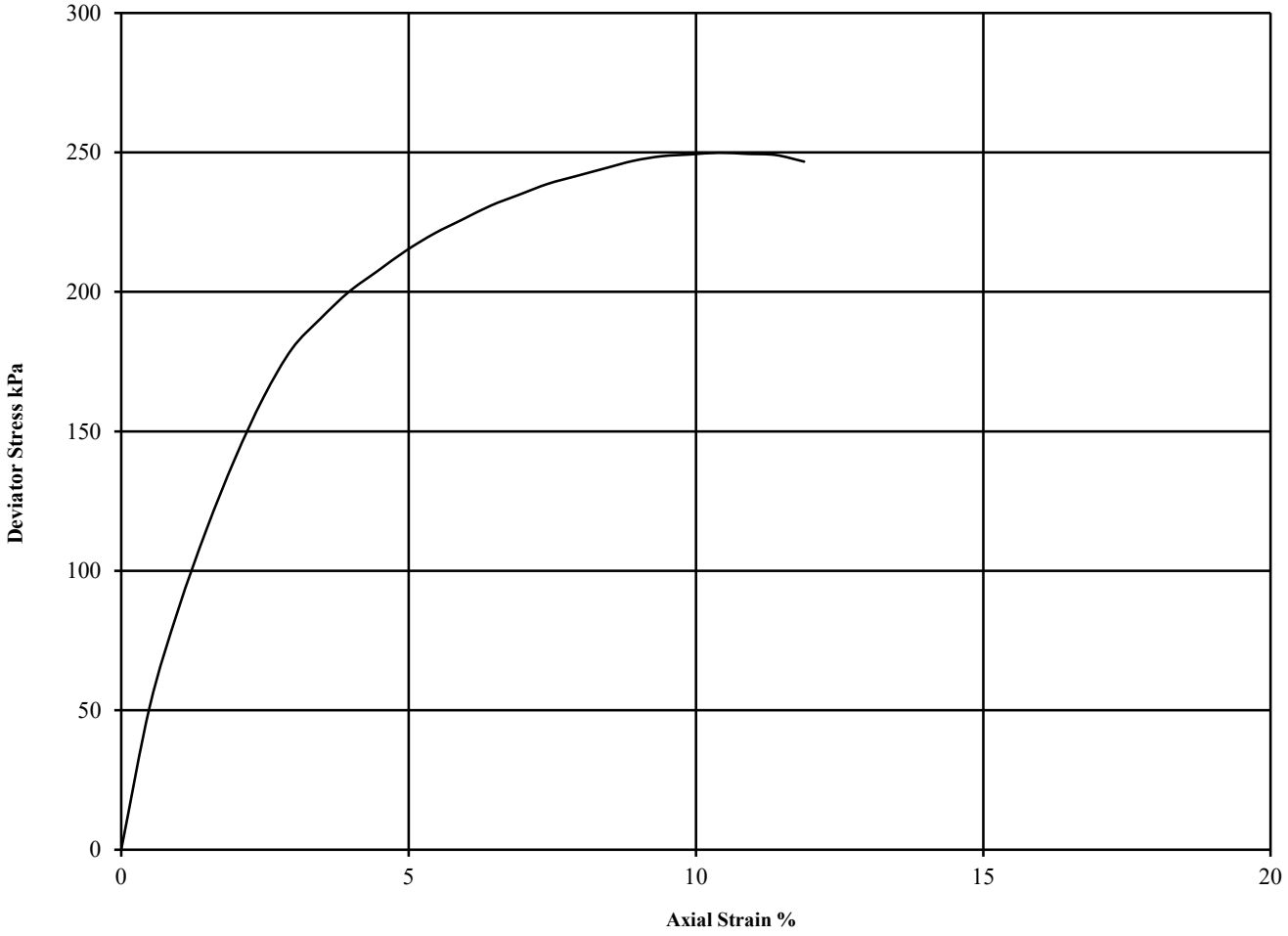
UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4393 **Client Ref:** LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH105**	**Top Depth (m):**	**3.00**
Sample Number:		**Base Depth (m):**	**3.45**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35
1	19	2.08	1.75	60	250	125	10.4	Brittle	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4393 **Client Ref:** LKC 22 1225

ONE DIMENSIONAL CONSOLIDATION TEST

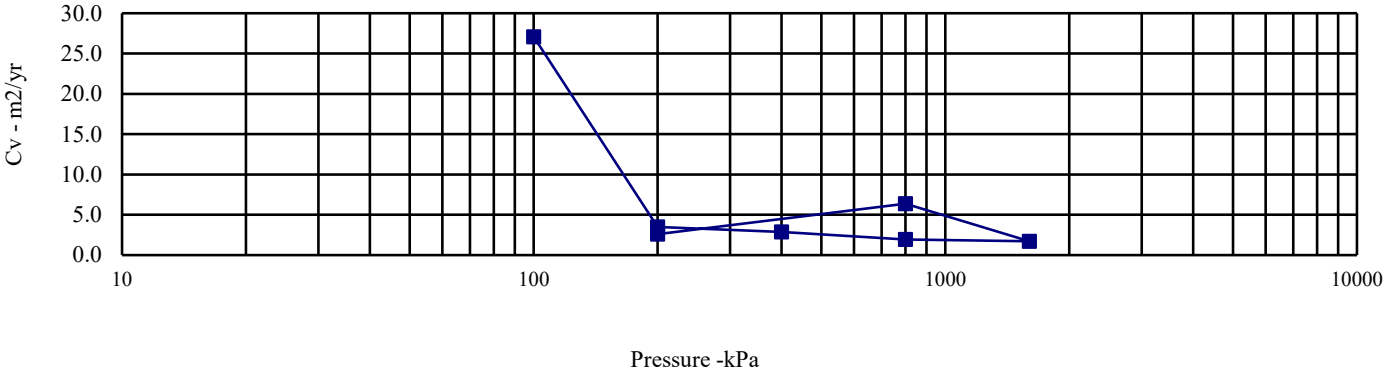
BS 1377: Part 5: 1990: Clause 3

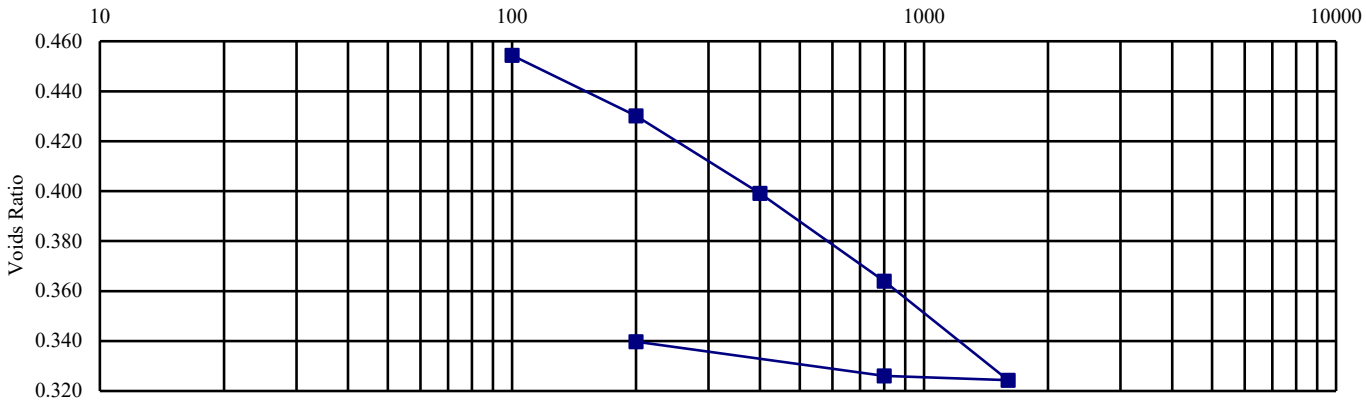
Hole Number: **BH105** **Top Depth (m):** **1.00**

Sample Number: **Base Depth (m) :** **1.45**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	20						
Bulk Density (Mg/m3):	2.07	0	100	0.505	27.083	Method used to	
Dry Density (Mg/m3):	1.73	100	200	0.167	3.512	determine CV:	T90
Voids Ratio:	0.532	200	400	0.108	2.868	Nominal temperature	
Degree of saturation:	98.0	400	800	0.063	1.919	during test ' C:	20
Height (mm):	20.06	800	1600	0.036	1.718	Remarks:	
Diameter (mm)	75.08	1600	800	0.002	6.383	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	800	200	0.017	2.609		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4393 **Client Ref:** LKC 22 1225

ONE DIMENSIONAL CONSOLIDATION TEST

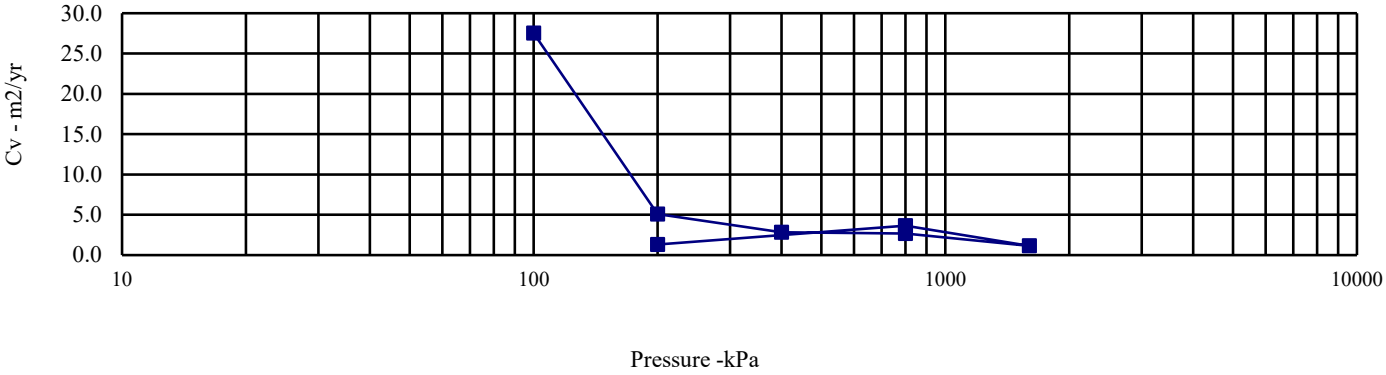
BS 1377: Part 5: 1990: Clause 3

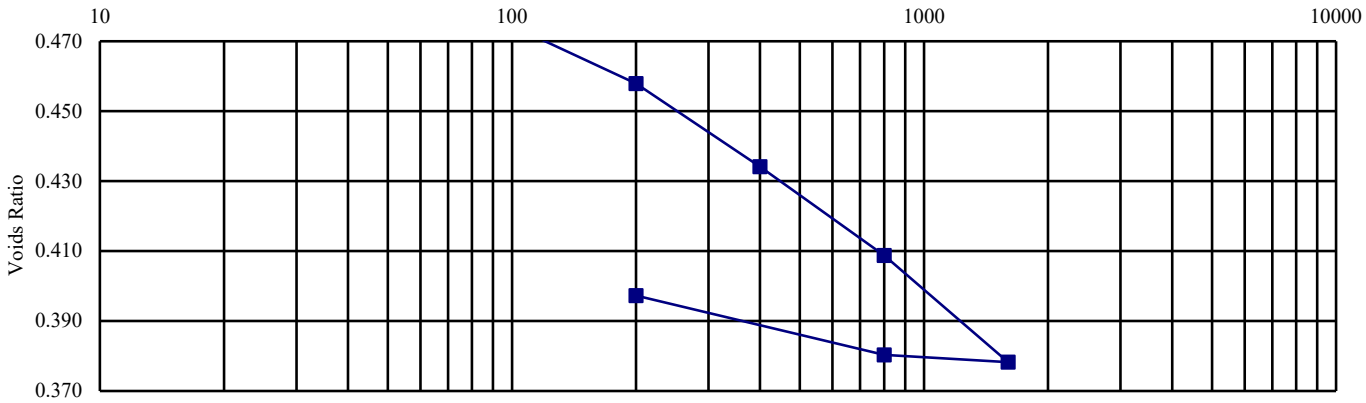
Hole Number: **BH105** **Top Depth (m):** **3.00**

Sample Number: **Base Depth (m) :** **3.45**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	19						
Bulk Density (Mg/m3):	2.11	0	100	0.154	27.519	Method used to	
Dry Density (Mg/m3):	1.77	100	200	0.112	5.083	determine CV:	T90
Voids Ratio:	0.498	200	400	0.081	2.830	Nominal temperature	
Degree of saturation:	102.1	400	800	0.044	2.676	during test ' C:	20
Height (mm):	20.04	800	1600	0.027	1.147	Remarks:	
Diameter (mm)	75.11	1600	800	0.002	3.636	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	800	200	0.020	1.304		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No: PSL22/4393** **Client Ref: LKC 22 1225**

UKAS TESTING
2531

CHEMTECH environmental part of Cawood

ANALYTICAL TEST REPORT

Contract no: 111173

Contract name: B401 Manchester Airport

Client reference: PSL22/4393

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing
NAD	No Asbestos Detected

Approved by: M. Harris

Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			111173-1	111173-2	111173-3
Sample id			BH105	BH105	BH105
Depth (m)			2.00-2.45	4.00-4.45	6.00-6.45
Sample Type			B	B	B
Date sampled			-	-	-
Test	**Method**	**Units**			
pH	CE004 [U]	units	8.3	8.6	8.2
Magnesium (2:1 water soluble)	CE061	mg/l Mg	84	29	62
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	97	35	18
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	<1	<1	<1
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	2020	427	1909
Sulphate (total)	CE062 [U]	mg/kg SO_4	6884	1184	15799
Sulphur (total)	CE119	mg/kg S	2307	83	5762
Sulphur (total)	CE119	% w/w S	0.23	<0.01	0.58

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111173-1	BH105	2.00-2.45	Y	All (NSD)
111173-2	BH105	4.00-4.45	Y	All (NSD)
111173-3	BH105	6.00-6.45	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

LABORATORY REPORT

4043

Contract Number: PSL22/4389

Report Date: 20 July 2022

Client's Reference: LKC 22 1225

Client Name: LK Group
Eton Business Park
Eton Hill Road
Manchester
M26 2ZS

For the attention of: Rachel Peart

Contract Title: B401 Manchester Airport

Date Received: 29/6/2022
Date Commenced: 29/6/2022
Date Completed: 20/07/2022

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

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. 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 other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Director)

R Berriman (Quality Manager)

S Royle (Laboratory Manager)

L Knight (Assistant Laboratory Manager)

S Eyre (Senior Technician)

M Fennell (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH106		UT	1.20	1.65	Stiff brown slightly gravelly sandy CLAY.
BH106		B	2.00	2.45	Brown slightly gravelly sandy CLAY.
BH106		UT	3.00	3.45	Stiff brown slightly gravelly very sandy CLAY.
BH106		B	5.00	5.45	Brown gravelly very sandy CLAY.
BH106		S	6.00	6.45	Brown slightly gravelly very sandy CLAY.
BH106		S	7.00	7.45	Brown slightly gravelly sandy silty CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH106		UT	1.20	1.65	21							
BH106		B	2.00	2.45	25			38	17	21	98	Intermediate Plasticity CI
BH106		UT	3.00	3.45	18							
BH106		B	5.00	5.45	17			27	14	13	86	Low Plasticity CL
BH106		S	6.00	6.45	16			33	16	17	99	Low Plasticity CL
BH106		S	7.00	7.45	20			42	21	21	94	Intermediate Plasticity CI
BH106		RC	8.50	10.00	12							
BH106		RC	10.00	11.50	13							
BH106		RC	11.50	13.00	7.9							
BH106		RC	13.00	14.50	7.8							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

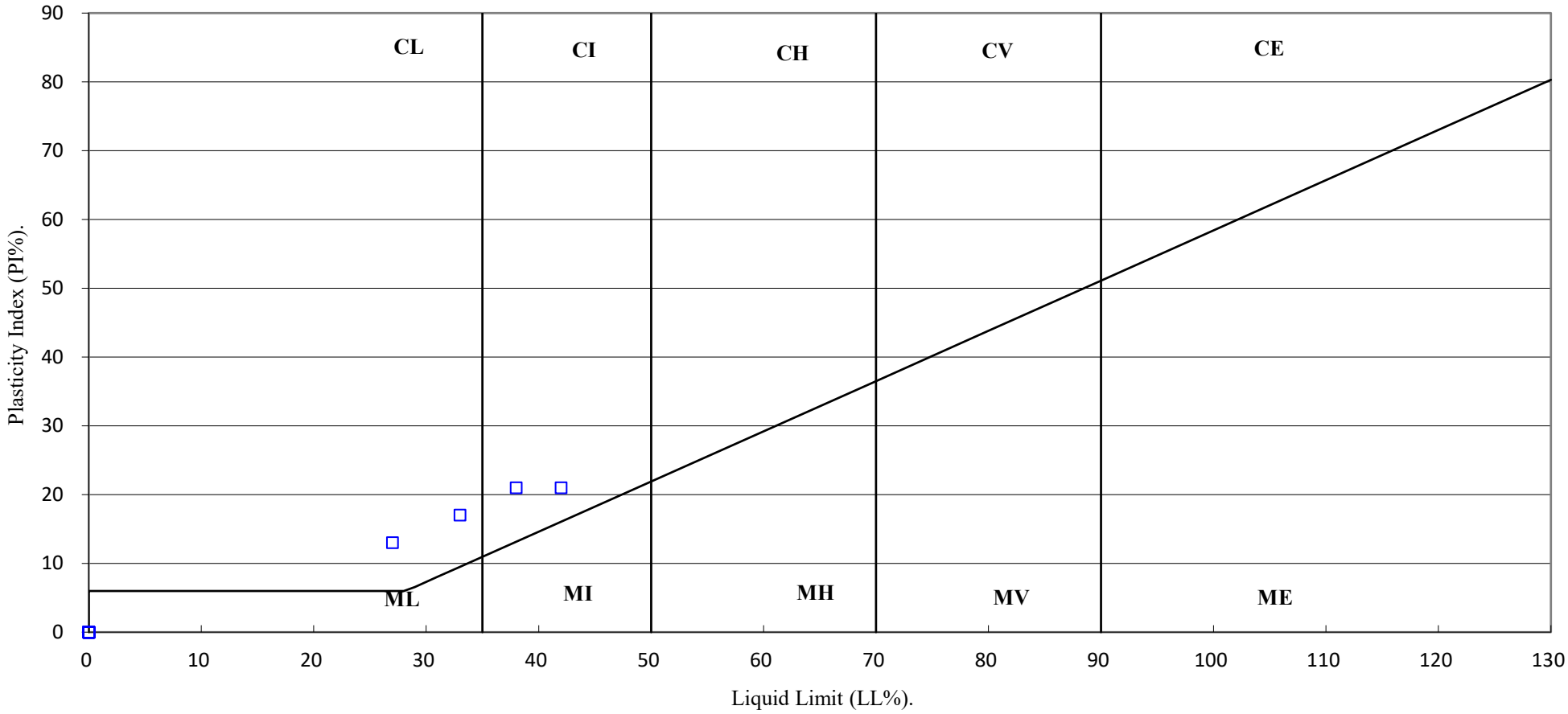
Contract No:

PSL22/4389

Client Ref:

LKC 22 1225

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	B401 Manchester Airport	Contract No: PSL22/4389 Client Ref: LKC 22 1225

SUMMARY OF SOIL DENSITY RELATED TESTS

(BS1377 : PART 2 & 4 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content %	Bulk Density Mg/m^3	Dry Density Mg/m^3	Retained 20mm %	Retained 37.5mm %	Method of compaction kg	Maximum Dry Density Mg/m^3	Minimum Dry Density Mg/m^3	Remarks
BH106		UT	1.20	1.65	21.0	2.05	1.69						
BH106		UT	3.00	3.45	18	2.18	1.85						

UKAS TESTING
4043

PSL
Professional Soils Laboratory

B401 Manchester Airport

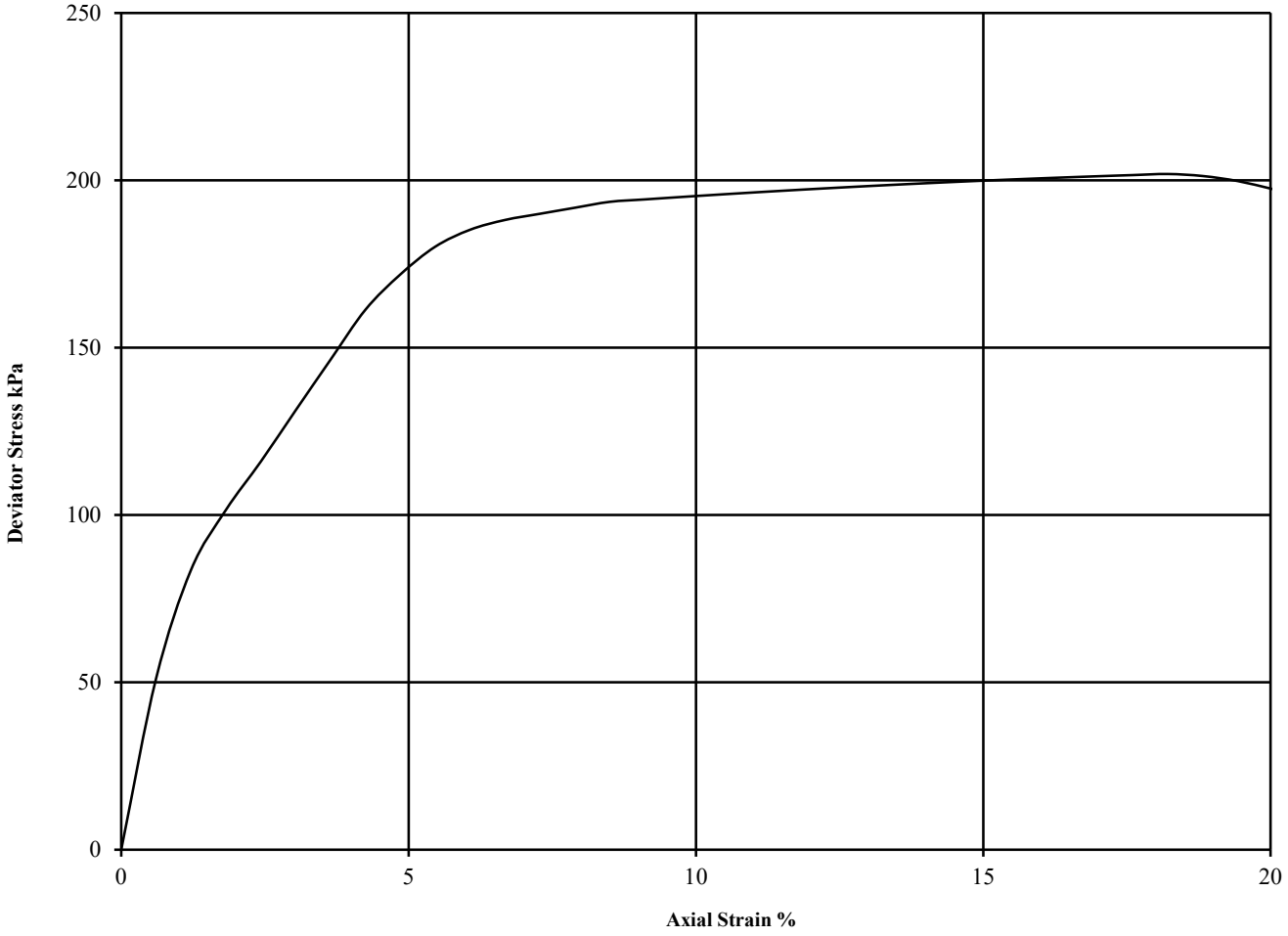
Contract No:
PSL22/4389
Client Ref:
LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH106**	**Top Depth (m):**	**1.20**
Sample Number:		**Base Depth (m):**	**1.65**
Sample Type	**UT**		



Diameter (mm):		102	Height (mm):		168	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	21	2.05	1.70	24	202	101	18.2	Intermediate	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

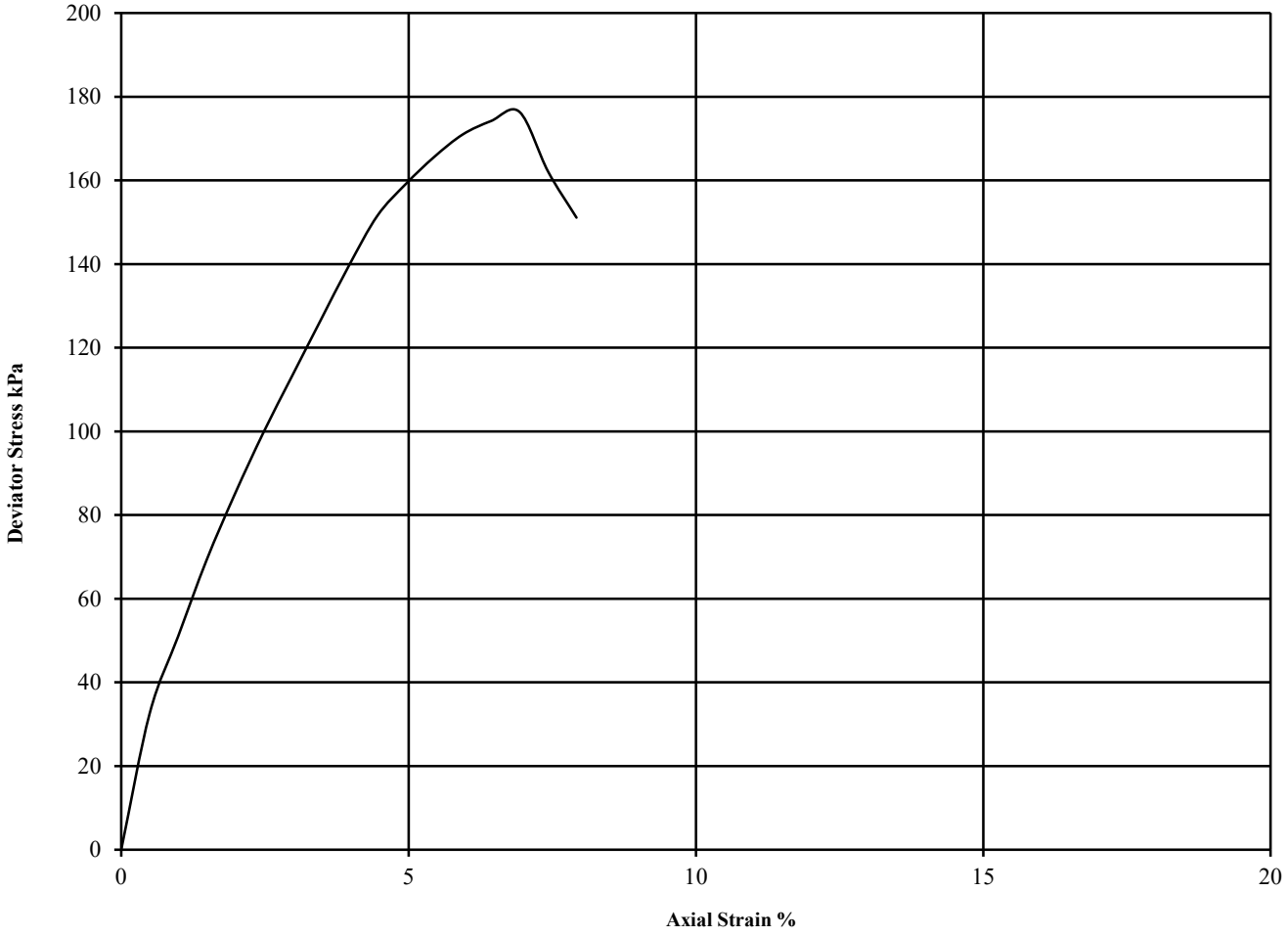
Contract No:
PSL22/4389
Client Ref:
LKC 22 1225

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH106**	**Top Depth (m):**	**3.00**
Sample Number:		**Base Depth (m):**	**3.45**
Sample Type	**UT**		



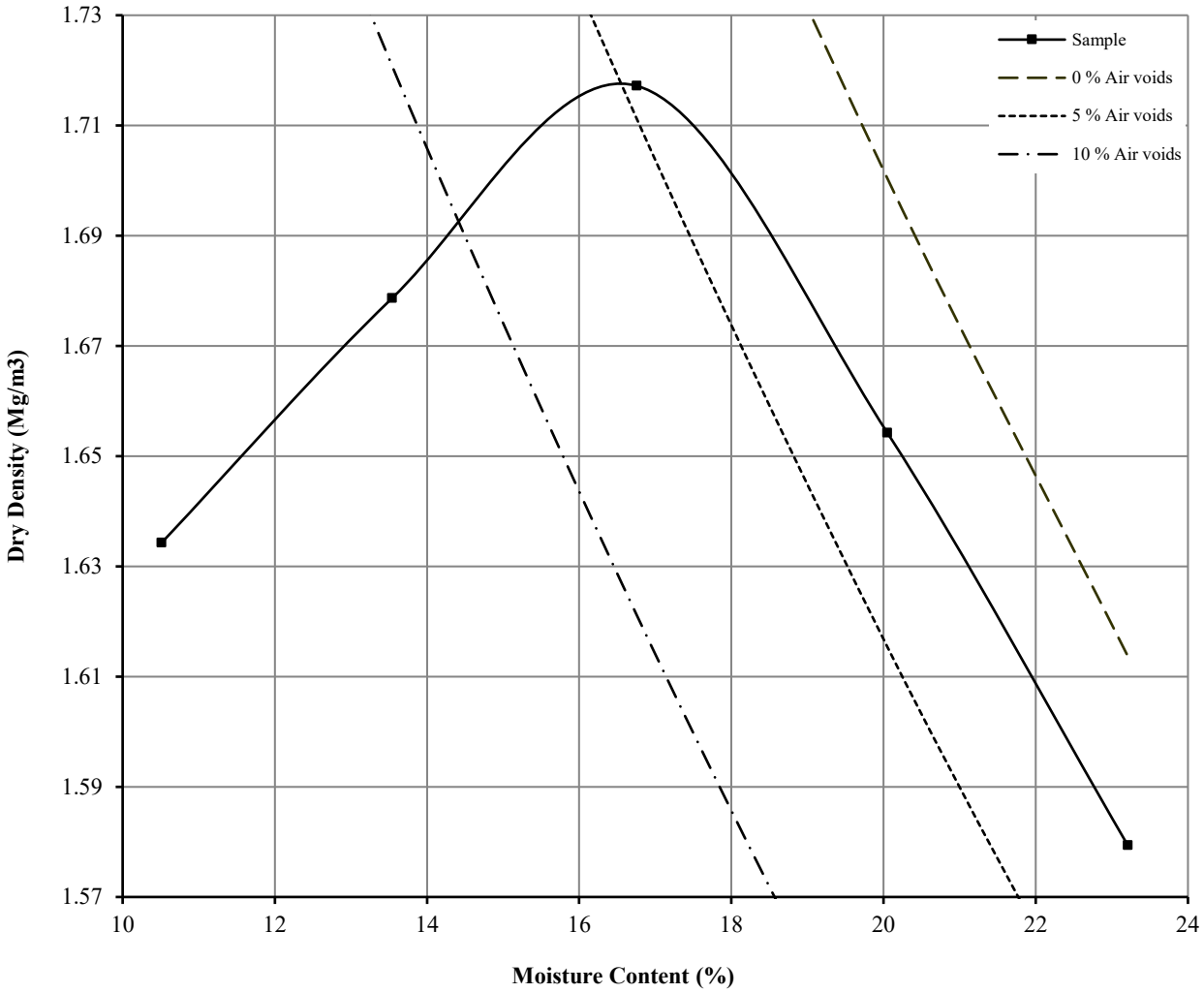
Diameter (mm):		102	Height (mm):		206	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.36
1	18	2.18	1.85	60	176	88	6.9	Brittle	See summary of soil descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4389 **Client Ref:** LKC 22 1225

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.3 : 1990

Hole Number:	**BH106**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
Sample Type:	**B**		

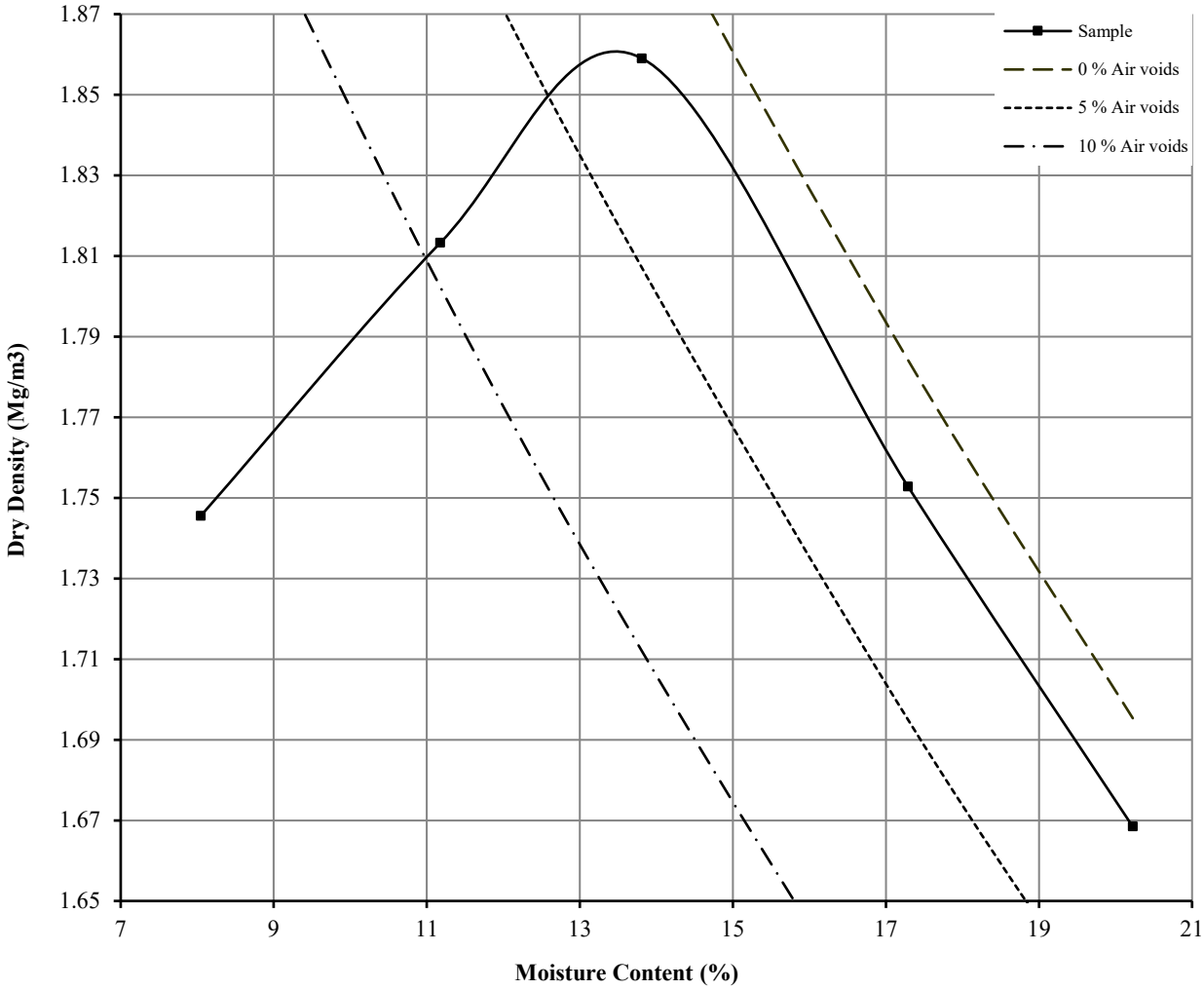


Initial Moisture Content:		23	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.58	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.72	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		17			
Remarks See summary of soil descriptions					

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.5 : 1990

Hole Number:	**BH106**	**Top Depth (m) :**	**2.00**
Sample Number:		**Base Depth (m) :**	**2.45**
`	**B**		



Initial Moisture Content:		23	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.58	Assumed	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.86	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Moisture Content (%):		14			
Remarks See summary of soil descriptions					

ONE DIMENSIONAL CONSOLIDATION TEST

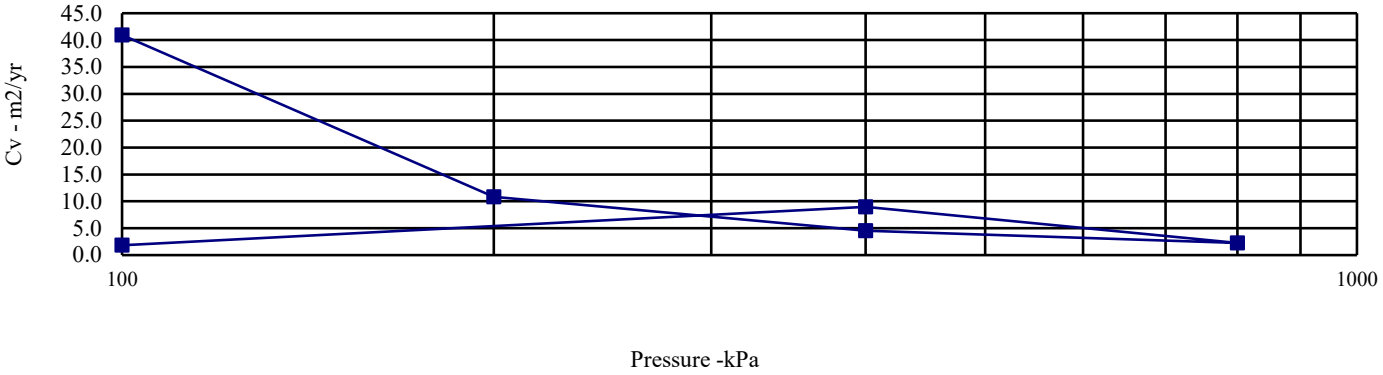
BS 1377: Part 5: 1990: Clause 3

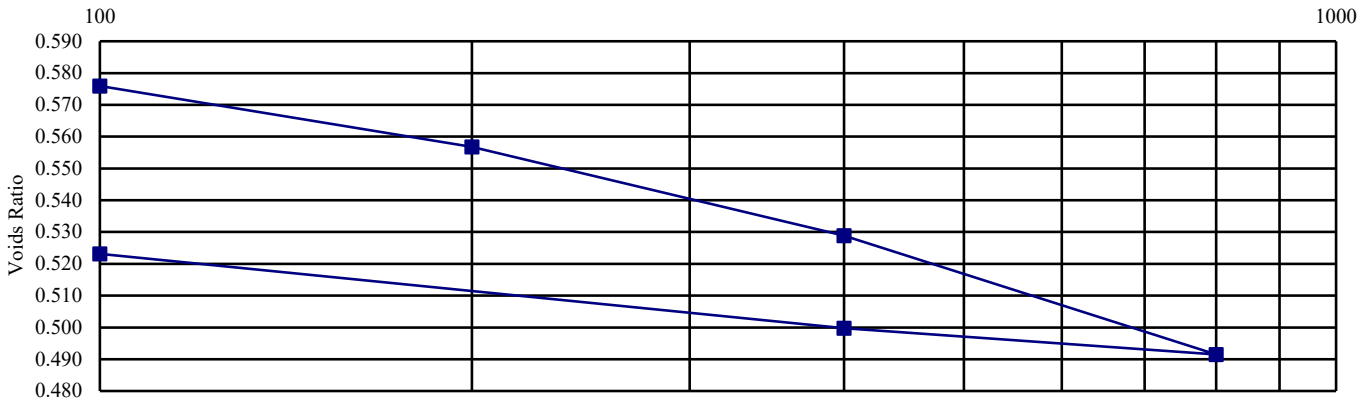
Hole Number: **BH106** **Top Depth (m):** **1.20**

Sample Number: **Base Depth (m) :** **1.65**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	21						
Bulk Density (Mg/m3):	2.01	0	100	0.158	40.947	Method used to	
Dry Density (Mg/m3):	1.66	100	200	0.121	10.816	determine CV:	T90
Voids Ratio:	0.601	200	400	0.090	4.566	Nominal temperature	
Degree of saturation:	93.9	400	800	0.061	2.276	during test ' C:	20
Height (mm):	20.1	800	400	0.014	9.003	Remarks:	
Diameter (mm)	75.06	400	100	0.052	1.829	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No:
PSL22/4389
Client Ref:
LKC 22 1225

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH106	8.50		I	Perp	85	21	1785	2272.73	47.67	-	1.88	0.83	0.979	0.81	Valid	
BH106	8.50		I	Perp	85	20	1700	2164.51	46.52	-	1.47	0.68	0.968	0.66	Valid	
BH106	8.50		I	Perp	22	20	440	560.23	23.67	-	1.20	2.14	0.714	1.53	Valid	
BH106	10.00		I	Perp	80	30	2400	3055.77	55.28	-	0.29	0.09	1.046	0.10	Valid	
BH106	10.00		I	Perp	45	31	1395	1776.17	42.14	-	0.07	0.04	0.926	0.04	Valid	
BH106	10.00		I	Perp	24	20	480	611.15	24.72	-	0.12	0.20	0.728	0.14	Valid	
BH106	11.50		I	Perp	80	53	4240	5398.54	73.47	-	0.98	0.18	1.189	0.22	Valid	
BH106	11.50		I	Perp	40	50	2000	2546.48	50.46	-	0.81	0.32	1.004	0.32	Valid	
BH106	11.50		I	Perp	41	32	1312	1670.49	40.87	-	0.37	0.22	0.913	0.20	Valid	
BH106	13.00		I	Perp	80	47	3760	4787.38	69.19	-	1.03	0.22	1.157	0.25	Valid	
BH106	13.00		I	Perp	80	32	2560	3259.49	57.09	-	1.01	0.31	1.062	0.33	Valid	
BH106	13.00		I	Perp	40	22	880	1120.45	33.47	-	0.98	0.87	0.835	0.73	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL Professional Soils Laboratory

B401 Manchester Airport

Contract No:

PSL22/4389

Client Ref:

LKC 22 1225

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043	PSL Professional Soils Laboratory	**B401 Manchester Airport**	**Contract No:** PSL22/4389 Client Ref: LKC 22 1225

UKAS TESTING
2531

CHEMTECH environmental part of Cawood

ANALYTICAL TEST REPORT

Contract no: 111175

Contract name: B401 Manchester Airport

Client reference: PSL22/4389

Clients name: Professional Soils Laboratory

Clients address: 5/7 Hexthorpe Road
Doncaster
DN4 0AR

Samples received: 06 July 2022

Analysis started: 06 July 2022

Analysis completed: 13 July 2022

Report issued: 13 July 2022

Key

U	UKAS accredited test
M	MCERTS & UKAS accredited test
$	Test carried out by an approved subcontractor
I/S	Insufficient sample to carry out test
N/S	Sample not suitable for testing

Approved by: M. Harris

Megan Harris

Senior Reporting Administrator

Chemtech Environmental Limited

SOILS

Lab number			111175-1	111175-2	111175-3	111175-4
Sample id			BH106	BH106	BH106	BH106
Depth (m)			0.50	6.00-6.45	8.50-10.00	13.00-14.50
Sample Type			B	B	RC	RC
Date sampled			-	-	-	-
Test	**Method**	**Units**				
pH	CE004 [U]	units	8.3	8.0	8.0	8.1
Magnesium (2:1 water soluble)	CE061	mg/l Mg	25	79	89	63
Chloride (2:1 water soluble)	CE049 [U]	mg/l Cl	71	24	11	12
Nitrate (2:1 water soluble)	CE049 [U]	mg/l NO_3	<1	<1	<1	<1
Sulphate (2:1 water soluble)	CE061 [U]	mg/l SO_4	520	1893	1930	1963
Sulphate (total)	CE062 [U]	mg/kg SO_4	1262	126995	234739	250844
Sulphur (total)	CE119	mg/kg S	1064	46292	68680	52407
Sulphur (total)	CE119	% w/w S	0.11	4.63	6.87	5.24

Chemtech Environmental Limited

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	pH	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l Cl
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/l NO_3
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO_4
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO_4
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

Chemtech Environmental Limited

DEVIATING SAMPLE INFORMATION

Comments
Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.
For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.
Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

N	No (not deviating sample)
Y	Yes (deviating sample)
NSD	Sampling date not provided
NST	Sampling time not provided (waters only)
EHT	Sample exceeded holding time(s)
IC	Sample not received in appropriate containers
HP	Headspace present in sample container
NCF	Sample not chemically fixed (where appropriate)
OR	Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
111175-1	BH106	0.50	Y	All (NSD)
111175-2	BH106	6.00-6.45	Y	All (NSD)
111175-3	BH106	8.50-10.00	Y	All (NSD)
111175-4	BH106	13.00-14.50	Y	All (NSD)

Chemtech Environmental Limited

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope.

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 4 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

Appendix F

Falling Head Tests

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH101**

In Situ Permeability Type	**Test No.**	**Ground Level (mOD)**	**Client**	**Job Number**
Falling Head	1	67.35	Threadneedle Curtis Ltd	LKC 22 1225
	Location	**Dates**	**Project Contractor**	**Sheet**
	380923.3 E 384901.5 N	25/05/2022- 31/05/2022	LK Consult	1/6

Height of casing above ground level:	0.00	**m**
Depth to Base of Borehole:	3.03	**m bgl**
Depth to Base of Casing:	2.00	**m bgl**
Depth to equilibrium water level:	3.03	**m btoc**
Test Length L:	1.03	**m**
Diameter of Test Length D:	0.15	**m**
Area of Test Section:	0.0177	**m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.4653	

PERMEABILITY (after Hvorslev, 1951)

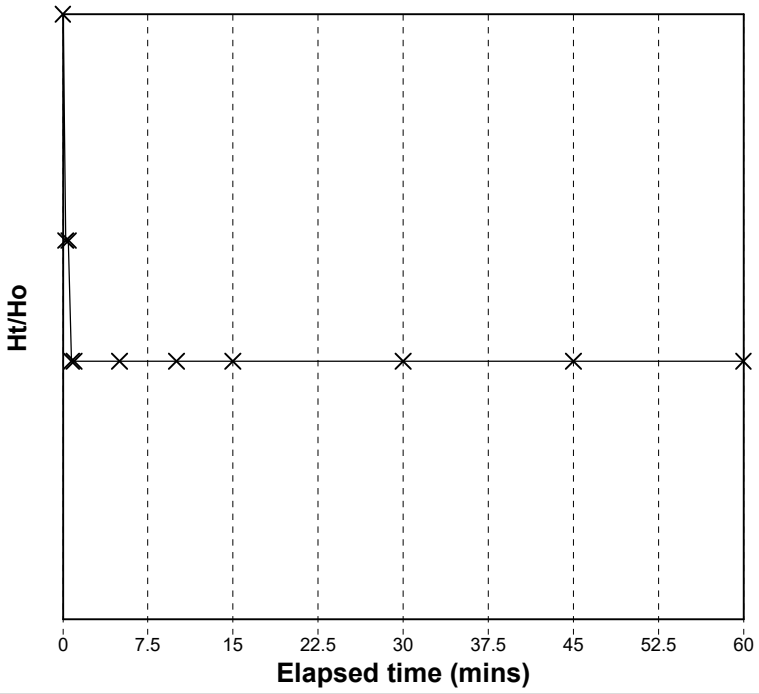
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	1.990	1.040	1.000
0.25	2.010	1.020	0.981
0.50	2.010	1.020	0.981
0.75	2.020	1.010	0.971
1.00	2.020	1.010	0.971
5.00	2.020	1.010	0.971
10.00	2.020	1.010	0.971
15.00	2.020	1.010	0.971
30.00	2.020	1.010	0.971
45.00	2.020	1.010	0.971
60.00	2.020	1.010	0.971



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH102**

In Situ Permeability Type	**Test No.**	**Ground Level (mOD)**	**Client**	**Job Number**
Falling Head	1	68.04	Threadneedle Curtis Ltd	LKC 22 1225
	Location	**Dates**	**Project Contractor**	**Sheet**
	380995.8 E 384847 N	27/05/2022- 07/06/2022	LK Consult	2/6

Height of casing above ground level:	0.00	**m**
Depth to Base of Borehole:	4.09	**m bgl**
Depth to Base of Casing:	3.00	**m bgl**
Depth to equilibrium water level:	4.09	**m btoc**
Test Length L:	1.09	**m**
Diameter of Test Length D:	0.15	**m**
Area of Test Section:	0.0177	**m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.5544	

PERMEABILITY (after Hvorslev, 1951)

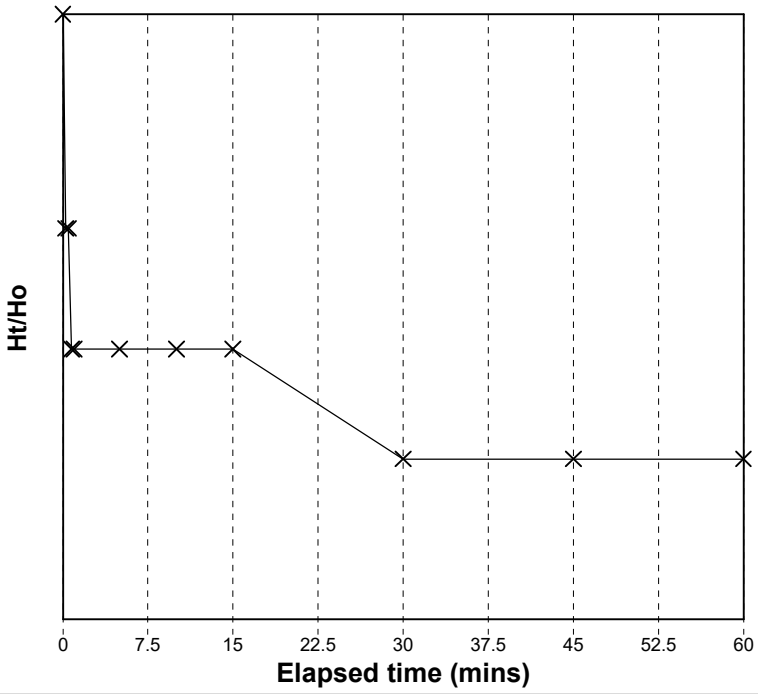
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	3.000	1.090	1.000
0.25	3.020	1.070	0.982
0.50	3.020	1.070	0.982
0.75	3.030	1.060	0.972
1.00	3.030	1.060	0.972
5.00	3.030	1.060	0.972
10.00	3.030	1.060	0.972
15.00	3.030	1.060	0.972
30.00	3.040	1.050	0.963
45.00	3.040	1.050	0.963
60.00	3.040	1.050	0.963



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	LK CONSULT LTD Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	Site B401 Manchester Airport	Borehole Number BH103

In Situ Permeability Type	Test No.	Ground Level (mOD)	Client	Job Number
Falling Head	1	68.21	Threadneedle Curtis Ltd	LKC 22 1225
	Location 380974 E 384847 N	**Dates** 30/05/2022	**Project Contractor** LK Consult	**Sheet** 3/6

Height of casing above ground level:	0.00 **m**
Depth to Base of Borehole:	2.05 **m bgl**
Depth to Base of Casing:	1.00 **m bgl**
Depth to equilibrium water level:	2.05 **m btoc**
Test Length L:	1.05 **m**
Diameter of Test Length D:	0.15 **m**
Area of Test Section:	0.0177 **m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.4951

PERMEABILITY (after Hvorslev, 1951)

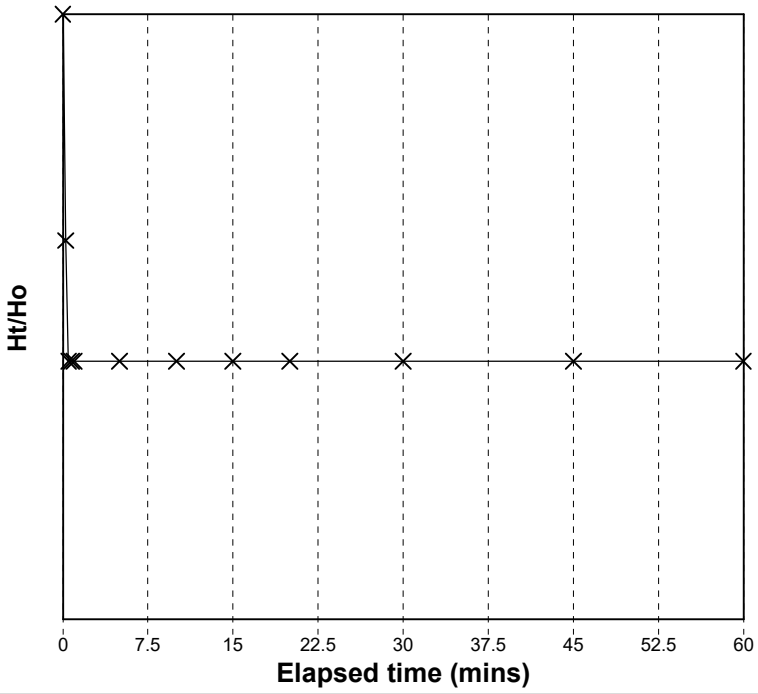
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	1.000	1.050	1.000
0.25	1.020	1.030	0.981
0.50	1.030	1.020	0.971
0.75	1.030	1.020	0.971
1.00	1.030	1.020	0.971
5.00	1.030	1.020	0.971
10.00	1.030	1.020	0.971
15.00	1.030	1.020	0.971
20.00	1.030	1.020	0.971
30.00	1.030	1.020	0.971
45.00	1.030	1.020	0.971
60.00	1.030	1.020	0.971



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH104**

In Situ Permeability Type	**Test No.**	**Ground Level (mOD)**	**Client**	**Job Number**
Falling Head	1	67.58	Threadneedle Curtis Ltd	LKC 22 1225
	Location	**Dates**	**Project Contractor**	**Sheet**
	380899 E 384759 N	25/05/2022- 01/06/2022	LK Consult	4/6

Height of casing above ground level:	0.00 **m**
Depth to Base of Borehole:	2.05 **m bgl**
Depth to Base of Casing:	1.05 **m bgl**
Depth to equilibrium water level:	2.05 **m btoc**
Test Length L:	1.00 **m**
Diameter of Test Length D:	0.15 **m**
Area of Test Section:	0.0177 **m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.4205

PERMEABILITY (after Hvorslev, 1951)

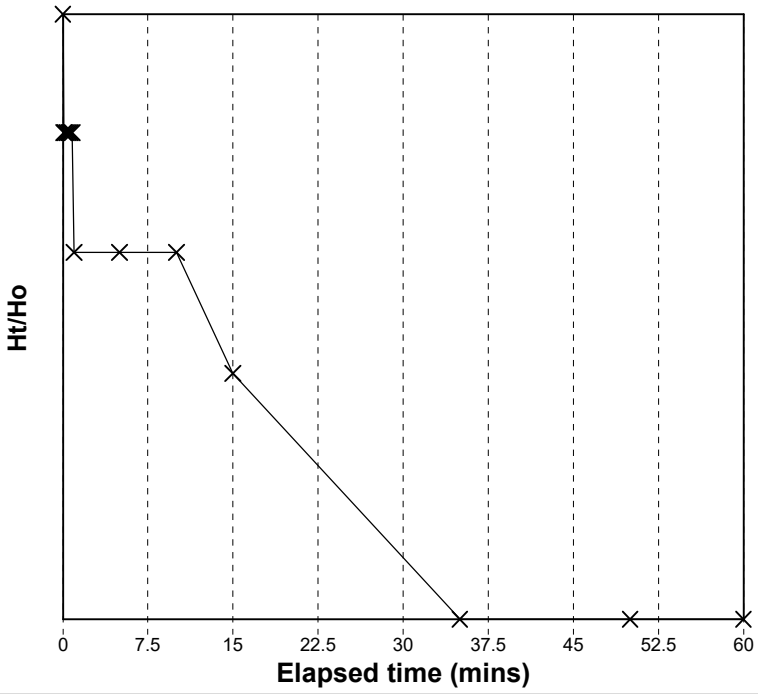
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	1.050	1.000	1.000
0.08	1.060	0.990	0.990
0.16	1.060	0.990	0.990
0.33	1.060	0.990	0.990
0.50	1.060	0.990	0.990
0.66	1.060	0.990	0.990
0.83	1.060	0.990	0.990
1.00	1.070	0.980	0.980
5.00	1.070	0.980	0.980
10.00	1.070	0.980	0.980
15.00	1.080	0.970	0.970
35.00	1.100	0.950	0.950
50.00	1.100	0.950	0.950
60.00	1.100	0.950	0.950



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH105**

In Situ Permeability Type	**Test No.**	**Ground Level (mOD)**	**Client**	**Job Number**
Falling Head	1	67.23	Threadneedle Curtis Ltd	LKC 22 1225
	Location	**Dates**	**Project Contractor**	**Sheet**
	380892.6 E 384807.7 N	25/05/2022-01/06/2022	LK Consult	5/6

Height of casing above ground level:	0.00	**m**
Depth to Base of Borehole:	3.29	**m bgl**
Depth to Base of Casing:	2.25	**m bgl**
Depth to equilibrium water level:	3.29	**m btoc**
Test Length L:	1.04	**m**
Diameter of Test Length D:	0.15	**m**
Area of Test Section:	0.0177	**m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.4802	

PERMEABILITY (after Hvorslev, 1951)

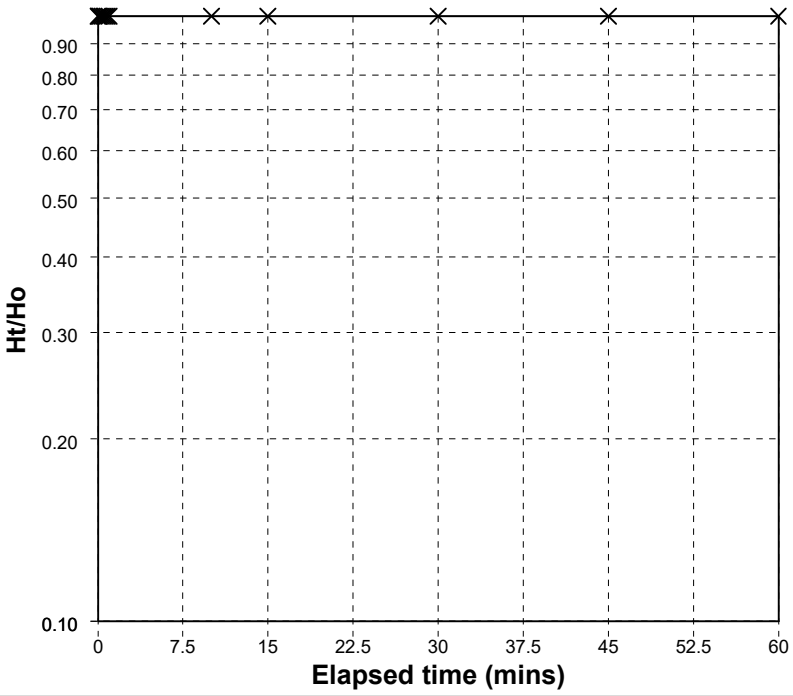
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	2.240	1.050	1.000
0.08	2.240	1.050	1.000
0.16	2.240	1.050	1.000
0.33	2.240	1.050	1.000
0.50	2.240	1.050	1.000
0.66	2.240	1.050	1.000
0.83	2.240	1.050	1.000
1.00	2.240	1.050	1.000
10.00	2.240	1.050	1.000
15.00	2.240	1.050	1.000
30.00	2.240	1.050	1.000
45.00	2.240	1.050	1.000
60.00	2.240	1.050	1.000



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

LK GROUP	**LK CONSULT LTD** Eton Business Park, Eton Hill Road, Radcliffe, M26 2ZS Tel: 0161 763 7200 web: www.thelkgroup.com	**Site** B401 Manchester Airport	**Borehole Number** **BH106**

In Situ Permeability Type	**Test No.**	**Ground Level (mOD)**	**Client**	**Job Number**
Falling Head	1	66.93	Threadneedle Curtis Ltd	LKC 22 1225
	Location	**Dates**	**Project Contractor**	**Sheet**
	380856 E 384813 N	24/05/2022	LK Consult	6/6

Height of casing above ground level:	0.00	**m**
Depth to Base of Borehole:	3.85	**m bgl**
Depth to Base of Casing:	2.60	**m bgl**
Depth to equilibrium water level:	3.85	**m btoc**
Test Length L:	1.25	**m**
Diameter of Test Length D:	0.15	**m**
Area of Test Section:	0.0177	**m2**
Intake Factor F: (after condition D,figure 6,BS5930:1990+A2:2010)	2.7881	

PERMEABILITY (after Hvorslev, 1951)

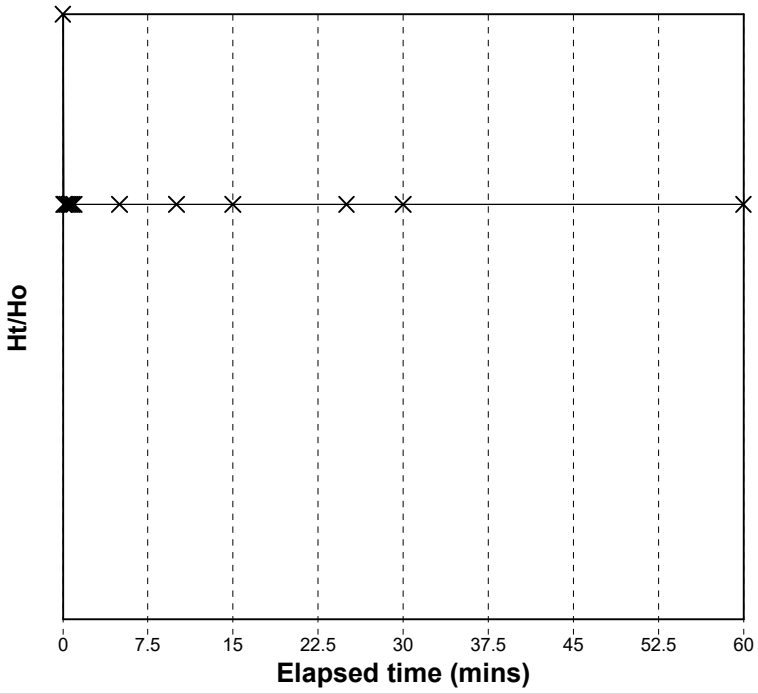
Basic Time Lag Analysis

The value T when Ht/Ho = 0.37 is the basic time lag, T

T =

k = **ms-1**

Elapsed time (mins)	Depth to water (m btoc)	Head of Water, H (m)	Ht / Ho
0.00	2.600	1.250	1.000
0.08	2.620	1.230	0.984
0.16	2.620	1.230	0.984
0.33	2.620	1.230	0.984
0.50	2.620	1.230	0.984
0.66	2.620	1.230	0.984
0.83	2.620	1.230	0.984
1.00	2.620	1.230	0.984
5.00	2.620	1.230	0.984
10.00	2.620	1.230	0.984
15.00	2.620	1.230	0.984
25.00	2.620	1.230	0.984
30.00	2.620	1.230	0.984
60.00	2.620	1.230	0.984



Remarks

Key: bgl = Below Ground Level btoc = Below Top of Casing

Produced by the GEOtechnical DAtabase SYstem (GEODASY) © all rights reserved

Appendix G

Rock Core Photographs

BH101


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 1 & 7
DEPTH FROM 4.50 m TO 7.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 2 & 7
DEPTH FROM 7.00 m TO 10.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 3 of 7
DEPTH FROM 10.00 m TO 13.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 4 of 7
DEPTH FROM 13.00 m TO 16.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 5 of 7
DEPTH FROM 16.00 m TO 19.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6-6-2022
HOLE NO. BH101
SAMPLE NO. Box 6 of 7
DEPTH FROM 19.00 m TO 22.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE
PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 6 - 6 - 2022
HOLE NO. BH101
SAMPLE NO. Box 7 & 7
DEPTH FROM 22.00 m TO 25.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m

BH102


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 1 of 6
DEPTH FROM 4.50 m TO 6.50 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m
Top
Bottom


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 2 of 6
DEPTH FROM 6.50 m TO 9.50 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m
6.50
8.00
9.50


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 3 of 6
DEPTH FROM 9.50 m TO 12.50 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 4 of 6
DEPTH FROM 12.50 m TO 15.50 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 5 of 6
DEPTH FROM 15.50 m TO 18.50 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH102
SAMPLE NO. Box 6 of 6
DEPTH FROM 18.50 m TO 21.30 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m

BH104


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 30-5-2022
HOLE NO. BH 104
SAMPLE NO. Box 1 of 2
DEPTH FROM 10.00 m TO 13.00 m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 30-5-2022
HOLE NO. BH 104
SAMPLE NO. Box 2 of 2
DEPTH FROM 13.00 m TO 15.00 m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH104
SAMPLE NO. Box 3&6
DEPTH FROM 15.00 m TO 17.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH104
SAMPLE NO. Box 4&6
DEPTH FROM 17.00 m TO 20.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH104
SAMPLE NO. Box 5 of 6
DEPTH FROM 20.00 m TO 23.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 8-6-22
HOLE NO. BH104
SAMPLE NO. Box 6 of 6
DEPTH FROM 23.00 m TO 25.00 m
Grey Scale
Colour Control Patches
0.0m 0.1m 0.2m 0.3m 0.4m 0.5m 0.6m 0.7m 0.8m 0.9m 1.0m

BH106


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE
PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 26-5-22
HOLE NO. BH106
SAMPLE NO. Box 1 of 3
DEPTH FROM 7.00 m TO 10.00 m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE
PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 26-5-22
HOLE NO. BH106
SAMPLE NO. Box 2 of 3
DEPTH FROM 10.00 m TO 13.00 m


LK GROUP
The LK Group
Unit 29 Eton Business Park
Eton Hill Road, Radcliffe
Greater Manchester, M26 2ZS
www.thelkgroup.com
info@thelkgroup.com
+44 (0161) 763 7200
@the_lkgroup
CORE
PHOTOGRAPHIC BOARD
PROJECT NAME MANCHESTER AIRPORT
PROJECT NO. LKC 22 1225
DATE 26-5-22
HOLE NO. BH106
SAMPLE NO. Box 3 of 3
DEPTH FROM 13.00 m TO 14.50 m

Based across the UK with offices in Manchester, London, Liverpool, Swindon and Glasgow.

Manchester (Head Office)
Unit 29
Eton Business Park
Eton Hill Rd, Radcliffe
M26 2ZS

t: 0161 763 7200
e: info@thelkgroup.com

Swindon
39 Bowman House Business Centre
Bowman Court
Whitehill Lane
Royal Wootton Bassett
Swindon
SN4 7DB

t : 01793 987 390
e : info@thelkgroup.com

London
Brooklands Business Park
Wellington Way
Weybridge
KT13 0TT

t: 01932 871872
e: info@thelkgroup.com

Glasgow
Wright Business Centre
1 Lonmay Road
Glasgow
G33 4EL

t: 0141 773 6269
e: info@thelkgroup.com

Liverpool
The Corn Exchange
Fenwick Street
Liverpool
L2 7QL

t: 0151 235 8716
e: info@thelkgroup.com

LK GROUP

- Geotechnical
- Contaminated Land
- Flood Risk and Drainage
- Asbestos
- Invasive Species
- Land Remediation
- Project Management
- Land Drilling

Appendix E Screening Sheets

Location ID			Human Health GAC - Commericial/Industrial - SLOAM 0.58-1.45%TOC	BH101	BH102	BH102	BH102	BH103	BH103	BH104	BH104	BH105	BH105	BH106	BH106	DS101	DS101	DS101	DS101
Depth (m)				2.1	0.15	0.3	1.7	0.14	1.5	0.1	1.3	0.2	1.5	0.1	1.4	0	0.3	0.44	1.65
Date				##########	##########	##########	##########	30/05/2022	##########	##########	##########	##########	##########	##########	##########	##########	30/05/2022	##########	##########
Lab Report				22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2
Analyte	**Unit**	**MDL**																	
Loss on ignition	%	0.1		0.81	-	-	8.4	-	-	1.3	-	1.2	-	-	6.6	29	-	-	-
TPH																			
Total Petroleum Hydrocarbons	mg/kg	2		<2	1100	<2	<2	1800	<2	400	<2	<2	38	<2	<2	480	<2	<2	<2
Total Aliphatics	mg/kg	1		<1	20	<1	<1	<1	<1	82	<1	<1	<1	<1	<1	130	<1	<1	<1
TPH aliphatic >C10-C12	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aliphatic >C5-C6	mg kg^{-1}	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	<0.01	<0.01	<0.01	<0.01
TPH aliphatic >C12-C16	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aliphatic >C6-C8	mg kg^{-1}	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	<0.01	<0.01	<0.01	<0.01
TPH aliphatic >C16-C21	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aliphatic >C8-C10	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aliphatic >C21-C35	mg kg^{-1}	0.1		<0.1	20	<0.1	<0.1	<0.1	<0.1	82	<0.1	<0.1	<0.1	<0.1	<0.1	130	<0.1	<0.1	<0.1
TPH aromatic >C10-C12	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aromatic >C5-C7	mg kg^{-1}	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	<0.01	<0.01	<0.01	<0.01
TPH aliphatic >C35-C44	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aromatic >C12-C16	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aromatic >C7-C8	mg kg^{-1}	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	<0.01	<0.01	<0.01	<0.01
TPH aromatic >C16-C21	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aromatic >C8-C10	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
TPH aromatic >C21-C35	mg kg^{-1}	0.1		<0.1	1000	<0.1	<0.1	1800	<0.1	320	<0.1	<0.1	38	<0.1	<0.1	350	<0.1	<0.1	<0.1
TPH aromatic >C35-C44	mg kg^{-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	<0.1	<0.1	<0.1	<0.1
NA																			
Asbestos Identification	None	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WAC	mg/kg	10		<10	-	-	<10	-	-	65	-	130	-	-	<10	58	-	-	-
BTEX																			
Benzene	mg/kg	2E-04	27	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Toluene	mg/kg	2E-04	56000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Ethylbenzene	mg/kg	2E-04	5700	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Xylene (m & p)	mg/kg	2E-04		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Xylene (o)	mg/kg	2E-04	6600	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Total BTEX	mg/kg	0.01		<0.01	-	-	<0.01	-	-	<0.01	-	<0.01	-	-	<0.01	<0.01	-	-	-
Oxygenates																			
MTBE	mg/kg	2E-04	7900	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Chlorinated Hydrocarbons																			
Chloromethane	mg/kg	2E-04	1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Vinyl chloride	mg/kg	2E-04	1.1	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Chloroethane	mg/kg	2E-04	960	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,1-dichloroethene	mg/kg	2E-04	26	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
trans-1,2-dichloroethene	mg/kg	2E-04	22300	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,1-dichloroethane	mg/kg	2E-04	280	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
cis-1,2-dichloroethene	mg/kg	2E-04	142300	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Chloroform	mg/kg	2E-04	99	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,1,1-trichloroethane	mg/kg	2E-04	660	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Carbon tetrachloride	mg/kg	2E-04	2.9	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Trichloroethene	mg/kg	2E-04	0.73	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,1,2-trichloroethane	mg/kg	2E-04	94	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Tetrachloroethene	mg/kg	2E-04	24	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
VOC																			
Bromochloromethane	mg/kg	5E-04	630	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	<0.0005	<0.0005	<0.0005	<0.0005
1,1-dichloropropene	mg/kg	2E-04		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2-dichloroethane	mg/kg	2E-04	0.67	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2-dichloropropane	mg/kg	2E-04	3.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Dibromomethane	mg/kg	2E-04	99	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Bromodichloromethane	mg/kg	2E-04	1.3	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
cis-1,3-dichloropropene	mg/kg	2E-04		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
trans-1,3-dichloropropene	mg/kg	2E-04		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,3-dichloropropane	mg/kg	2E-04	23000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Chlorodibromomethane	mg/kg	2E-04	39	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,1,1,2-tetrachloroethane	mg/kg	2E-04	110	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Styrene	mg/kg	2E-04	3300	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Bromoform	mg/kg	2E-04	760	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Isopropylbenzene	mg/kg	2E-04	1400	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2,3-trichloropropane	mg/kg	2E-04	0.11	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
n-propylbenzene	mg/kg	2E-04	4100	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,3,5-trimethylbenzene	mg/kg	2E-04	1500	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
tert-butylbenzene	mg/kg	2E-04	120000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2,4-trimethylbenzene	mg/kg	2E-04	42	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
sec-butylbenzene	mg/kg	2E-04	120000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
p-isopropyltoluene	mg/kg	2E-04		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
n-butylbenzene	mg/kg	2E-04	58000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2-dibromo-3-chloropropane	mg/kg	2E-04	0.064	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Hexachlorobutadiene	mg/kg	2E-04	31	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
PAH																			
Naphthalene	mg/kg	0.01	190	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.58	0.44	<0.01	<0.01
Acenaphthylene	mg/kg	0.01	83000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.23	0.089	<0.01	<0.01
Acenaphthene	mg/kg	0.01	84000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.4	0.42	<0.01	<0.01
Fluorene	mg/kg	0.01	63000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.34	0.24	<0.01	<0.01
Phenanthrene	mg/kg	0.01	22000	<0.01	0.17	<0.01	<0.01	0.19	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	4.6	1.9	0.19	<0.01
Anthracene	mg/kg	0.01	520000	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.97	0.4	0.1	<0.01
Fluoranthene	mg/kg	0.01	23000	<0.01	0.13	<0.01	<0.01	0.18	<0.01	<0.01	<0.01	0.1	<0.01	<0.01	<0.01	9.6	2.9	0.2	<0.01
Pyrene	mg/kg	0.01	54000	<0.01	0.13	<0.01	<0.01	0.19	<0.01	<0.01	<0.01	0.14	<0.01	<0.01	<0.01	9.3	2.6	0.17	<0.01
Benz(a)anthracene	mg/kg	0.01	170	<0.01	<0.01	<0.01	<0.01	0.18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.1	1.4	<0.01	<0.01
Chrysene	mg/kg	0.01	350	<0.01	<0.01	<0.01	<0.01	0.12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.3	1.2	<0.01	<0.01
Benzo(a) pyrene	mg/kg	0.01	35	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	5.9	1.6	<0.01	<0.01
Indeno(1,2,3-c,d)pyrene	mg/kg	0.01	500	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3.2	0.98	<0.01	<0.01
Dibenz(a,h)anthracene	mg/kg	0.01	3.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	0.18	<0.01	<0.01
Benzo(g,h,i)perylene	mg/kg	0.01	3900	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	3.1	0.98	<0.01	<0.01
Benzo(b)fluoranthene	mg/kg	0.01	44	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6.1	1.9	<0.01	<0.01
Benzo(k)fluoranthene	mg/kg	0.01	1200	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	2.1	0.53	<0.01	<0.01
PAHs (Sum of total)	mg/kg	0.2		<0.2	0.43	<0.2	<0.2	0.86	<0.2	<0.2	<0.2	0.24	<0.2	<0.2	<0.2	57	18	0.66	<0.2
SVOC																			
2-methylnaphthalene	mg/kg	0.05	3000	<0.05	<0.05	<0.05	<0.05	0.078	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.18	<0.05	<0.05	<0.05
4-bromophenyl phenyl ether	mg/kg	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	<0.05	<0.05
4-chlorophenyl phenyl ether	mg/kg	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	<0.05	<0.05
Azobenzene	mg/kg	0.05	26	<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	<0.05
Bis(2-chloroethoxy) methane	mg/kg	0.05	2500	<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	<0.05
Bis(2-chloroethyl)ether	mg/kg	0.05	1	<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	<0.05
Carbazole	mg/kg	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.14	<0.05	<0.05	<0.05
Dibenzofuran	mg/kg	0.05	1200	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	0.13	<0.05	<0.05	<0.05
Hexachlorocyclopentadiene	mg/kg	0.05	7.5	<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	<0.05
Hexachloroethane	mg/kg	0.05	22	<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	<0.05
Phenolics																			
2-methylphenol	mg/kg	0.05	160,000	<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	<0.05
2-nitrophenol	mg/kg	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	<0.05	<0.05
2,4-dimethylphenol	mg/kg	0.05	16000	<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	<0.05
4-chloro-3-methylphenol	mg/kg	0.05	82000	<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	<0.05
4-methylphenol	mg/kg	0.05	160,000	<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	<0.05
4-nitrophenol	mg/kg	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	<0.05	<0.05
Phenol	mg/kg	0.05	440	<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	<0.05
2-chloronaphthalene	mg/kg	0.05	390	<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	<0.05
4,6-Dinitro-2-methylphenol	mg/kg	0.05	66	<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	<0.05
nonchlorinated phenols	mg/kg	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	<0.1	<0.1	<0.1
PCBs																			
PCB 118	mg/kg	0.01	0.49	<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	<0.01
PCB 28	mg/kg	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	<0.01	<0.01
PCB 52	mg/kg	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	<0.01	<0.01
PCB 101	mg/kg	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	<0.01	<0.01
PCB 138	mg/kg	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	<0.01	<0.01
PCB 153	mg/kg	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	<0.01	<0.01
PCB 180	mg/kg	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	<0.01	<0.01
PCBs (Sum of total)	mg/kg	0.1	0.94	<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	<0.1
Amino Aliphatics																			
N-nitrosodi-n-propylamine	mg/kg	0.05	0.33	<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	<0.05
N-Nitrosodimethylamine	mg/kg	0.05	0.034	<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	<0.05
Anilines																			
2-nitroaniline	mg/kg	0.05	8000	<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	<0.05
3-nitroaniline	mg/kg	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	<0.05	<0.05
4-chloroaniline	mg/kg	0.05	11	<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	<0.05
4-nitroaniline	mg/kg	0.05	110	<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	<0.05
Explosives																			
2,4-Dinitrotoluene	mg/kg	0.05	3700	<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	<0.05
2,6-dinitrotoluene	mg/kg	0.05	1900	<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	<0.05
Nitrobenzene	mg/kg	0.05	22	<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	<0.05
Halogenated Benzenes																			
Chlorobenzene	mg/kg	2E-04	56	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Bromobenzene	mg/kg	2E-04	97	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
2-chlorotoluene	mg/kg	2E-04	23000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
4-chlorotoluene	mg/kg	2E-04	23000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,3-dichlorobenzene	mg/kg	2E-04	30	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,4-dichlorobenzene	mg/kg	2E-04	4400	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2-dichlorobenzene	mg/kg	2E-04	2000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2,4-trichlorobenzene	mg/kg	2E-04	220	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2,3-trichlorobenzene	mg/kg	2E-04	102	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Hexachlorobenzene	mg/kg	0.05	110	<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	<0.05
Halogenated Hydrocarbons																			
Dichlorodifluoromethane	mg/kg	2E-04	370	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Bromomethane	mg/kg	2E-04	30	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Trichlorofluoromethane	mg/kg	2E-04	350000	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
1,2-dibromoethane	mg/kg	2E-04	0.16	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	-	<0.0002	<0.0002	<0.0002	<0.0002
Halogenated Phenols																			
2-chlorophenol	mg/kg	0.05	5800	<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	<0.05
2,4-dichlorophenol	mg/kg	0.05	2500	<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	<0.05
2,4,5-trichlorophenol	mg/kg	0.05	82000	<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	<0.05
2,4,6-trichlorophenol	mg/kg	0.05	210	<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	<0.05
Pentachlorophenol	mg/kg	0.05	400	<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	<0.05
Phthalates																			
Bis(2-ethylhexyl) phthalate	mg/kg	0.05	85000	<0.05	0.29	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05	<0.05	-	<0.05	<0.05	<0.05	<0.05
Butyl benzyl phthalate	mg/kg	0.05	940000	<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	<0.05
Di-n-butyl phthalate	mg/kg	0.05	15000	<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	<0.05
Di-n-octyl phthalate	mg/kg	0.05	89000	<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	<0.05
Diethylphthalate	mg/kg	0.05	150000	<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	<0.05
Dimethyl phthalate	mg/kg	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	<0.05	<0.05
Solvents																			
Isophorone	mg/kg	0.05	2400	<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	<0.05
Metals																			
Arsenic	mg/kg	0.5	640	2.1	1.7	1.5	3.8	1.6	5.6	1.1	9.6	1.2	7.5	1.6	8.8	13	5.5	2	5.2
Barium	mg/kg	0.5	22000	64	78	120	33	690	120	18	45	26	78	80	130	230	130	240	160
Beryllium	mg/kg	0.5	12	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.9	<0.5	1	<0.5	1.6	0.7	<0.5	<0.5	<0.5
Boron	mg/kg	0.4	240000	1.9	<0.4	<0.4	1.1	0.58	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.41	<0.4	<0.4	<0.4
Cadmium	mg/kg	0.1	410	0.14	0.17	0.11	<0.1	0.14	<0.1	0.13	0.1	0.34	<0.1	0.35	0.13	0.36	0.41	0.19	2.1
Chromium (III+VI)	mg/kg	0.5	860	8.9	6.7	4.7	13	5.2	19	3.1	16	4	21	4.5	33	25	14	6.2	7
Copper	mg/kg	0.5	68000	15	5.2	3	9.2	4.2	13	2	12	2.5	16	2.7	21	59	21	3.9	29
Lead	mg/kg	0.5	2330	16	9.1	4.7	4	8.2	8.8	7.6	6.6	6	9.1	16	11	190	51	12	280
Mercury	mg/kg	0.05	350	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.29	0.13	0.05	0.06
Nickel	mg/kg	0.5	980	9.3	6.6	7.6	13	7.6	22	4	13	6	25	5.8	43	52	21	6	12
Selenium	mg/kg	0.25	12000	0.25	<0.25	<0.25	0.33	<0.25	0.37	0.4	0.76	0.37	0.83	0.35	1.2	0.83	0.49	0.48	0.29
Zinc	mg/kg	0.5	730000	20	16	9.4	24	17	28	16	18	14	35	23	49	120	60	23	440
Chromium (hexavalent)	mg/kg	0.5	49	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organics																			
Fraction Organic Carbon	%	0.2		0.82	-	-	0.33	-	-	<0.2	-	<0.2	-	-	0.62	1.5	-	-	-
Inorganics																			
Sulphur	mg/kg	1		2.8	1.3	<1	<1	2.8	1.3	<1	<1	2	2.3	2.7	3.7	5.2	1.7	2.5	4.6
Cyanide Total	mg/kg	0.5	150	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Sulphide	mg/kg	0.5		20	3.7	1.4	1.6	2.4	2.3	25	25	1.9	1.4	5.7	31	4.3	4.5	5.2	5.7
Moisture	%	0.02		14	5.6	4.4	12	10	14	11	35	10	17	14	21	15	8.1	6	12
Sulphate (soluble)	g/l	0.01		0.28	0.39	0.17	0.85	0.7	0.092	0.018	0.023	0.059	0.72	0.039	0.054	0.045	0.029	0.029	0.089
pH (Lab)	pH_Units	4		8.4 - 9.4	11.8	11	8.6 - 8.8	11.2	8.9	8.8 - 9	8.3	9 - 9.1	7.8	8.7	8.2	8.7 - 9	9.2	9.5	9.2
Other																			
Bis(2-chloroisopropyl)ether	mg/kg	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	<0.05	<0.05
Asbestos																			
Asbestos Type	None	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Key

XXX Exceedance of HH Soil. Commercial/Industrial. Sandy Loam. TOC >=0.58 to <1.45%

				Location_Code	BH101	BH102	BH103	BH104	BH105	BH106												
				Sampled_Date_Time	23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022												
				Field_ID	BH101	BH102	BH103	BH104	BH105	BH106												
				Well																		
				GAC_WTV_SC_DWS							Statistical Summary											
Chem_Group	ChemName	output unit	EQL								Number of Results	Number of Detects	Minimum Concentration	Minimum Detect	Maximum Concentration	Maximum Detect	Average Concentration	Median Concentration	Standard Deviation	Number of Guideline Exceedances	Number of Guideline Exceedances (Detects Only)	
	TPH aliphatic >C10-C12	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aliphatic >C5-C6	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	TPH aliphatic >C12-C16	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aliphatic >C6-C8	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	TPH aliphatic >C16-C21	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aliphatic >C8-C10	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aliphatic >C21-C35	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C10-C12	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C5-C7	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	TPH aliphatic >C35-C44	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C12-C16	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C7-C8	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	TPH aromatic >C16-C21	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C8-C10	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C21-C35	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	TPH aromatic >C35-C44	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
1675	C2 Total Aromatic Hydrocarbons	ug/l	1		<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
TPH	Total Petroleum Hydrocarbons	µg/L	2		<2	<2	<2	<2	<2	<2	6	0	<2	ND	<2	ND	1	1	0	0	0	
	Total Aliphatics	µg/L	1		<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
BTEX	Benzene	µg/L	0.1	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Toluene	µg/L	0.1	700	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Ethylbenzene	µg/L	0.1	300	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Xylene (m & p)	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Xylene (o)	µg/L	0.1	190	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
Oxygenates	MTBE	µg/L	0.1	1800	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
Chlorinated Hydrocarbons	Chloromethane	µg/L	0.1	190	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Vinyl chloride	µg/L	0.1	0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Chloroethane	µg/L	0.2	21000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	1,1-dichloroethene	µg/L	0.1	7	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Dichloromethane	µg/L	50	5	<50	<50	<50	<50	<50	<50	6	0	<50	ND	<50	ND	25	25	0	6	0	
	trans-1,2-dichloroethene	µg/L	0.1	50|68	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,1-dichloroethane	µg/L	0.1	2.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	cis-1,2-dichloroethene	µg/L	0.1	36|50	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Chloroform	µg/L	0.1	999000000000.015	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,1,1-trichloroethane	µg/L	0.1	200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Carbon tetrachloride	µg/L	0.1	3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Trichloroethene	µg/L	0.1	999000000000.042	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,1,2-trichloroethane	µg/L	0.1	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Tetrachloroethene	µg/L	0.1	999000000000.042	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
VOC	Bromochloromethane	µg/L	0.5	83	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0	0	
	1,1-dichloropropene	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,2-dichloroethane	µg/L	0.2	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	1,2-dichloropropane	µg/L	0.1	5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Dibromomethane	µg/L	0.1	8.3	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Bromodichloromethane	µg/L	0.5	60	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0	0	
	cis-1,3-dichloropropene	µg/L	1		<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
	trans-1,3-dichloropropene	µg/L	1		<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
	1,3-dichloropropane	µg/L	0.2	20	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	Chlorodibromomethane	µg/L	1	999000000000.015	<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
	1,1,1,2-tetrachloroethane	µg/L	0.2	0.57	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	Styrene	µg/L	0.1	20	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	Bromoform	µg/L	1	999000000000.015	<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0	
	Isopropylbenzene	µg/L	0.1	450	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,2,3-trichloropropane	µg/L	5	0.00075	<5	<5	<5	<5	<5	<5	6	0	<5	ND	<5	ND	2.5	2.5	0	6	0	
	n-propylbenzene	µg/L	0.1	660	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,3,5-trimethylbenzene	µg/L	0.1	60	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	tert-butylbenzene	µg/L	0.1	690	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,2,4-trimethylbenzene	µg/L	0.1	56	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	sec-butylbenzene	µg/L	0.1	2000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	p-isopropyltoluene	µg/L	0.1		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	n-butylbenzene	µg/L	0.1	1000	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0	
	1,2-dibromo-3-chloropropane	µg/L	5	0.2	<5	<5	<5	<5	<5	<5	6	0	<5	ND	<5	ND	2.5	2.5	0	6	0	
	Hexachlorobutadiene	µg/L	0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
PAH	Naphthalene	µg/L	0.01	6	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Acenaphthylene	µg/L	0.01	18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Acenaphthene	µg/L	0.01	18	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Fluorene	µg/L	0.01	12	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Phenanthrene	µg/L	0.01	4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Anthracene	µg/L	0.01	90	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Fluoranthene	µg/L	0.01	4	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Pyrene	µg/L	0.01	9	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Benz(a)anthracene	µg/L	0.01	3.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Chrysene	µg/L	0.01	7	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Benzo(a) pyrene	µg/L	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Indeno(1,2,3-c,d)pyrene	µg/L	0.01	999000000000.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Dibenz(a,h)anthracene	µg/L	0.01	0.07	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Benzo(g,h,i)perylene	µg/L	0.01	999000000000.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Benzo(b)fluoranthene	µg/L	0.01	999000000000.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	Benzo(k)fluoranthene	µg/L	0.01	999000000000.041	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0	
	PAHs (Sum of total)	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
SVOC	2-methylnaphthalene	µg/L	0.05	36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	4-bromophenyl phenyl ether	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	4-chlorophenyl phenyl ether	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Azobenzene	µg/L	0.05	0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Bis(2-chloroethoxy) methane	µg/L	0.05	59	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Bis(2-chloroethyl)ether	µg/L	0.05	0.014	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6	0	
	Carbazole	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Dibenzofuran	µg/L	0.05	7.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Hexachlorocyclopentadiene	µg/L	0.05	0.41	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Hexachloroethane	µg/L	0.05	0.33	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
Phenolics	2-methylphenol	µg/L	0.05	930	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	2-nitrophenol	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	2,4-dimethylphenol	µg/L	0.05	360	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	4-chloro-3-methylphenol	µg/L	0.05	1400	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	4-methylphenol	µg/L	0.05	1900	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	4-nitrophenol	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	Phenol	µg/L	0.05	5800	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	2-chloronaphthalene	µg/L	0.05	750	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0	
	2,3,4-Trichlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	2,3,5-Trichlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	2,3,6-Trichlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	
	3-Methylphenol	µg/L	0.2	930	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0	

				Location_Code	BH101	BH102	BH103	BH104	BH105	BH106										
				Sampled_Date_Time	23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022	23/06/2022										
				Field_ID	BH101	BH102	BH103	BH104	BH105	BH106										
				Well																
				GAC_WTV_SC_DWS							Statistical Summary									
Chem_Group	ChemName	output unit	EQL								Number of Results	Number of Detects	Minimum Concentration	Minimum Detect	Maximum Concentration	Maximum Detect	Average Concentration	Median Concentration	Standard Deviation	Number of Guideline Exceedances	Number of Guideline Exceedances (Detects Only)
	4,6-Dinitro-2-methylphenol	µg/L	0.05	1.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	3,4,5-Trichlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	nonchlorinated phenols	µg/L	5		<5	<5	<5	<5	<5	<5	6	0	<5	ND	<5	ND	2.5	2.5	0	0	0
Herbicides	Dinoseb	µg/L	0.2	7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
PCBs	PCB 118	µg/L	0.01	0.004	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	6	0
	PCB 28	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCB 52	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCB 101	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCB 138	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCB 153	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCB 180	µg/L	0.01		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
	PCBs (Sum of total)	µg/L	0.01	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0	0
Amino Aliphatics	N-nitrosodi-n-propylamine	µg/L	0.05	0.011	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6	0
	N-Nitrosodimethylamine	µg/L	0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Anilines	2-nitroaniline	µg/L	0.05	190	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	3-nitroaniline	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	4-chloroaniline	µg/L	0.05	0.37	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	4-nitroaniline	µg/L	0.05	3.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Explosives	2,4-Dinitrotoluene	µg/L	0.05	0.24	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	2,6-dinitrotoluene	µg/L	0.05	0.049	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6	0
	Nitrobenzene	µg/L	0.05	999000000000.082	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Halogenated Benzenes	Chlorobenzene	µg/L	0.1	300	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	Bromobenzene	µg/L	0.1	62	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	2-chlorotoluene	µg/L	0.1	240	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	4-chlorotoluene	µg/L	0.1	250	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	1,3-dichlorobenzene	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	1,4-dichlorobenzene	µg/L	0.05	80	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	1,2-dichlorobenzene	µg/L	0.05	600	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	1,2,4-trichlorobenzene	µg/L	0.05	70	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	1,2,3-trichlorobenzene	µg/L	0.2	7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	Hexachlorobenzene	µg/L	0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Halogenated Hydrocarbons	Dichlorodifluoromethane	µg/L	0.1	200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	Bromomethane	µg/L	2	7.5	<2	<2	<2	<2	<2	<2	6	0	<2	ND	<2	ND	1	1	0	0	0
	Trichlorofluoromethane	µg/L	0.1	5200	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0	0
	1,2-dibromoethane	µg/L	0.5	0.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	6	0
Halogenated Phenols	2,3,4,5-tetrachlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	2,3,4,6-tetrachlorophenol	µg/l	0.2	240	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	2,3,5,6-Tetrachlorophenol	µg/L	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	2,6-dichlorophenol	µg/l	0.2		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0	0
	2-chlorophenol	µg/L	0.05	91	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	2,4-dichlorophenol	µg/L	0.05	46	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	2,4,5-trichlorophenol	µg/L	0.05	1200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	2,4,6-trichlorophenol	µg/L	0.05	200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Pentachlorophenol	µg/L	0.05	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Phthalates	Bis(2-ethylhexyl) phthalate	µg/L	0.05	6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Butyl benzyl phthalate	µg/L	0.05	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Di-n-butyl phthalate	µg/L	0.05	900	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Di-n-octyl phthalate	µg/L	0.05	200	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Diethylphthalate	µg/L	0.05	15000	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Dimethyl phthalate	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Solvents	Isophorone	µg/L	0.05	78	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
Metals	Arsenic (Filtered)	µg/L	0.2	10	1.3	3.3	2.3	1.2	1.2	3.1	6	6	1.2	1.2	3.3	3.3	2.1	1.8	0.97	0	0
	Barium (Filtered)	µg/L	5	700	77	79	79	110	98	55	6	6	55	55	110	110	83	79	19	0	0
	Beryllium (Filtered)	µg/L	1	4	<1	<1	<1	<1	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0	0
	Boron (Filtered)	µg/L	10	1000	140	93	13	88	72	150	6	6	13	13	150	150	93	90.5	50	0	0
	Cadmium (Filtered)	µg/L	0.11	5	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	6	0	<0.11	ND	<0.11	ND	0.055	0.055	0	0	0
	Calcium	mg/L	2		150	410	280	460	180	420	6	6	150	150	460	460	317	345	132	0	0
	Chromium (III+VI) (Filtered)	µg/L	0.5	50	<0.5	<0.5	<0.5	<0.5	0.62	<0.5	6	1	<0.5	0.62	0.62	0.62	0.31	0.25	0.15	0	0
	Copper (Filtered)	µg/L	0.5	2000	<0.5	<0.5	3.5	<0.5	<0.5	<0.5	6	1	<0.5	3.5	3.5	3.5	0.79	0.25	1.3	0	0
	Lead (Filtered)	µg/L	0.5	10	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0	0
	Magnesium	mg/L	0.2		32	57	5.6	41	62	76	6	6	5.6	5.6	76	76	46	49	25	0	0
	Mercury (Filtered)	µg/L	0.05	1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Nickel (Filtered)	µg/L	0.5	20	<0.5	<0.5	<0.5	<0.5	<0.5	5.1	6	1	<0.5	5.1	5.1	5.1	1.1	0.25	2	0	0
	Selenium (Filtered)	µg/L	0.5	10	<0.5	0.67	2.9	<0.5	1.5	0.69	6	4	<0.5	0.67	2.9	2.9	1	0.68	1	0	0
	Vanadium (Filtered)	µg/L	0.5	86	<0.5	<0.5	3.4	<0.5	<0.5	<0.5	6	1	<0.5	3.4	3.4	3.4	0.78	0.25	1.3	0	0
	Zinc (Filtered)	µg/L	2.5	6000	<2.5	3.5	<2.5	<2.5	<2.5	<2.5	6	1	<2.5	3.5	3.5	3.5	1.6	1.25	0.92	0	0
	Potassium	mg/L	0.5		5	6.9	8.5	11	3.6	4	6	6	3.6	3.6	11	11	6.5	5.95	2.9	0	0
	Chromium (hexavalent)	µg/L	0.1	999000000000.069	2.5	<0.1	0.78	0.35	3.7	<0.1	6	4	<0.1	0.35	3.7	3.7	1.2	0.565	1.5	0	0
Inorganics	Ammonia as N	mg/L	0.05		0.41	0.4	1.2	1.6	1.2	2.8	6	6	0.4	0.4	2.8	2.8	1.3	1.2	0.89	0	0
	Sulphur	µg/L	1000		83,000	320,000	280,000	300,000	100,000	430,000	6	6	83000	83000	430000	430000	252167	290000	134952	0	0
	Sodium	mg/L	1.5	200	30	40	85	330	160	210	6	6	30	30	330	330	143	122.5	115	2	2
	Cyanide Total	mg/L	0.005	0.05	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	6	0	<0.005	ND	<0.005	ND	0.0025	0.0025	0	0	0
	Electrical conductivity *(lab)	µS/cm	1		320	460	700	320	610	390	6	6	320	320	700	700	467	425	157	0	0
	Sulphate	mg/L	1	250	250	970	840	890	300	1300	6	6	250	250	1300	1300	758	865	408	6	6
	Chloride	mg/L	1	250	69	31	69	710	290	430	6	6	31	31	710	710	267	179.5	267	3	3
	Nitrate (as NO3-)	mg/L	0.5	50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0	0
	Sulphide	mg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0
	Hardness as CaCO3	mg/L	15		500	1300	720	1300	700	1400	6	6	500	500	1400	1400	987	1010	389	0	0
	pH (Lab)	pH_Units	0		7.9	7.6	7.5	7.3	7.6	7.7	6	6	7.3	7.3	7.9	7.9	7.6	7.6	0.2	0	0
Other	Bis(2-chloroisopropyl)ether	µg/L	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0	0

				Location_Code	BH101	BH102	BH102	BH104	BH104	BH105	BH106	DS101	DS101	Statistical Summary									
				Sampled_Date_Time	27/05/2022	27/05/2022	27/05/2022	25/05/2022	25/05/2022	26/05/2022	25/05/2022	30/05/2022	30/05/2022										
				Sample_Depth_Range	2.1	0.3	1.7	0.1	1.3	0.2	1.4	0	0.3										
				Lab_Report_Number	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2										
				GAC_WTV_SC_DWS																			
Chem_Group	ChemName	output unit	EQL											Number of Results	Number of Detects	Minimum Concentration	Minimum Detect	Maximum Concentration	Maximum Detect	Average Concentration	Median Concentration	Standard Deviation	Number of Guideline Exceedances
	TPH aliphatic >C10-C12	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aliphatic >C5-C6	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	TPH aliphatic >C12-C16	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aliphatic >C6-C8	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	TPH aliphatic >C16-C21	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aliphatic >C8-C10	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aliphatic >C21-C35	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	480	360	6	2	<0.1	360	480	480	140	0.05	220	0
	TPH aromatic >C10-C12	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C5-C7	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	TPH aliphatic >C35-C44	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C12-C16	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C7-C8	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	TPH aromatic >C16-C21	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C8-C10	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C21-C35	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	TPH aromatic >C35-C44	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
1675	C2 Total Aromatic Hydrocarbons	ug/l	1		<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
640	Volume Of C2 Leachant	l	0		0.318	-	0.324	0.339	-	0.338	0.298	0.321	-	6	6	0.298	0.298	0.339	0.339	0.32	0.3225	0.015	0
	Volume Of C8 Leachant	l	0		1.4	-	1.4	1.4	-	1.4	1.4	1.4	-	6	6	1.4	1.4	1.4	1.4	1.4	1.4	0	0
TPH	Total Petroleum Hydrocarbons	µg/L	2		<2	<2	-	-	<2	<2	-	480	360	6	2	<2	360	480	480	141	1	220	0
	Total Aliphatics	µg/L	1		<1	<1	-	-	<1	<1	-	480	360	6	2	<1	360	480	480	140	0.5	220	0
BTEX	Benzene	µg/L	0.1	1	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Toluene	µg/L	0.1	700	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Ethylbenzene	µg/L	0.1	300	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Xylene (m & p)	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Xylene (o)	µg/L	0.1	190	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
Oxygenates	MTBE	µg/L	0.1	1800	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
Chlorinated Hydrocarbons	Chloromethane	µg/L	0.1	190	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Vinyl chloride	µg/L	0.1	0.5	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Chloroethane	µg/L	0.2	21000	<0.2	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0
	1,1-dichloroethene	µg/L	0.1	7	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	trans-1,2-dichloroethene	µg/L	0.1	50|68	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,1-dichloroethane	µg/L	0.1	2.8	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	cis-1,2-dichloroethene	µg/L	0.1	36|50	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Chloroform	µg/L	0.1	999000000000.015	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,1,1-trichloroethane	µg/L	0.1	200	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Carbon tetrachloride	µg/L	0.1	3	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Trichloroethene	µg/L	0.1	999000000000.042	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,1,2-trichloroethane	µg/L	1	5	<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
	Tetrachloroethene	µg/L	0.1	999000000000.042	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
VOC	Bromochloromethane	µg/L	0.5	83	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0
	1,1-dichloropropene	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,2-dichloroethane	µg/L	0.2	3	<0.2	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0
	1,2-dichloropropane	µg/L	0.1	5	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Dibromomethane	µg/L	0.1	8.3	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Bromodichloromethane	µg/L	0.5	60	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	0
	cis-1,3-dichloropropene	µg/L	1		<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
	trans-1,3-dichloropropene	µg/L	1		<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
	1,3-dichloropropane	µg/L	0.2	20	<0.2	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0
	Chlorodibromomethane	µg/L	1	999000000000.015	<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
	1,1,1,2-tetrachloroethane	µg/L	0.2	0.57	<0.2	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0
	Styrene	µg/L	0.1	20	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	Bromoform	µg/L	1	999000000000.015	<1	<1	-	-	<1	<1	-	<1	<1	6	0	<1	ND	<1	ND	0.5	0.5	0	0
	Isopropylbenzene	µg/L	0.1	450	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,2,3-trichloropropane	µg/L	5	0.00075	<5	<5	-	-	<5	<5	-	<5	<5	6	0	<5	ND	<5	ND	2.5	2.5	0	6
	n-propylbenzene	µg/L	0.1	660	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,3,5-trimethylbenzene	µg/L	0.1	60	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	tert-butylbenzene	µg/L	0.1	690	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,2,4-trimethylbenzene	µg/L	0.1	56	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	sec-butylbenzene	µg/L	0.1	2000	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	p-isopropyltoluene	µg/L	0.1		<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	n-butylbenzene	µg/L	0.1	1000	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0
	1,2-dibromo-3-chloropropane	µg/L	5	0.2	<5	<5	-	-	<5	<5	-	<5	<5	6	0	<5	ND	<5	ND	2.5	2.5	0	6
	Hexachlorobutadiene	µg/L	0.05	0.1	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
PAH	Naphthalene	µg/L	0.01	6	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.05 - 0.56	<0.05 - 0.51	6	2	<0.01	ND	0.56	0.56	0.097	0.005	0.14	0
	Acenaphthylene	µg/L	0.01	18	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Acenaphthene	µg/L	0.01	18	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Fluorene	µg/L	0.01	12	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Phenanthrene	µg/L	0.01	4	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Anthracene	µg/L	0.01	90	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Fluoranthene	µg/L	0.01	4	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01 - 0.52	6	1	<0.01	ND	0.52	0.52	0.048	0.005	0.11	0
	Pyrene	µg/L	0.01	9	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01 - 0.89	6	1	<0.01	ND	0.89	0.89	0.079	0.005	0.18	0
	Benz(a)anthracene	µg/L	0.01	3.5	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Chrysene	µg/L	0.01	7	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Benzo(a) pyrene	µg/L	0.01	0.01	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Indeno(1,2,3-c,d)pyrene	µg/L	0.01	999000000000.041	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Dibenz(a,h)anthracene	µg/L	0.01	0.07	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Benzo(g,h,i)perylene	µg/L	0.01	999000000000.041	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Benzo(b)fluoranthene	µg/L	0.01	999000000000.041	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	Benzo(k)fluoranthene	µg/L	0.01	999000000000.041	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PAHs (Sum of total)	µg/L	0.2		<0.2	<0.2	-	-	<0.2	<0.2	-	0.56	0.51	6	2	<0.2	0.51	0.56	0.56	0.25	0.1	0.23	0
SVOC	2-methylnaphthalene	µg/L	0.05	36	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-bromophenyl phenyl ether	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-chlorophenyl phenyl ether	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Azobenzene	µg/L	0.05	0.12	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Bis(2-chloroethoxy) methane	µg/L	0.05	59	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Bis(2-chloroethyl)ether	µg/L	0.05	0.014	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6
	Carbazole	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Dibenzofuran	µg/L	0.05	7.9	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Hexachlorocyclopentadiene	µg/L	0.05	0.41	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Hexachloroethane	µg/L	0.05	0.33	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
Phenolics	2-methylphenol	µg/L	0.05	930	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	2-nitrophenol	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	2,4-dimethylphenol	µg/L	0.05	360	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-chloro-3-methylphenol	µg/L	0.05	1400	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-methylphenol	µg/L	0.05	1900	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-nitrophenol	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	Phenol	µg/L	0.05	5800	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	2-chloronaphthalene	µg/L	0.05	750	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4,6-Dinitro-2-methylphenol	µg/L	0.05	1.5	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	nonchlorinated phenols	µg/L	30		<30	<30	-	-	<30	<30	-	<30	<30	6	0	<30	ND	<30	ND	15	15	0	0
PCBs	PCB 118	µg/L	0.01	0.004	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	6
	PCB 28	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCB 52	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCB 101	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCB 138	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCB 153	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCB 180	µg/L	0.01		<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
	PCBs (Sum of total)	µg/L	0.01	0.5	<0.01	<0.01	-	-	<0.01	<0.01	-	<0.01	<0.01	6	0	<0.01	ND	<0.01	ND	0.005	0.005	0	0
Amino Aliphatics	N-nitrosodi-n-propylamine	µg/L	0.05	0.011	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6
	N-Nitrosodimethylamine	µg/L	0.05	0.1	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
Anilines	2-nitroaniline	µg/L	0.05	190	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	3-nitroaniline	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-chloroaniline	µg/L	0.05	0.37	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	4-nitroaniline	µg/L	0.05	3.8	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
Explosives	2,4-Dinitrotoluene	µg/L	0.05	0.24	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0
	2,6-dinitrotoluene	µg/L	0.05	0.049	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	6

AECOM

Table 3
Controlled Waters Screening Assessment - Groundwater
Manchester Airport BUilding 401

Threadneedle Curtis Ltd.

				Location_Code	BH101	BH102	BH102	BH104	BH104	BH105	BH106	DS101	DS101														
				Sampled_Date_Time	27/05/2022	27/05/2022	27/05/2022	25/05/2022	25/05/2022	26/05/2022	25/05/2022	30/05/2022	30/05/2022														
				Sample_Depth_Range	2.1	0.3	1.7	0.1	1.3	0.2	1.4	0	0.3														
				Lab_Report_Number	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2	22-20268-2														
				GAC_WTV_SC_DWS										Statistical Summary													
Chem_Group	ChemName	output unit	EQL											Number of Results	Number of Detects	Minimum Concentration	Minimum Detect	Maximum Concentration	Maximum Detect	Average Concentration	Median Concentration	Standard Deviation	Number of Guideline Exceedances				
	Nitrobenzene	µg/L	0.05	999000000000.082	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
Halogenated Benzenes	Chlorobenzene	µg/L	0.1	300	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	Bromobenzene	µg/L	0.1	62	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	2-chlorotoluene	µg/L	0.1	240	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	4-chlorotoluene	µg/L	0.1	250	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	1,3-dichlorobenzene	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	1,4-dichlorobenzene	µg/L	0.05	80	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	1,2-dichlorobenzene	µg/L	0.05	600	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	1,2,4-trichlorobenzene	µg/L	0.05	70	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	1,2,3-trichlorobenzene	µg/L	0.2	7	<0.2	<0.2	-	-	<0.2	<0.2	-	<0.2	<0.2	6	0	<0.2	ND	<0.2	ND	0.1	0.1	0	0				
	Hexachlorobenzene	µg/L	0.05	0.1	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
Halogenated Hydrocarbons	Dichlorodifluoromethane	µg/L	0.1	200	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	Bromomethane	µg/L	2	7.5	<2	<2	-	-	<2	<2	-	<2	<2	6	0	<2	ND	<2	ND	1	1	0	0				
	Trichlorofluoromethane	µg/L	0.1	5200	<0.1	<0.1	-	-	<0.1	<0.1	-	<0.1	<0.1	6	0	<0.1	ND	<0.1	ND	0.05	0.05	0	0				
	1,2-dibromoethane	µg/L	0.5	0.4	<0.5	<0.5	-	-	<0.5	<0.5	-	<0.5	<0.5	6	0	<0.5	ND	<0.5	ND	0.25	0.25	0	6				
Halogenated Phenols	2-chlorophenol	µg/L	0.05	91	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	2,4-dichlorophenol	µg/L	0.05	46	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	2,4,5-trichlorophenol	µg/L	0.05	1200	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	2,4,6-trichlorophenol	µg/L	0.05	200	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Pentachlorophenol	µg/L	0.05	9	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
Phthalates	Bis(2-ethylhexyl) phthalate	µg/L	0.05	6	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Butyl benzyl phthalate	µg/L	0.05	16	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Di-n-butyl phthalate	µg/L	0.05	900	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Di-n-octyl phthalate	µg/L	0.05	200	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Diethylphthalate	µg/L	0.05	15000	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Dimethyl phthalate	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
Solvents	Isophorone	µg/L	0.05	78	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
Metals	Arsenic	µg/L	0.2	10	0.9 - 2.4	0.64	-	0.4	2.5	0.43	-	1.4	16	7	7	0.4	0.4	13	13	2.9	1.4	4.5	1				
	Barium	µg/L	5	700	44	66	-	-	140	14	-	74	43	6	6	14	14	140	140	64	55	43	0				
	Beryllium	µg/L	1	4	<1	<1	-	-	140	<1	-	<1	6.9	6	2	<1	6.9	140	140	25	0.5	56	2				
	Boron	µg/L	10	1000	41	16	-	-	21	17	-	13	20	6	6	13	13	41	41	21	18.5	10	0				
	Cadmium	µg/L	0.11	5	<0.11	<0.11	-	<0.11	130	0.38	-	<0.11	6.6	7	3	<0.11	0.38	130	130	20	0.055	49	2				
	Chromium (III+VI)	µg/L	0.5	50	2.1	4.9	-	-	170	2.8	-	5.6	14	6	6	2.1	2.1	170	170	33	5.25	67	1				
	Copper	µg/L	0.5	2000	<0.5 - 1.2	2.4	-	0.8	140	1.5	-	4.9	8.8	7	7	0.5	0.8	140	140	23	2.4	52	0				
	Lead	µg/L	0.5	10	<0.5	<0.5	-	<0.5	81	<0.5	-	2	9.9	7	3	<0.5	2	81	81	13	0.25	30	1				
	Mercury	µg/L	0.05	1	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	0.08	6	1	<0.05	0.08	0.08	0.08	0.034	0.025	0.022	0				
	Molybdenum	µg/L	0.2	70	2	-	-	0.9	-	-	-	-	-	2	2	0.9	0.9	2	2		1.45		0				
	Nickel	µg/L	0.5	20	1.6	2.2	-	-	160	2.1	-	2.5	11	6	6	1.6	1.6	160	160	30	2.35	64	1				
	Selenium	µg/L	0.5	10	<0.5 - 0.87	1.3	-	<0.5	130	1	-	<0.5	6.8	7	5	<0.5	1	130	130	20	1	49	1				
	Zinc	µg/L	2.5	6000	5.5	<2.5	-	-	230	<2.5	-	<2.5	28	6	3	<2.5	5.5	230	230	45	3.375	91	0				
	Chromium (hexavalent)	µg/L	0.1	999000000000.069	<0.1	<20 - 1.2	-	-	<0.1	<20 - 0.15	-	1.3	0.51	6	4	<0.1	0.51	1.3	1.3	2.1	0.905	2.6	0				
Organics	Dissolved Organic Carbon	mg/L	2.5		<2.5	-	-	<2.5	-	-	-	-	-	2	0	<2.5	ND	<2.5	ND		1.25		0				
Inorganics	Ammonia as N	mg/L	0.05		0.12	0.72	-	-	0.093	0.12	-	0.12	0.15	6	6	0.093	0.093	0.72	0.72	0.22	0.12	0.25	0				
	Sulphur	µg/L	1000		330,000	12,000	-	-	6300	3300	-	1200	2300	6	6	1200	1200	330000	330000	59183	4800	132729	0				
	Cyanide Total	mg/L	0.05	0.05	<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	Electrical conductivity *(lab)	µS/cm	1		1600	430	-	-	140	290	-	210	150	6	6	140	140	1600	1600	470	250	564	0				
	Sulphate	mg/L	1	250	968	37	-	-	19	10	-	3.5	6.9	6	6	3.5	3.5	990	990	178	14.5	398	1				
	Chloride	mg/L	1	250	1.7	1.5	-	-	7.9	53	-	3.2	3.8	6	6	1.5	1.5	53	53	12	3.5	20	0				
	Nitrate (as NO3-)	mg/L	0.5	50	<0.5	<0.5	-	-	1.8	2.1	-	5.7	1.2	6	4	<0.5	1.2	5.7	5.7	1.9	1.5	2	0				
	Sulphide	mg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				
	pH (Lab)	pH_Units	0		7.5	10.3	-	-	8.2	8	-	9	8.9	6	6	7.5	7.5	10.3	10.3	8.7	8.55	0.99	0				
Other	Bis(2-chloroisopropyl)ether	µg/L	0.05		<0.05	<0.05	-	-	<0.05	<0.05	-	<0.05	<0.05	6	0	<0.05	ND	<0.05	ND	0.025	0.025	0	0				

Table 3
Ground Gas Results
Port Salford Ground Investigation Report

Exploratory Hole	Date	Steady Flow rate (l/h)	Barometric Pressure (mb)	Peak Min O2 (% vol)	C0 (ppm)	H2S (ppm)	Peak CH4 (% vol)	GSV (l/hr)	Characteristic Situation CH4	Peak CO2 (% vol)	GSV	Characteristic Situation CO2	Comments
BH101	16/06/22	0.0	1011	16.7	1	0	0.0	0.000	1	0.2	0.000	1	
	23/06/22	0.0	1004	15.9	5	0	0.2	0.000	1	0.7	0.000	1	
	30/06/22	0.0	1004	16.6	1	0	0.0	0.000	1	0.1	0.000	1	
	07/07/22	0.0	1024	17.4	1	0	0.0	0.000	1	0.3	0.000	1	
	14/07/22	0.0	1018	17.1	2	0	0.0	0.000	1	0.1	0.000	1	
	20/07/22	0.0	1009	17.1	2	0	0.0	0.000	1	0.7	0.000	1	
BH102	16/06/22	0.0	1011	12.6	1	0	0.0	0.000	1	0.0	0.000	1	
	23/06/22	-0.1	1004	17.3	2	0	0.0	0.000	1	0.2	0.000	1	
	30/06/22	0.0	1004	18.0	3	0	0.0	0.000	1	0.2	0.000	1	
	07/07/22	0.0	1023	18.8	1	0	0.0	0.000	1	0.2	0.000	1	
	14/07/22	0.0	1018	18.5	2	0	0.0	0.000	1	0.3	0.000	1	
	20/07/22	0.0	1008	18.3	2	0	0.0	0.000	1	0.2	0.000	1	
BH103	16/06/22	0.0	1011	18.8	0	0	0.0	0.000	1	0.1	0.000	1	
	23/06/22	0.0	1005	18.8	3	0	0.0	0.000	1	0.2	0.000	1	
	30/06/22	-0.1	1004	19.4	2	0	0.0	0.000	1	0.2	0.000	1	
	07/07/22	0.0	1023	18.4	0	0	0.0	0.000	1	0.2	0.000	1	
	14/07/22	0.0	1018	18.5	2	0	0.0	0.000	1	0.2	0.000	1	
	20/07/22	0.0	1009	19.0	2	0	0.0	0.000	1	0.3	0.000	1	
BH104	16/06/22	0.0	1011					0.000	1		0.000	1	
	23/06/22	0.0	1005	19.7	4	0	0.0	0.000	1	0.1	0.000	1	
	30/06/22	0.4	1004	17.2	1	0	0.0	0.000	1	1.7	0.007	1	
	07/07/22	-0.1	1023	12.8	2	0	0.0	0.000	1	3.9	-0.004	1	
	14/07/22	-0.1	1019	11.8	4	0	0.0	0.000	1	4.7	-0.005	1	
	20/07/22	0.0	1009	8.8	4	0	0.0	0.000	1	5.9	0.000	1	
BH105	16/06/22	0.0	1011	19.6	1	1	0.0	0.000	1	0.9	0.000	1	
	23/06/22	0.0	1005	19.9	6	0	0.0	0.000	1	0.9	0.000	1	
	30/06/22	0.0	1004	20.4	3	0	0.0	0.000	1	0.7	0.000	1	
	07/07/22	-0.1	1023	20.4	3	0	0.0	0.000	1	0.7	-0.001	1	
	14/07/22	0.0	1019	20.3	7	0	0.0	0.000	1	0.8	0.000	1	
	20/07/22	0.0	1010	19.7	11	0	0.0	0.000	1	0.8	0.000	1	
BH106	16/06/22	0.0	1011	1.8	1	1	0.6	0.000	1	6.2	0.000	1	
	23/06/22	0.0	1001	0.8	6	0	2.5	0.000	2	10.4	0.000	1	
	30/06/22	0.9	1005	0.5	2	0	2.9	0.026	2	12.1	0.109	2	
	07/07/22	-0.1	1024	4.1	1	0	2.4	-0.002	2	3.8	-0.004	1	
	14/07/22	0.2	1019	0.4	2	0	2.3	0.005	2	6.2	0.012	2	
	20/07/22	2.6	1009	0.4	2	0	2.5	0.065	2	4.8	0.1248	2	
Maximum				20.4	11.0	1.0	2.9	0.1	2	12.1	0.1	2	
Minimum				0.4	0.0	0.0	0.0	0.0	1	0.0	0.0	1	

Appendix F HazWaste Online

Waste Classification Report

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

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

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

PMDIO-VGP1B-N68LW

Job name

MAG

Description/Comments

Project

MAG

Site

Manchester Airport

Classified by

Name: **Laura Polazzi**
Date: **03 Aug 2022 13:58 GMT**
Telephone:

Company: **AECOM**
Croydon
London

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

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	04 Jun 2020

Next 3 year Refresher due by Jun 2023

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH104-25/05/2022-0.10	0.10-0.30	Non Hazardous		3
2	BH104-25/05/2022-1.30	1.30-1.40	Non Hazardous		9
3	BH106-25/05/2022-0.10	0.10-0.40	Non Hazardous		15
4	BH106-25/05/2022-1.40	1.40-1.50	Non Hazardous		21
5	BH105-26/05/2022-0.20	0.20-0.40	Non Hazardous		23
6	BH105-26/05/2022-1.50	1.50-1.60	Non Hazardous		29
7	BH101-27/05/2022-2.10	2.10-2.20	Non Hazardous		35
8	BH102-27/05/2022-0.15	0.15-0.30	Hazardous	HP 7, HP 8, HP 11	41
9	BH102-27/05/2022-0.30	0.30-0.75	Non Hazardous		48
10	BH102-27/05/2022-1.70	1.70-1.80	Non Hazardous		54
11	DS101-31/05/2022-1.65	1.65-1.75	Non Hazardous		60
12	BH103-30/05/2022-0.14	0.14-0.40	Hazardous	HP 7, HP 11	66
13	BH103-30/05/2022-1.50	1.50-1.60	Non Hazardous		72
14	DS101-30/05/2022-0.00	0.00-0.30	Non Hazardous		74
15	DS101-30/05/2022-0.30	0.30-0.44	Non Hazardous		80
16	DS101-30/05/2022-0.44	0.44-0.60	Non Hazardous		86

Related documents

#	Name	Description
1	HWOL_22-23896-20220711 161044.hwol	Eurofins Chemtest .hwol file used to populate the Job
2	AECOM 2022	waste stream template used to create this Job

Report

Created by: Laura Polazzi

Created date: 03 Aug 2022 13:58 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	92
Appendix B: Rationale for selection of metal species	96

Appendices	Page
Appendix C: Version	97

Classification of sample: BH104-25/05/2022-0.10

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

Sample details

Sample name:
BH104-25/05/2022-0.10
Sample Depth:
0.10-0.30 m
Moisture content:
11%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.1 mg/kg	1.32	1.293 mg/kg	0.000129 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.13 mg/kg	1.142	0.132 mg/kg	0.0000132 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		3.1 mg/kg	1.462	4.032 mg/kg	0.000403 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		2 mg/kg	1.126	2.004 mg/kg	0.0002 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	7.6 mg/kg		6.764 mg/kg	0.000676 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4 mg/kg	2.976	10.596 mg/kg	0.00106 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.4 mg/kg	1.405	0.5 mg/kg	0.00005 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		16 mg/kg	2.469	35.163 mg/kg	0.00352 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		400 mg/kg		356 mg/kg	0.0356 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				8.8	pH		8.8	pH	8.8 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		18	mg/kg	1.233	19.761	mg/kg	0.00198 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0444 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 As the samples is a solid waste (soil and stones) it is not considered to be hazardous in terms of the flammable hazardous property HP 3(i) as this hazard property relates to liquid substance only.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0356%)

Classification of sample: BH104-25/05/2022-1.30

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

Sample details

Sample name:
BH104-25/05/2022-1.30
Sample Depth:
1.30-1.40 m
Moisture content:
35%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 35% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.6 mg/kg	1.32	8.239 mg/kg	0.000824 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.9 mg/kg	2.775	1.624 mg/kg	0.000162 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1 mg/kg	1.142	0.0743 mg/kg	0.00000743 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16 mg/kg	1.462	15.2 mg/kg	0.00152 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		12 mg/kg	1.126	8.782 mg/kg	0.000878 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	6.6 mg/kg		4.29 mg/kg	0.000429 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		13 mg/kg	2.976	25.149 mg/kg	0.00251 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.76 mg/kg	1.405	0.694 mg/kg	0.0000694 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		18 mg/kg	2.469	28.891 mg/kg	0.00289 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				8.3	pH		8.3	pH	8.3 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		45	mg/kg	1.233	36.08	mg/kg	0.00361 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0138 %		

Key

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

Classification of sample: BH106-25/05/2022-0.10

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

Sample details

Sample name:
BH106-25/05/2022-0.10
Sample Depth:
0.10-0.40 m
Moisture content:
14%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.6 mg/kg	1.32	1.817 mg/kg	0.000182 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.35 mg/kg	1.142	0.344 mg/kg	0.0000344 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		4.5 mg/kg	1.462	5.656 mg/kg	0.000566 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		2.7 mg/kg	1.126	2.614 mg/kg	0.000261 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	16 mg/kg		13.76 mg/kg	0.00138 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		5.8 mg/kg	2.976	14.846 mg/kg	0.00148 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.35 mg/kg	1.405	0.423 mg/kg	0.0000423 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		23 mg/kg	2.469	48.843 mg/kg	0.00488 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				8.7	pH		8.7	pH	8.7 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		2.7	mg/kg		2.322	mg/kg	0.000232 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		80	mg/kg	1.233	84.864	mg/kg	0.00849 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0185 %		

Key

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

Classification of sample: BH106-25/05/2022-1.40

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

Sample details

Sample name:
BH106-25/05/2022-1.40
Sample Depth:
1.40-1.50 m
Moisture content:
21%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.8 mg/kg	1.32	9.179 mg/kg	0.000918 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1.6 mg/kg	2.775	3.508 mg/kg	0.000351 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		**<LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.13 mg/kg	1.142	0.117 mg/kg	0.0000117 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		33 mg/kg	1.462	38.103 mg/kg	0.00381 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		**<LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	18.678 mg/kg	0.00187 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	11 mg/kg		8.69 mg/kg	0.000869 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		**<LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		43 mg/kg	2.976	101.104 mg/kg	0.0101 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.2 mg/kg	1.405	1.332 mg/kg	0.000133 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		49 mg/kg	2.469	95.586 mg/kg	0.00956 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		**<LOD**
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,					<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		**<LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
		ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }											
		006-007-00-5											
15		pH				8.2	pH		8.2	pH	8.2 pH		
				PH									
16		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
17		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
18		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
19		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
20		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
21		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
22		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
23		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
24		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
25		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
26		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
27		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
28		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
29		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
30		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
31		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
32		sulfur { sulfur }				3.7	mg/kg		2.923	mg/kg	0.000292 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
33		barium { barium sulphide }				130	mg/kg	1.233	126.68	mg/kg	0.0127 %	✓	
		016-002-00-X	244-214-4	21109-95-5									
34		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
										Total:	0.0412 %		

Key

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

Classification of sample: BH105-26/05/2022-0.20

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

Sample details

Sample name:
BH105-26/05/2022-0.20
Sample Depth:
0.20-0.40 m
Moisture content:
10%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.2 mg/kg	1.32	1.426 mg/kg	0.000143 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.34 mg/kg	1.142	0.35 mg/kg	0.000035 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		4 mg/kg	1.462	5.262 mg/kg	0.000526 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		2.5 mg/kg	1.126	2.533 mg/kg	0.000253 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	6 mg/kg		5.4 mg/kg	0.00054 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		6 mg/kg	2.976	16.072 mg/kg	0.00161 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.37 mg/kg	1.405	0.468 mg/kg	0.0000468 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		14 mg/kg	2.469	31.113 mg/kg	0.00311 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				9.1	pH		9.1	pH	9.1 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				0.1	mg/kg		0.09	mg/kg	0.000009 %	✓	
			205-912-4	206-44-0									
28		pyrene				0.14	mg/kg		0.126	mg/kg	0.0000126 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		2	mg/kg		1.8	mg/kg	0.00018 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		26	mg/kg	1.233	28.864	mg/kg	0.00289 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0103 %		

Key

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

Classification of sample: BH105-26/05/2022-1.50

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

Sample details

Sample name:
BH105-26/05/2022-1.50
Sample Depth:
1.50-1.60 m
Moisture content:
17%
(wet weight correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		7.5 mg/kg	1.32	8.219 mg/kg	0.000822 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		1 mg/kg	2.775	2.304 mg/kg	0.00023 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21 mg/kg	1.462	25.475 mg/kg	0.00255 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		16 mg/kg	1.126	14.952 mg/kg	0.0015 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	9.1 mg/kg		7.553 mg/kg	0.000755 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25 mg/kg	2.976	61.757 mg/kg	0.00618 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.83 mg/kg	1.405	0.968 mg/kg	0.0000968 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		35 mg/kg	2.469	71.733 mg/kg	0.00717 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		38 mg/kg		31.54 mg/kg	0.00315 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				7.8	pH		7.8	pH	7.8 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		2.3	mg/kg		1.909	mg/kg	0.000191 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		78	mg/kg	1.233	79.856	mg/kg	0.00799 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0312 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 As the samples is a solid waste (soil and stones) it is not considered to be hazardous in terms of the flammable hazardous property HP 3(i) as this hazard property relates to liquid substance only.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00315%)

Classification of sample: BH101-27/05/2022-2.10

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

Sample details

Sample name:
BH101-27/05/2022-2.10
Sample Depth:
2.10-2.20 m
Moisture content:
14%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.1 mg/kg	1.32	2.385 mg/kg	0.000238 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.9 mg/kg	3.22	5.261 mg/kg	0.000526 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.14 mg/kg	1.142	0.138 mg/kg	0.0000138 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		8.9 mg/kg	1.462	11.187 mg/kg	0.00112 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15 mg/kg	1.126	14.524 mg/kg	0.00145 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	16 mg/kg		13.76 mg/kg	0.00138 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		9.3 mg/kg	2.976	23.804 mg/kg	0.00238 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.25 mg/kg	1.405	0.302 mg/kg	0.0000302 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		20 mg/kg	2.469	42.472 mg/kg	0.00425 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				9.4	pH		9.4	pH	9.4 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		2.8	mg/kg		2.408	mg/kg	0.000241 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		64	mg/kg	1.233	67.891	mg/kg	0.00679 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
70		bromobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1							
71		1,2,3-trichloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4							
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8							
73		tert-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6							
74		1,2,4-trimethylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6							
75		sec-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8							
76		1,3-dichlorbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1							
77		4-isopropyltoluene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6							
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7							
79		n-butylbenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8							
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1							
81		1,2-dibromo-3-chloropropane				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8							
82		1,2,4-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1							
83		hexachlorobutadiene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3							
84		1,2,3-trichlorobenzene				<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6							
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9							
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88		hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92		2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94		bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0192 %		

Key

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

Classification of sample: BH102-27/05/2022-0.15

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

Sample details

Sample name:
BH102-27/05/2022-0.15
Sample Depth:
0.15-0.30 m
Moisture content:
5.6%
(wet weight correction)

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

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.104%)

HP 8: Corrosive "waste which on application can cause skin corrosion"

pH; pH "Assumed to be irritant/corrosive because of pH value"

Because of determinand:

pH: (conc.: 11.8 pH)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.104%)

Determinands

Moisture content: 5.6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.7 mg/kg	1.32	2.119 mg/kg	0.000212 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.17 mg/kg	1.142	0.183 mg/kg	0.0000183 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		6.7 mg/kg	1.462	9.244 mg/kg	0.000924 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
6		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5	mg/kg	2.27	<1.135	mg/kg	<0.000113 %		<LOD
7		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		5.2	mg/kg	1.126	5.527	mg/kg	0.000553 %	✓	
8		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	9.1	mg/kg		8.59	mg/kg	0.000859 %	✓	
9		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		6.6	mg/kg	2.976	18.543	mg/kg	0.00185 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.25	mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<LOD
12		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		16	mg/kg	2.469	37.296	mg/kg	0.00373 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		1100	mg/kg		1038.4	mg/kg	0.104 %	✓	
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<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]		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
20		pH			PH		11.8	pH		11.8	pH	11.8 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		0.17	mg/kg		0.16	mg/kg	0.000016 %	✓	
26		anthracene		204-371-1	120-12-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		0.35	mg/kg		0.33	mg/kg	0.000033 %	✓	
28		pyrene		204-927-3	129-00-0		0.32	mg/kg		0.302	mg/kg	0.0000302 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.2	mg/kg		0.189	mg/kg	0.0000189 %	✓	

#		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									
30		chrysene				0.25	mg/kg		0.236	mg/kg	0.0000236 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				0.32	mg/kg		0.302	mg/kg	0.0000302 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				0.12	mg/kg		0.113	mg/kg	0.0000113 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				0.22	mg/kg		0.208	mg/kg	0.0000208 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				0.14	mg/kg		0.132	mg/kg	0.0000132 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				0.16	mg/kg		0.151	mg/kg	0.0000151 %	✓	
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
41		trichloroethylene; trichloroethene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
42		vinyl chloride; chloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
43		hexachlorobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
44		polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
45		sulfur { sulfur }				1.3	mg/kg		1.227	mg/kg	0.000123 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
46		barium { barium sulphide }				78	mg/kg	1.233	90.825	mg/kg	0.00908 %	✓	
		016-002-00-X	244-214-4	21109-95-5									
47		dichlorodifluoromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			200-893-9	75-71-8									
48		chloromethane; methyl chloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
49		bromomethane; methylbromide				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
50		chloroethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
51		trichlorofluoromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			200-892-3	75-69-4									
52		1,1-dichloroethylene; vinylidene chloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
53		bromochloromethane				<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
			200-826-3	74-97-5									
54		chloroform; trichloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
55		1,1,1-trichloroethane; methyl chloroform				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
56		1,1-dichloropropene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
57		1,2-dichloropropane; propylene dichloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
58		dibromomethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-003-00-8	200-824-2	74-95-3									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
59	●	bromodichloromethane		200-856-7	75-27-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
61	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
63	●	1,3-dichloropropane		205-531-3	142-28-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
64	●	dibromochloromethane		204-704-0	124-48-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
67	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
70		bromobenzene	602-060-00-9	203-623-8	108-86-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
71		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
72		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
73	●	tert-butylbenzene		202-632-4	98-06-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
74		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
75	●	sec-butylbenzene		205-227-0	135-98-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
76		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
77	●	4-isopropyltoluene		202-796-7	99-87-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
78		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
79	●	n-butylbenzene		203-209-7	104-51-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
80		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
81		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
82		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
83	●	hexachlorobutadiene		201-765-5	87-68-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
84	●	1,2,3-trichlorobenzene		201-757-1	87-61-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
85		dimethylnitrosoamine; N-nitrosodimethylamine	612-077-00-3	200-549-8	62-75-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2]	95-57-8 [1] 106-48-9 [2]		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number							
			203-582-6 [3] 246-691-4 [4]	108-43-0 [3] 25167-80-0 [4]							
87		bis(2-chloroethyl) ether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4							
88	●	hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1							
89		nitrosodipropylamine				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7							
90		nitrobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3							
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1							
92	●	2-nitrophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5							
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]							
94	●	bis(2-chloroethoxy)methane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1							
95		2,4-dichlorophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2							
96		4-chloroaniline				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8							
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7							
98	●	2-methyl naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6							
99		hexachlorocyclopentadiene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4							
100		2,4,6-trichlorophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2							
101		2,4,5-trichlorophenol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4							
102	●	2-chloronaphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7							
103	●	dimethyl phthalate				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3							
104		2,6-dinitrotoluene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2							
105	●	dibenzofuran				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9							
106	●	4-chlorophenylphenylether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3							
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]							
108	●	diethyl phthalate				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2							
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1							
110		azobenzene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3							
111	●	4-bromophenylphenylether				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				0.29	mg/kg		0.274	mg/kg	0.0000274 %	✓	
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
122		cumene; [1] propylbenzene [2]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<LOD
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.122 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 As the samples is a solid waste (soil and stones) it is not considered to be hazardous in terms of the flammable hazardous property HP 3(i) as this hazard property relates to liquid substance only.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.104%)

Classification of sample: BH102-27/05/2022-0.30

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

Sample details

Sample name:
BH102-27/05/2022-0.30
Sample Depth:
0.30-0.75 m
Moisture content:
4.4%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 4.4% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.5 mg/kg	1.32	1.893 mg/kg	0.000189 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.11 mg/kg	1.142	0.12 mg/kg	0.000012 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		4.7 mg/kg	1.462	6.567 mg/kg	0.000657 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		3 mg/kg	1.126	3.229 mg/kg	0.000323 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	4.7 mg/kg		4.493 mg/kg	0.000449 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		7.6 mg/kg	2.976	21.624 mg/kg	0.00216 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.25 mg/kg	1.405	<0.351 mg/kg	<0.0000351 %		<LOD
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		9.4 mg/kg	2.469	22.19 mg/kg	0.00222 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**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]		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
20		pH			PH		11	pH		11	pH	11pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
24		fluorene		201-695-5	86-73-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
25		phenanthrene		201-581-5	85-01-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
26		anthracene		204-371-1	120-12-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
27		fluoranthene		205-912-4	206-44-0		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
28		pyrene		204-927-3	129-00-0		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
38		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
39		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
40		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		120 mg/kg	1.233	141.506 mg/kg	0.0142 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0212 %		

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 Deteminand - 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: BH102-27/05/2022-1.70

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

Sample details

Sample name:
BH102-27/05/2022-1.70
Sample Depth:
1.70-1.80 m
Moisture content:
12%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.8 mg/kg	1.32	4.415 mg/kg	0.000442 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		1.1 mg/kg	3.22	3.117 mg/kg	0.000312 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<**LOD**
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13 mg/kg	1.462	16.72 mg/kg	0.00167 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.2 mg/kg	1.126	9.115 mg/kg	0.000912 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	4 mg/kg		3.52 mg/kg	0.000352 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		13 mg/kg	2.976	34.048 mg/kg	0.0034 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.33 mg/kg	1.405	0.408 mg/kg	0.0000408 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		24 mg/kg	2.469	52.152 mg/kg	0.00522 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				8.8	pH		8.8	pH	8.8 pH		
				PH									
21		naphthalene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		33 mg/kg	1.233	35.821 mg/kg	0.00358 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0168 %		

Key

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

Classification of sample: DS101-31/05/2022-1.65

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

Sample details

Sample name:
DS101-31/05/2022-1.65
Sample Depth:
1.65-1.75 m
Moisture content:
12%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.2 mg/kg	1.32	6.042 mg/kg	0.000604 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2.1 mg/kg	1.142	2.111 mg/kg	0.000211 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		7 mg/kg	1.462	9.003 mg/kg	0.0009 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		29 mg/kg	1.126	28.733 mg/kg	0.00287 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	280 mg/kg		246.4 mg/kg	0.0246 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.06 mg/kg	1.353	0.0715 mg/kg	0.00000715 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12 mg/kg	2.976	31.429 mg/kg	0.00314 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.29 mg/kg	1.405	0.359 mg/kg	0.0000359 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		440 mg/kg	2.469	956.112 mg/kg	0.0956 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<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]		<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<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				<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD
20		pH			PH		9.2 pH		9.2 pH	9.2 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
22		acenaphthylene		205-917-1	208-96-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
26		anthracene		204-371-1	120-12-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
28		pyrene		204-927-3	129-00-0		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
38		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<LOD
39		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
40		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		4.6	mg/kg		4.048	mg/kg	0.000405 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		160	mg/kg	1.233	173.676	mg/kg	0.0174 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.147 %		

Key

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

Classification of sample: BH103-30/05/2022-0.14

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

Sample details

Sample name:
BH103-30/05/2022-0.14
Sample Depth:
0.14-0.40 m
Moisture content:
10%
(wet weight correction)

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

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.162%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.162%)

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		1.6 mg/kg	1.32	1.901 mg/kg	0.00019 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.58 mg/kg	3.22	1.681 mg/kg	0.000168 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.14 mg/kg	1.142	0.144 mg/kg	0.0000144 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		5.2 mg/kg	1.462	6.84 mg/kg	0.000684 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		4.2 mg/kg	1.126	4.256 mg/kg	0.000426 %	✓	

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
8		lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	8.2	mg/kg		7.38	mg/kg	0.000738 %	✓	
9		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
10		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		7.6	mg/kg	2.976	20.358	mg/kg	0.00204 %	✓	
11		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<0.25	mg/kg	1.405	<0.351	mg/kg	<0.0000351 %		<**LOD**
12		zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		17	mg/kg	2.469	37.78	mg/kg	0.00378 %	✓	
13		TPH (C6 to C40) petroleum group			TPH		1800	mg/kg		1620	mg/kg	0.162 %	✓	
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**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]		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
20		pH			PH		11.2	pH		11.2	pH	11.2 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
24		fluorene		201-695-5	86-73-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
25		phenanthrene		201-581-5	85-01-8		0.19	mg/kg		0.171	mg/kg	0.0000171 %	✓	
26		anthracene		204-371-1	120-12-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
27		fluoranthene		205-912-4	206-44-0		0.18	mg/kg		0.162	mg/kg	0.0000162 %	✓	
28		pyrene		204-927-3	129-00-0		0.19	mg/kg		0.171	mg/kg	0.0000171 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.18	mg/kg		0.162	mg/kg	0.0000162 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.12	mg/kg		0.108	mg/kg	0.0000108 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.067	mg/kg		0.0603	mg/kg	0.00000603 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
33		benzo[a]pyrene; benzo[def]chrysene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									
41		trichloroethylene; trichloroethene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-027-00-9	201-167-4	79-01-6									
42		vinyl chloride; chloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-023-00-7	200-831-0	75-01-4									
43		hexachlorobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-065-00-6	204-273-9	118-74-1									
44		polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		602-039-00-4	215-648-1	1336-36-3									
45		sulfur { sulfur }				2.8	mg/kg		2.52	mg/kg	0.000252 %	✓	
		016-094-00-1	231-722-6	7704-34-9									
46		barium { barium sulphide }				690	mg/kg	1.233	766	mg/kg	0.0766 %	✓	
		016-002-00-X	244-214-4	21109-95-5									
47		dichlorodifluoromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			200-893-9	75-71-8									
48		chloromethane; methyl chloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-001-00-7	200-817-4	74-87-3									
49		bromomethane; methylbromide				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-002-00-2	200-813-2	74-83-9									
50		chloroethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-009-00-0	200-830-5	75-00-3									
51		trichlorofluoromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			200-892-3	75-69-4									
52		1,1-dichloroethylene; vinylidene chloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-025-00-8	200-864-0	75-35-4									
53		bromochloromethane				<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
			200-826-3	74-97-5									
54		chloroform; trichloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-006-00-4	200-663-8	67-66-3									
55		1,1,1-trichloroethane; methyl chloroform				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-013-00-2	200-756-3	71-55-6									
56		1,1-dichloropropene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-031-00-0	209-253-3	563-58-6									
57		1,2-dichloropropane; propylene dichloride				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-020-00-0	201-152-2	78-87-5									
58		dibromomethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-003-00-8	200-824-2	74-95-3									
59		bromodichloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			200-856-7	75-27-4									
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
61	●	trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
63	●	1,3-dichloropropane		205-531-3	142-28-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
64	●	dibromochloromethane		204-704-0	124-48-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
67	●	1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
70		bromobenzene	602-060-00-9	203-623-8	108-86-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
71		1,2,3-trichloropropane	602-062-00-X	202-486-1	96-18-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
72		mesitylene; 1,3,5-trimethylbenzene	601-025-00-5	203-604-4	108-67-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
73	●	tert-butylbenzene		202-632-4	98-06-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
74		1,2,4-trimethylbenzene	601-043-00-3	202-436-9	95-63-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
75	●	sec-butylbenzene		205-227-0	135-98-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
76		1,3-dichlorbenzene	602-067-00-7	208-792-1	541-73-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
77	●	4-isopropyltoluene		202-796-7	99-87-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
78		1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5	106-46-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
79	●	n-butylbenzene		203-209-7	104-51-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
80		1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9	95-50-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
81		1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3	96-12-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
82		1,2,4-trichlorobenzene	602-087-00-6	204-428-0	120-82-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
83	●	hexachlorobutadiene		201-765-5	87-68-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
84	●	1,2,3-trichlorobenzene		201-757-1	87-61-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
85		dimethylnitrosoamine; N-nitrosodimethylamine	612-077-00-3	200-549-8	62-75-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]	604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
87		bis(2-chloroethyl) ether	603-029-00-2	203-870-1	111-44-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
88	●	hexachloroethane		200-666-4	67-72-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			203-920-2	111-91-1									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				0.078	mg/kg		0.0702	mg/kg	0.00000702 %	✓	
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		607-318-00-4	201-557-4	84-74-2									

#		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									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]									
122		cumene; [1] propylbenzene [2]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]									
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]									
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15	mg/kg		<0.15	mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]									
										Total:	0.248 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 As the samples is a solid waste (soil and stones) it is not considered to be hazardous in terms of the flammable hazardous property HP 3(i) as this hazard property relates to liquid substance only.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.162%)

Classification of sample: BH103-30/05/2022-1.50

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

Sample details

Sample name:
BH103-30/05/2022-1.50
Sample Depth:
1.50-1.60 m
Moisture content:
14%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.6 mg/kg	1.32	6.359 mg/kg	0.000636 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.6 mg/kg	2.775	1.432 mg/kg	0.000143 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.1 mg/kg	1.142	<0.114 mg/kg	<0.0000114 %		<LOD
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19 mg/kg	1.462	23.882 mg/kg	0.00239 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		13 mg/kg	1.126	12.587 mg/kg	0.00126 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	8.8 mg/kg		7.568 mg/kg	0.000757 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		22 mg/kg	2.976	56.311 mg/kg	0.00563 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.37 mg/kg	1.405	0.447 mg/kg	0.0000447 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		28 mg/kg	2.469	59.461 mg/kg	0.00595 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,					<0.5 mg/kg	1.884	<0.942 mg/kg	<0.0000942 %		<LOD

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5											
15		pH			PH		8.9	pH		8.9	pH	8.9 pH		
16		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
17		acenaphthylene		205-917-1	208-96-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
18		acenaphthene		201-469-6	83-32-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
19		fluorene		201-695-5	86-73-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
20		phenanthrene		201-581-5	85-01-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
21		anthracene		204-371-1	120-12-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
22		fluoranthene		205-912-4	206-44-0		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
23		pyrene		204-927-3	129-00-0		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
24		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
25		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
26		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
27		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
28		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
29		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
30		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
31		benzo[ghi]perylene		205-883-8	191-24-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<LOD
32		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		1.3	mg/kg		1.118	mg/kg	0.000112 %	✓	
33		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		120	mg/kg	1.233	127.297	mg/kg	0.0127 %	✓	
34		monohydric phenols			P1186		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
											Total:	0.0302 %		

Key

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

Classification of sample: DS101-30/05/2022-0.00

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

Sample details

Sample name:
DS101-30/05/2022-0.00
Sample Depth:
0.00-0.30 m
Moisture content:
15%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13 mg/kg	1.32	14.59 mg/kg	0.00146 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7 mg/kg	2.775	1.651 mg/kg	0.000165 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		0.41 mg/kg	3.22	1.122 mg/kg	0.000112 %	✓	
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.36 mg/kg	1.142	0.35 mg/kg	0.000035 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25 mg/kg	1.462	31.058 mg/kg	0.00311 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		59 mg/kg	1.126	56.463 mg/kg	0.00565 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	190 mg/kg		161.5 mg/kg	0.0162 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.29 mg/kg	1.353	0.334 mg/kg	0.0000334 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		52 mg/kg	2.976	131.551 mg/kg	0.0132 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.83 mg/kg	1.405	0.991 mg/kg	0.0000991 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		120 mg/kg	2.469	251.868 mg/kg	0.0252 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		480 mg/kg		408 mg/kg	0.0408 %	✓	
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
		006-007-00-5											
20		pH				9	pH		9	pH	9pH		
				PH									
21		naphthalene				0.58	mg/kg		0.493	mg/kg	0.0000493 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				0.23	mg/kg		0.196	mg/kg	0.0000196 %	✓	
			205-917-1	208-96-8									
23		acenaphthene				0.4	mg/kg		0.34	mg/kg	0.000034 %	✓	
			201-469-6	83-32-9									
24		fluorene				0.34	mg/kg		0.289	mg/kg	0.0000289 %	✓	
			201-695-5	86-73-7									
25		phenanthrene				4.6	mg/kg		3.91	mg/kg	0.000391 %	✓	
			201-581-5	85-01-8									
26		anthracene				0.97	mg/kg		0.825	mg/kg	0.0000824 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				9.6	mg/kg		8.16	mg/kg	0.000816 %	✓	
			205-912-4	206-44-0									
28		pyrene				9.3	mg/kg		7.905	mg/kg	0.000791 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				5.1	mg/kg		4.335	mg/kg	0.000433 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				5.3	mg/kg		4.505	mg/kg	0.000451 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				6.1	mg/kg		5.185	mg/kg	0.000519 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				2.1	mg/kg		1.785	mg/kg	0.000179 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				5.9	mg/kg		5.015	mg/kg	0.000502 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				3.2	mg/kg		2.72	mg/kg	0.000272 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				0.5	mg/kg		0.425	mg/kg	0.0000425 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				3.1	mg/kg		2.635	mg/kg	0.000263 %	✓	
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		5.2	mg/kg		4.42	mg/kg	0.000442 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		230	mg/kg	1.233	241.148	mg/kg	0.0241 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				0.18	mg/kg		0.153	mg/kg	0.0000153 %	✓	
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				0.13	mg/kg		0.111	mg/kg	0.0000111 %	✓	
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				0.14	mg/kg		0.119	mg/kg	0.0000119 %	✓	
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		**<LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		**<LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		**<LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		**<LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.136 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 As the samples is a solid waste (soil and stones) it is not considered to be hazardous in terms of the flammable hazardous property HP 3(i) as this hazard property relates to liquid substance only.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0408%)

Classification of sample: DS101-30/05/2022-0.30

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

Sample details

Sample name:
DS101-30/05/2022-0.30
Sample Depth:
0.30-0.44 m
Moisture content:
8.1%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.1% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.5 mg/kg	1.32	6.674 mg/kg	0.000667 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.41 mg/kg	1.142	0.43 mg/kg	0.000043 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		14 mg/kg	1.462	18.804 mg/kg	0.00188 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21 mg/kg	1.126	21.729 mg/kg	0.00217 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	51 mg/kg		46.869 mg/kg	0.00469 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.13 mg/kg	1.353	0.162 mg/kg	0.0000162 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21 mg/kg	2.976	57.439 mg/kg	0.00574 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.49 mg/kg	1.405	0.633 mg/kg	0.0000633 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		60 mg/kg	2.469	136.157 mg/kg	0.0136 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
15		benzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<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 }				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<LOD
		006-007-00-5											
20		pH				9.2	pH		9.2	pH	9.2 pH		
				PH									
21		naphthalene				0.44	mg/kg		0.404	mg/kg	0.0000404 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				0.089	mg/kg		0.0818	mg/kg	0.00000818 %	✓	
			205-917-1	208-96-8									
23		acenaphthene				0.42	mg/kg		0.386	mg/kg	0.0000386 %	✓	
			201-469-6	83-32-9									
24		fluorene				0.24	mg/kg		0.221	mg/kg	0.0000221 %	✓	
			201-695-5	86-73-7									
25		phenanthrene				1.9	mg/kg		1.746	mg/kg	0.000175 %	✓	
			201-581-5	85-01-8									
26		anthracene				0.4	mg/kg		0.368	mg/kg	0.0000368 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				2.9	mg/kg		2.665	mg/kg	0.000267 %	✓	
			205-912-4	206-44-0									
28		pyrene				2.6	mg/kg		2.389	mg/kg	0.000239 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				1.4	mg/kg		1.287	mg/kg	0.000129 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				1.2	mg/kg		1.103	mg/kg	0.00011 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				1.9	mg/kg		1.746	mg/kg	0.000175 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				0.53	mg/kg		0.487	mg/kg	0.0000487 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				1.6	mg/kg		1.47	mg/kg	0.000147 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				0.98	mg/kg		0.901	mg/kg	0.0000901 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				0.18	mg/kg		0.165	mg/kg	0.0000165 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				0.98	mg/kg		0.901	mg/kg	0.0000901 %	✓	
			205-883-8	191-24-2									
37		phenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
38		1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<LOD
			203-458-1, 200-863-5	107-06-2, 75-34-3									
39		tetrachloroethylene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-028-00-4	204-825-9	127-18-4									
40		carbon tetrachloride; tetrachloromethane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-008-00-5	200-262-8	56-23-5									

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		1.7 mg/kg		1.562 mg/kg	0.000156 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		130 mg/kg	1.233	147.366 mg/kg	0.0147 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005 mg/kg		<0.0005 mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0463 %		

Key

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

Classification of sample: DS101-30/05/2022-0.44

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

Sample details

Sample name:
DS101-30/05/2022-0.44
Sample Depth:
0.44-0.60 m
Moisture content:
6%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 6% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2 mg/kg	1.32	2.482 mg/kg	0.000248 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<**LOD**
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<0.4 mg/kg	3.22	<1.288 mg/kg	<0.000129 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.19 mg/kg	1.142	0.204 mg/kg	0.0000204 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		6.2 mg/kg	1.462	8.518 mg/kg	0.000852 %	✓	
6	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8				<0.5 mg/kg	2.27	<1.135 mg/kg	<0.000113 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		3.9 mg/kg	1.126	4.128 mg/kg	0.000413 %	✓	
8	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }	082-001-00-6			1	12 mg/kg		11.28 mg/kg	0.00113 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05 mg/kg	1.353	0.0636 mg/kg	0.00000636 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		6 mg/kg	2.976	16.786 mg/kg	0.00168 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.48 mg/kg	1.405	0.634 mg/kg	0.0000634 %	✓	
12	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		23 mg/kg	2.469	53.386 mg/kg	0.00534 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		<2 mg/kg		<2 mg/kg	<0.0002 %		<**LOD**
14	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.0002 mg/kg		<0.0002 mg/kg	<0.00000002 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**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]		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**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				<0.5	mg/kg	1.884	<0.942	mg/kg	<0.0000942 %		<**LOD**
20		pH			PH		9.5	pH		9.5	pH	9.5 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
24		fluorene		201-695-5	86-73-7		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
25		phenanthrene		201-581-5	85-01-8		0.19	mg/kg		0.179	mg/kg	0.0000179 %	✓	
26		anthracene		204-371-1	120-12-7		0.1	mg/kg		0.094	mg/kg	0.0000094 %	✓	
27		fluoranthene		205-912-4	206-44-0		0.2	mg/kg		0.188	mg/kg	0.0000188 %	✓	
28		pyrene		204-927-3	129-00-0		0.17	mg/kg		0.16	mg/kg	0.000016 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
30		chrysene	601-048-00-0	205-923-4	218-01-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
34		indeno[123-cd]pyrene		205-893-2	193-39-5		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
36		benzo[ghi]perylene		205-883-8	191-24-2		<0.01	mg/kg		<0.01	mg/kg	<0.000001 %		<**LOD**
37		phenol	604-001-00-2	203-632-7	108-95-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<**LOD**
38		1,1-dichloroethane and 1,2-dichloroethane (combined)		203-458-1, 200-863-5	107-06-2, 75-34-3		<0.0004	mg/kg		<0.0004	mg/kg	<0.00000004 %		<**LOD**
39		tetrachloroethylene	602-028-00-4	204-825-9	127-18-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**
40		carbon tetrachloride; tetrachloromethane	602-008-00-5	200-262-8	56-23-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<**LOD**

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
41		trichloroethylene; trichloroethene	602-027-00-9	201-167-4	79-01-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
42		vinyl chloride; chloroethylene	602-023-00-7	200-831-0	75-01-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
43		hexachlorobenzene	602-065-00-6	204-273-9	118-74-1		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
44		polychlorobiphenyls; PCB	602-039-00-4	215-648-1	1336-36-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45		sulfur { sulfur }	016-094-00-1	231-722-6	7704-34-9		2.5	mg/kg		2.35	mg/kg	0.000235 %	✓	
46		barium { barium sulphide }	016-002-00-X	244-214-4	21109-95-5		240	mg/kg	1.233	278.276	mg/kg	0.0278 %	✓	
47		dichlorodifluoromethane		200-893-9	75-71-8		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
48		chloromethane; methyl chloride	602-001-00-7	200-817-4	74-87-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
49		bromomethane; methylbromide	602-002-00-2	200-813-2	74-83-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
50		chloroethane	602-009-00-0	200-830-5	75-00-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
51		trichlorofluoromethane		200-892-3	75-69-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
52		1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0	75-35-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
53		bromochloromethane		200-826-3	74-97-5		<0.0005	mg/kg		<0.0005	mg/kg	<0.00000005 %		<LOD
54		chloroform; trichloromethane	602-006-00-4	200-663-8	67-66-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
55		1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3	71-55-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
56		1,1-dichloropropene	602-031-00-0	209-253-3	563-58-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
57		1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2	78-87-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
58		dibromomethane	602-003-00-8	200-824-2	74-95-3		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
59		bromodichloromethane		200-856-7	75-27-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
60		1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
61		trans-1,3-dichloropropene		431-460-4	10061-02-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
62		1,1,2-trichloroethane	602-014-00-8	201-166-9	79-00-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
63		1,3-dichloropropane		205-531-3	142-28-9		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
64		dibromochloromethane		204-704-0	124-48-1		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
65		1,2-dibromoethane	602-010-00-6	203-444-5	106-93-4		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
66		chlorobenzene	602-033-00-1	203-628-5	108-90-7		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
67		1,1,1,2-tetrachloroethane		211-135-1	630-20-6		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
68		styrene	601-026-00-0	202-851-5	100-42-5		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
69		bromoform; tribromomethane	602-007-00-X	200-854-6	75-25-2		<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
70		bromobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-060-00-9	203-623-8	108-86-1									
71		1,2,3-trichloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-062-00-X	202-486-1	96-18-4									
72		mesitylene; 1,3,5-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-025-00-5	203-604-4	108-67-8									
73		tert-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-632-4	98-06-6									
74		1,2,4-trimethylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		601-043-00-3	202-436-9	95-63-6									
75		sec-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			205-227-0	135-98-8									
76		1,3-dichlorbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-067-00-7	208-792-1	541-73-1									
77		4-isopropyltoluene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			202-796-7	99-87-6									
78		1,4-dichlorobenzene; p-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-035-00-2	203-400-5	106-46-7									
79		n-butylbenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			203-209-7	104-51-8									
80		1,2-dichlorobenzene; o-dichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-034-00-7	202-425-9	95-50-1									
81		1,2-dibromo-3-chloropropane				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-021-00-6	202-479-3	96-12-8									
82		1,2,4-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
		602-087-00-6	204-428-0	120-82-1									
83		hexachlorobutadiene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-765-5	87-68-3									
84		1,2,3-trichlorobenzene				<0.0002	mg/kg		<0.0002	mg/kg	<0.00000002 %		<LOD
			201-757-1	87-61-6									
85		dimethylnitrosoamine; N-nitrosodimethylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-077-00-3	200-549-8	62-75-9									
86		2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]									
87		bis(2-chloroethyl) ether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		603-029-00-2	203-870-1	111-44-4									
88		hexachloroethane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			200-666-4	67-72-1									
89		nitrosodipropylamine				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-098-00-8	210-698-0	621-64-7									
90		nitrobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-003-00-7	202-716-0	98-95-3									
91		3,5,5-trimethylcyclohex-2-enone; isophorone				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		606-012-00-8	201-126-0	78-59-1									
92		2-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-857-5	88-75-5									
93		3,4-xylenol; [1] 2,5-xylenol; [2] 2,4-xylenol; [3] 2,3-xylenol; [4] 2,6-xylenol; [5] xylenol; [6] 2,4(or 2,5)-xylenol [7]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]									
94		bis(2-chloroethoxy)methane				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			203-920-2	111-91-1									

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
95		2,4-dichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-011-00-7	204-429-6	120-83-2									
96		4-chloroaniline				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		612-137-00-9	203-401-0	106-47-8									
97		chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-014-00-3	200-431-6	59-50-7									
98		2-methyl naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-078-3	91-57-6									
99		hexachlorocyclopentadiene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		602-078-00-7	201-029-3	77-47-4									
100		2,4,6-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-018-00-5	201-795-9	88-06-2									
101		2,4,5-trichlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-017-00-X	202-467-8	95-95-4									
102		2-chloronaphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-079-9	91-58-7									
103		dimethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-011-6	131-11-3									
104		2,6-dinitrotoluene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-049-00-8	210-106-0	606-20-2									
105		dibenzofuran				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-071-3	132-64-9									
106		4-chlorophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			230-281-7	7005-72-3									
107		2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]									
108		diethyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-550-6	84-66-2									
109		DNOC (ISO); 4,6-dinitro-o-cresol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-020-00-X	208-601-1	534-52-1									
110		azobenzene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		611-001-00-6	203-102-5	103-33-3									
111		4-bromophenylphenylether				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			202-952-4	101-55-3									
112		pentachlorophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		604-002-00-8	201-778-6	87-86-5									
113		carbazole				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-696-0	86-74-8									
114		dibutyl phthalate; DBP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-318-00-4	201-557-4	84-74-2									
115		BBP; benzyl butyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-430-00-3	201-622-7	85-68-7									
116		bis(2-ethylhexyl) phthalate; di-(2-ethylhexyl) phthalate; DEHP				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		607-317-00-9	204-211-0	117-81-7									
117		di-n-octyl phthalate				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			204-214-7	117-84-0									
118		4-nitrophenol; p-nitrophenol				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		609-015-00-2	202-811-7	100-02-7									
119		monohydric phenols				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
				P1186									
120		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]									

#		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							
121		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
122		cumene; [1] propylbenzene [2]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
123		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.0004 mg/kg		<0.0004 mg/kg	<0.00000004 %		<**LOD**
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
124		o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.15 mg/kg		<0.15 mg/kg	<0.000015 %		<**LOD**
		612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]							
								Total:	0.0388 %		

Key

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

- **lead compounds with the exception of those specified elsewhere in this Annex (worst case)**

GB MCL index number: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

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

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GB MCL index number: 602-039-00-4
Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

barium sulphide (EC Number: 244-214-4, CAS Number: 21109-95-5)

GB MCL index number: 016-002-00-X
Description/Comments:
Additional Hazard Statement(s): EUH031 >= 0.8 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

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

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

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

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

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

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

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

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

- **trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Acute Tox. 3; H301 , Asp. Tox. 1; H304 , Acute Tox. 3; H311 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , Aquatic Chronic 1; H410

- **1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H332 , Flam. Liq. 2; H225 , Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335

- **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT SE 3; H336 , Muta. 2; H341 , Aquatic Chronic 2; H411

- **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Eye Dam. 1; H318 , Acute Tox. 4; H332 , Carc. 2; H351 , Acute Tox. 4; H312 , Aquatic Chronic 3; H412 , Skin Irrit. 2; H315

- **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , Acute Tox. 4; H332 , STOT SE 3; H335 , Asp. Tox. 1; H304 , Aquatic Chronic 2; H411

- **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Chronic 2; H411

- **4-isopropyltoluene** (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Chronic 2; H411

n-butylbenzene (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Flam. Liq. 3; H226 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

hexachlorobutadiene (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 2; H310 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Acute Tox. 2; H330 , Carc. 2; H351 , Repr. 2; H361 , STOT SE 2; H371 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

1,2,3-trichlorobenzene (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 3; H410

hexachloroethane (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , STOT RE 2; H373

2-nitrophenol (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 4; H332 , STOT SE 3; H335 , STOT RE 2; H373 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

bis(2-chloroethoxy)methane (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3; H301 , Acute Tox. 4; H312 , Acute Tox. 1; H330 , Acute Tox. 2; H330 , STOT SE 1; H370 , STOT RE 2; H373

2-methyl naphthalene (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , STOT SE 3; H336 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

2-chloronaphthalene (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

dimethyl phthalate (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 3; H331 , STOT SE 3; H335 , STOT SE 3; H336 , Repr. 2; H361 , Aquatic Chronic 3; H412

dibenzofuran (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 4; H312 , Acute Tox. 4; H332 , Aquatic Chronic 2; H411

4-chlorophenylphenylether (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

diethyl phthalate (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2; H315 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , STOT SE 3; H335 , STOT RE 2; H373 , Repr. 2; H361 , Acute Tox. 4; H302 , STOT SE 3; H336 , Skin Sens. 1; H317 , Aquatic Chronic 1; H410

4-bromophenylphenylether (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Eye Dam. 1; H318 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

carbazole (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4; H302 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Muta. 2; H341 , Carc. 2; H351 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301

di-n-octyl phthalate (EC Number: 204-214-7, CAS Number: 117-84-0)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 02 Mar 2017
Hazard Statements: Repr. 2; H361 , Skin Sens. 1; H317 , Resp. Sens. 1; H334 , Eye Irrit. 2; H319 , Aquatic Chronic 4; H413

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)
Data source: CLP combined data
Data source date: 26 Mar 2019
Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 £ conc. < 3 % , Eye Irrit. 2; H319 1 £ conc. < 3 % , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species were selected based on hazard statements/molecular weight, most common (stable) oxide of arsenic and following a review of the CSM.

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight selected following a review of the CSM.

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. These were selected following a review of the CSM.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water.

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

Reasonable case species based on hazard statements/molecular weight, selected following a review of the CSM.

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.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. These were selected following a review of the CSM.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

There isn't enough Cr(VI) to make hazardous levels of the Metal chromate so the next most conservative specie was selected.

mercury {mercury dichloride}

Reasonable case CLP species based on hazard statements/molecular weight. these were selected following a review of the CSM.

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight.

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

Harmonised group entry used as most reasonable case.

zinc {zinc sulphate}

There isn't enough Cr(VI) to make hazardous levels of zinc chromate so the next most conservative specie was selected.

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.

sulfur {sulfur}

Worst Case CLP Species.

barium {barium sulphide}

Reported chromium VI concentrations are insufficient for chromate species to be present; next most conservative specie selected.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2022.192.5237.9831 (11 Jul 2022)
HazWasteOnline Database: 2022.192.5237.9831 (11 Jul 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