

ENVIRONMENT

Wilson Bowden Developments Ltd
Plot U2, Kingsway Business Park
Milnrow, Rochdale

Phase 2 Geo-Environmental Assessment

ENVIRONMENT

Wilson Bowden Developments Ltd
Plot U2, Kingsway Business Park
Milnrow, Rochdale
Phase 2 Geo-Environmental Assessment

Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds
LS1 4EH
T: 0113 233 8000

London
11 Borough High Street
London, SE1 9SE
T: 0207 407 3879

Manchester
11, Portland Street, Manchester M1 3HU
T: 0161 233 4260

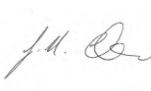
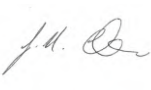
Market Harborough
Harborough Innovation Centre, Wellington Way, Airfield Business Park,
Leicester Road, Market Harborough, Leicestershire, LE16 7WB
T: 01858 455020

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

February 2023

DOCUMENT ISSUE RECORD

Document Number:	PUK-BWB-ZZ-XX-RP-YE-0002-Ph2
BWB Reference:	220960

Revision	Date of Issue	Status	Author:		Checked:	Approved:
P2	February 2023	S2	Thomas Flame M.Sci (Hons)		Mike Harper BSc(Hons) MSc CEnv	Julian Owen BSc(Hons) ARSM FGS MSc(Eng) CGeol
						
P1	December 2022	S2	Thomas Flame M.Sci (Hons)	Mike Harper BSc(Hons) MSc CEnv	Chris Rhodes BSc MSc (Hons)	Julian Owen BSc(Hons) ARSM FGS MSc(Eng) CGeol
						

Notice

This document has been prepared for the sole use of the Client in accordance with the terms of the appointment under which it was produced. BWB Consulting Limited accepts no responsibility for any use of or reliance on the contents of this document by any third party. No part of this document shall be copied or reproduced in any form without the prior written permission of BWB.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY	
Site Address	Plot U2, Kingsway Business Park, Wallis Avenue, Milnrow, Rochdale, OL14 4AQ
Site Setting	The proposed development is anticipated to comprise a food store, two fast food outlets and associated infrastructure.
Published Ground Conditions	Information published by the BGS indicates that the site is directly underlain by Peat and Glaciofluvial Deposits (Sand and Gravel). These are underlain by Pennine Lower Coal Measures bedrock.
Site Investigation	Intrusive ground investigation works were undertaken between 17 th and 24 th October 2022 and comprised the advancement of six cable percussive boreholes to a maximum depth of 15.45m bgl with completion of SPTs and installation of gas and groundwater monitoring wells and fifteen machine excavated trial pits (TP01 to TP15 inclusive) to a maximum depth of 3.40m bgl.
Ground Conditions Encountered	Ground conditions generally comprised Made Ground or topsoil overlying Glaciofluvial deposits which varied between glacial sand and glacial clays. The sand strata were typically described as dark brown/light brown/brown sand, with the clay typically described brown/brownish grey. The Pennine Lower Coal Measures bedrock was not encountered during the investigation. Made Ground was generally found to be deeper in the north west of the site (up to 3.0m), and was underlain by peat deposits in this area. Peat was largely absent in the south eastern half of site.
Geotechnical Appraisal	Poor ground conditions across the site mean that shallow foundations won't be acceptable and structures will need to be piled, including floor slabs. Ground improvement may be possible, though likely rigid inclusions or controlled modulus columns rather than vibro stone columns. Re-use of soils in earthworks is possible with materials classifying as Class 1/2, peat will required to be removed and used in landscaping whilst Made Ground may need to be processed before re-use. Improvement of soils is likely to be necessary both for earthworks and roads and hardstandings. The design sulphate and ACEC class for the Made Ground, Peat and Glacial Deposits is DS-2 and AC-1s.
Environmental Appraisal	No determinants tested for exceeded the soil screening criteria for a commercial end use. Positive asbestos identification of chrysotile loose fibres were recorded in seven locations within the Made Ground between 0.4m and 1.2m bgl. Gas monitoring has not recorded elevated concentrations of methane or carbon dioxide at the site. However, Peat was recorded in the west and north east of the site. Both the peat and the Made Ground have high organic content which is indicative of a CS3 site. Low leachate concentrations of copper, lead, nickel and zinc in the Made Ground are not considered to represent a risk to controlled water receptors. It is considered that the proposed development is likely to lead to a reduction in infiltration and leachate generation, further reducing the risk.
Waste Assessment	Soil samples have been characterised against hazardous waste criteria using Hazwasteonline. The assessment indicates that the majority of soils analysed are likely to be classified as non-hazardous with three sample recovered classified as hazardous (due to the presence of elevated zinc concentrations). Asbestos fibres were also found at the site in seven Made Ground soil samples.
Recommendations	A remediation Strategy should be completed prior to site development. CS3 Gas Protection measures should be installed in any buildings as part of future development. The gas assessment for the site may be re-assessed if organic superficial deposits are removed from site.

This summary should be read in conjunction with BWB's full report (ref. PUK-BWB-ZZ-XX-RP-YE-0002-Ph2) and reflects an assessment of the Site based on information received by BWB at the time of production.

CONTENTS

EXECUTIVE SUMMARY	iii
1. INTRODUCTION.....	1
Previous Reports	1
2. THE SITE	3
Site Location.....	3
Site Description	3
3. PUBLISHED GROUND CONDITIONS	4
Published Geology	4
Hydrogeology	4
Hydrology	4
4. PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT	5
5. PHASE II ENVIRONMENTAL AND GEOTECHNICAL GROUND INVESTIGATION	7
Chemical Sampling Strategy	7
Chemical Analytical Strategy	8
6. GROUND CONDITIONS ENCOUNTERED.....	10
Geological Summary	10
Contamination Observations.....	15
7. GEOTECHNICAL ASSESSMENT	16
Earthworks.....	16
Foundation Solutions	17
Ground Floor Slabs	18
Roads and Pavements.....	18
Drainage.....	19
Excavations	19
Groundwater.....	19
Chemical Attack on Buried Concrete	20
8. PRELIMINARY GROUND GAS ASSESSMENT	21
Introduction	21
Methodology	21
Results.....	21
Initial Recommendations	23
9. CONTAMINANT DISTRIBUTION AND HUMAN HEALTH RISK ASSESSMENT	24
Pathways	24
10. CONTROLLED WATERS RISK ASSESSMENT	26
Summary	27

11.	ENVIRONMENTAL RISK ASSESSMENT	28
12.	ENVIRONMENT LIABILITY ASSESSMENT/DEVELOPMENT CONSTRAINTS	31
13.	WASTE MANAGEMENT	33
	Waste Classification	33
14.	CONCLUSION AND RECOMMENDATIONS	34
	Conclusions	34
	Recommendations.....	35
15.	REFERENCES	36

FIGURES

Figure 2:1: Site Location Plan

Figure 6:1: Corrected SPT 'N' Value (N_{60}) against Depth

Figure 6:2: Undrained Shear Strength Results against Depth – Peat and Glacial Deposits

TABLES

Table 4:1: Potential Sources of Contamination

Table 4:2: Relevant Potential Pathways and Receptors

Table 4:3: Preliminary Conceptual Site Model

Table 5:1 : Analytical Strategy

Table 6:1 : Summary of Ground Conditions

Table 6:2 : PSD Results Summary – Granular Glacial Deposits

Table 6:3 : Summary of Contamination Observations

Table 8:1 : Summary of Recorded Ground Gas Results

Table 8:2: Gas Protection Matrix

Table 9:1 : Commercial Exposure Pathways

Table 9:2 : Summary of Asbestos Testing Results

Table 10:1 : Controlled Water Exposure Pathways

Table 10:2: Summary of Leachate Exceedances – EQS

Table 12:1 : Preliminary Conceptual Site Model

APPENDICES

Appendix 1: Masterplan

Appendix 2: Exploratory Hole Logs

Appendix 3: SPT Certificate

Appendix 4: Ground Gas and Groundwater Monitoring Data

Appendix 5: Soil Chemical Laboratory Report

Appendix 6 : Geotechnical Testing Laboratory Report

Appendix 7: CLEA Screening Sheets

Appendix 8: Leachate Screening Sheets

Appendix 9 : Hazwaste Online Waste Assessment Report

1. INTRODUCTION

Instruction

- 1.1 BWB Consulting (BWB) was instructed by Wilson Bowden Developments Ltd (the Client) to carry out a Phase 2 Geo-Environmental Assessment. Details of the project brief are included in BWB proposal reference 221012/P02/0001/220960/RTR/MH dated October 2022.
- 1.2 The proposed development is anticipated to be a food store, fast food outlets and associated parking and roadways. A masterplan is presented within **Appendix 1**.

Previous Reports

- 1.3 The following geo-environmental reports have previously been completed for the site:
- 'Phase 1 Geo-Environmental Assessment' by BWB Consulting for Wilson Bowden Developments Ltd, reference PUK-BWB-ZZ-XX-RP-YE-0001_Ph1, dated October 2022; and

Objectives

- 1.4 The objectives of the report are to assess:
- The prevailing ground and groundwater conditions across the site;
 - The potential presence and extent of contamination in shallow soil and groundwater beneath the site;
 - The significance and magnitude of the observed contamination through comparison of analytical data to appropriate published environmental screening criteria;
 - The strength properties of the soil beneath the site to enable initial foundation design; and
 - The ground gas regime beneath the site.
- 1.5 The above objectives will allow the preliminary Conceptual Site Model presented in the phase 1 report to be updated. The report has been completed in accordance with BS10175:2011(+A2:2017) 'Investigation of Potentially Contaminated Sites, Code of Practice' and EA Guidance on Risk Management of Land Contamination <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.
- 1.6 This report presents the information obtained from a desk study and the supplementary ground investigations. The report, together with the associated Figures and Appendices, broadly fulfils the requirements of a Ground Investigation Report (GIR), as defined in BS EN 1997-1:2004 and BS EN 1997-2:2007.

Scope of Works

1.7 The ground investigation works were completed between 17/10/22 and 26/10/22 and comprised the following;

- A non-intrusive survey of excavation locations for underground utilities;
- The excavation of seventeen machine excavated trial pits;
- The construction of six cable percussive boreholes;
- Six gas and groundwater monitoring visits;
- Chemical analysis of soils; and
- Geotechnical testing of soil.

2. THE SITE

Site Location

- 2.1 The site is located at Plot U2, Kingsway Business Park, Rochdale located at national grid reference 391259, 412358. The location of the site is shown in **Figure 2.1**.

Figure 2.1: Site Location Plan



Site Description

- 2.2 The site comprises a roughly rectangular shaped parcel of land to the east of Rochdale town centre, covering approximately 1.4ha hectares. The site is undulating, at an elevation of approximately 147m above Ordnance Datum.
- 2.3 Observations at the time of the investigation revealed that the site comprised of slightly overgrown vegetation divided by a strip of hardstanding which ran east to west. The site was generally flat, except for a slight depression in the south eastern corner of site; the ground in this area was softer and wetter than elsewhere, with reeds present.
- 2.4 The site was open to Wallis Avenue along its northern boundary, with hedgerows along the southern and eastern boundaries and a fence separating the site from the Hornet Pub along the western boundary.

3. PUBLISHED GROUND CONDITIONS

Published Geology

- 3.1 British Geological Survey (BGS) mapping indicates that the site is entirely directly underlain by Peat superficial deposits with Hummocky Glacial Deposits and/or Glaciofluvial Deposits beneath. The superficial deposits are underlain by Pennine Lower Coal Measures bedrock.

Hydrogeology

- 3.2 The underlying ground conditions have been classified by the Environment Agency (EA) as follows:
- Peat: Secondary Undifferentiated Aquifer;
 - Hummocky Glacial Deposits and Glaciofluvial Deposits: Secondary A Aquifer; and
 - Pennine Lower Coal Measures: Secondary A Aquifer.

Hydrology

- 3.3 There are three watercourses within 150m of the site boundary, two of which are unnamed (21m east & 145m southeast). The Rochdale Canal is indicated 126m northwest. The site is considered by the EA to be at low risk of flooding (less than 1 in 1000 year event(0.1%) from rivers and the sea, with no noted flood defences or flood water storage areas in the vicinity of the site.

4. PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

- 4.1 The preliminary conceptual site model produced within the Phase 1 Geo-Environmental Assessment Report is reproduced in **Table 4:1 to 4:3**.

Table 4:1: Potential Sources of Contamination

Location	Potential Source	Contaminants of Potential Concern (CoPC)
On-site	Any potential Made Ground on site as a result of the historical spoil heaps and construction storage area.	- Heavy metals - Inorganics, such as cyanides, sulphates and nitrates - Arsenic - Methane, carbon dioxide
	Ground Gas in superficial Peat Deposits.	Methane, carbon dioxide
Off-site	Contamination associated with neighbouring commercial activities including the numerous mill processes and truck use. The previous Scrapyard located 20m southwest	- Heavy metals - Semi-volatile organic compounds (SVOCs) including phenols and polycyclic aromatic hydrocarbons (PAHs) - Petroleum hydrocarbons - Inorganics, such as cyanides, sulphates and nitrates - pH

Table 4:2: Relevant Potential Pathways and Receptors

Receptors	Pathways
Human Health: - Future site users (commercial) - Neighbouring public (residential/commercial) - Intrusive maintenance workers	- Dermal contact with soil or dust - Incidental ingestion of soil and/or dust - Inhalation of dust and/or fibres - Migration and accumulation of ground gas in enclosed spaces leading to inhalation or explosion
Controlled Waters: Groundwater (Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers)	- Leaching of soil contaminants - Vertical and lateral migration
Property: - Underground utilities - Building structures	- Direct Contact - Accumulation and explosion of gas

Table 4.3: Preliminary Conceptual Site Model

Source	Pathway	Receptor	Con	Prob	Risk
On-site sources as detailed in Table 4.1 .	Dermal contact with, and incidental ingestion of soil and/or dust.	Future site users (commercial)	Md	UI	L
	Inhalation of dust and/or fibres.	Intrusive maintenance workers	Md	Lw	M/L
	Migration and accumulation of ground gases in enclosed spaces leading to asphyxiation (carbon dioxide) or explosion (methane).	Future site users (commercial)	Sv	Lw	M
	Leaching and permeation through soil profile.	Groundwater: Underlying Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers	Md	UI	L
	Vertical and lateral migration of contaminants.		Md	UI	L
	Direct Contact	Buried structures/ foundations.	Mi	Lw	L
Off-site sources as detailed in Table 4.1 .	Dermal contact with, and incidental ingestion of soil and/or dust.	Future site users (commercial)	Md	UI	L
		Future site users (commercial)	Md	UI	L
	Leaching and permeation through soil profile.	Groundwater: Underlying Secondary Undifferentiated Superficial & Secondary A Bedrock Aquifers	Md	Lw	M/L
	Vertical and lateral migration of contaminants.				

5. PHASE II ENVIRONMENTAL AND GEOTECHNICAL GROUND INVESTIGATION

- 5.1 Intrusive ground investigation works were undertaken between 17/10/22 and 26/10/22 and comprised the following:
- Clearance of investigation locations by a specialist buried services tracing company;
 - Collection of coordinates and elevations of exploratory hole locations;
 - The advancement of six cable percussive boreholes (BH01 to BH06 inclusive) to a maximum depth of 15.45m bgl with completion of SPTs and installations of gas and groundwater monitoring wells;
 - The advancement of seventeen machine excavated trial pits (TP01 to TP15 inclusive, plus TP09A and TP13A) to a maximum depth of 3.4m bgl;
 - Collection of environmental soil and groundwater water samples for chemical analysis at a UKAS and MCERTS accredited laboratory;
 - Collection of bulk, undisturbed and disturbed soil samples for geotechnical analysis at a UKAS accredited laboratory; and
 - Following completion six post investigation ground gas and groundwater level monitoring visits (three completed to date).
- 5.2 An exploratory hole location plan is presented as **Drawing 1**. BWB exploratory hole records are presented as **Appendix 2**, the SPT calibration certificate is presented in **Appendix 3**, and the post investigation gas and groundwater monitoring data is presented as **Appendix 4**.
- 5.3 The site investigation works were carried out in general accordance with BS5930:2015 'Code of Practice for Site Investigations' and BS10175:2011 'Investigation of Potentially Contaminated Sites'.

Chemical Sampling Strategy

- 5.4 Samples were tested with a standard soil suite from across site for a general Made Ground screen to determine whether any contaminants from Made Ground had migrated into natural strata below.
- 5.5 Asbestos screening was undertaken on Made Ground from across the site.
- 5.6 Samples were tested for potential leachable contaminants across site, with particular emphasis on Made Ground samples from the north west of site, which contained clinker and other metallic waste.
- 5.7 A hydrocarbon/bitumen odour was noted in one area of site, this material was tested for the presence of hydrocarbons and volatile organic compounds.

Chemical Analytical Strategy

Soil Strategy

5.8 Selected soil samples collected from exploratory hole locations were sent to i2 Analytical Ltd Services (UKAS and MCERTS accredited) for chemical analysis. The following chemical analytical testing was undertaken:

- Eighteen soil samples tested for a soil suite (BWB Standard Suite) comprising arsenic, barium, beryllium, water soluble boron, cadmium, chromium, hexavalent chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, water soluble sulphate (2:1 extract), total phenols, total cyanide, free cyanide, complex cyanide, fraction of organic carbon, pH, Polycyclic Aromatic Hydrocarbons (PAHs) (United States Environment Protection Agency priority 16 compounds) and Total Petroleum Hydrocarbons (TPH) C6-C40;
- One soil sample tested for speciated TPH to the UK Criteria Working Group (TPHCWG) for aliphatic and aromatic compounds. This sample was also tested for volatile and semi volatile organic compounds.
- Ten soil samples for asbestos screening;
- Two soil samples for asbestos quantification and
- Nine soil samples tested for a suite of common leachable contaminants, namely arsenic, barium, beryllium, water soluble boron, cadmium, chromium, copper, lead, mercury, nickel, selenium, vanadium, zinc, water soluble sulphate (2:1 extract), sulphate, total cyanide and pH.

5.9 The results of the soil chemical testing are presented as **Appendix 5**.

5.10 The above soil chemical testing was targeted based on the following rationale presented within **Table 5.1** below.

Table 5.1 : Analytical Strategy

Location	Depth (m bgl)	Stratum	Analysis	Reason
TP01, 02, 03, 04, 05, 06, 07, 09, 12 13, 13A, 14, 15 BH06	0.20-3.25	Made Ground, Peat and Natural Strata	BWB Standard suite,	General Made Ground/Site Screen Organic matter content
TP12	0.90	Glaciofluvial Deposits	TPHCWG, VOCs, SVOCs	Hydrocarbon odour noted
TP01, 02, 03, 04, 05, 08, 09A 13A, 15	0.30-1.30	Made Ground	Asbestos Screen	General Made Ground screen
TP01, 03, 04, 05, 08, 10, 13A BH01, 06	0.20-2.40	Made Ground, Glaciofluvial Deposits	Leachate	General site screen, metallic waste noted

Geotechnical Strategy

- 5.11 The cable percussive borehole locations were positioned beneath the proposed building footprints to assess underlying ground conditions for geotechnical purposes. The trial pits were positioned to assess ground conditions, strength properties and characteristics across the wider site, and to determine the makeup of existing hardstanding.
- 5.12 In-situ soil strength testing comprising SPTs were undertaken within the cable percussive boreholes. SPT 'N' values are included on the exploratory hole logs presented as **Appendix 2**. Hand shear vane tests were undertaken on recovered samples where appropriate cohesive soils were encountered.
- 5.13 Selected disturbed and bulk samples were collected from the investigation locations and sent to the geotechnical laboratory (I2 Analytical Ltd), which is UKAS accredited. The following geotechnical testing was undertaken;
- Seven samples tested for moisture content;
 - Seven samples tested for Atterberg (liquid and plastic) limits;
 - Eleven samples analysed for particle size distribution to clay fraction;
 - Three samples subjected to oedometer consolidation testing;
 - One 2.5kg compaction test; and
 - One 4.5kg compaction test; and
 - Eight BRE SD1 tests.
- 5.14 The results of the available geotechnical testing are included as **Appendix 6**.

Limitations and Uncertainty

Drilling limitations

- 5.15 Wet ground conditions on site prevented the rig accessing the south east corner of site. BH06 was therefore moved north to enable access to a location as close to this area as possible.

6. GROUND CONDITIONS ENCOUNTERED

Geological Summary

- 6.1 The ground conditions recorded largely confirmed the published geology discussed in the Phase 1 report, comprising Made Ground and Peat overlying Glacial Deposits. The Glacial Deposits comprised the Glaciofluvial deposits and/or Hummocky Glacial deposits which were difficult to distinguish between on site. None of the exploratory holes encountered the Pennine Lower Coal Measures Formation.
- 6.2 The recorded ground conditions are summarised in **Table 6:1**. Corrected SPT results collected from the borehole locations are presented on the exploratory hole records presented in **Appendix 2**.

Table 6:1 : Summary of Ground Conditions

Stratum	Top Depth (m)		Base Depth (m)		Thickness (m)		Corrected SPT N Value	
	Min	Max	Min	Max	Min	Max	Min	Max
Topsoil	0.00	0.00	0.10	0.40	0.10	0.40	NR	NR
Made Ground [^]	0.00	0.40	0.7	3.10	0.50	3.10	4	43
Peat	1.40	3.00	1.70	3.20	0.10	1.00	NR	NR
Granular Glacial Deposits	0.20	14.50	0.95	>15.45*	0.20	>14.05*	7	64
Cohesive Glacial Deposits	0.1 [?] 0	10.50	1.30	14.50* [?]	0.20	4.00*	4	24
Note: * Base of stratum not proven ^ Only present across part of the site								

Geological Descriptions

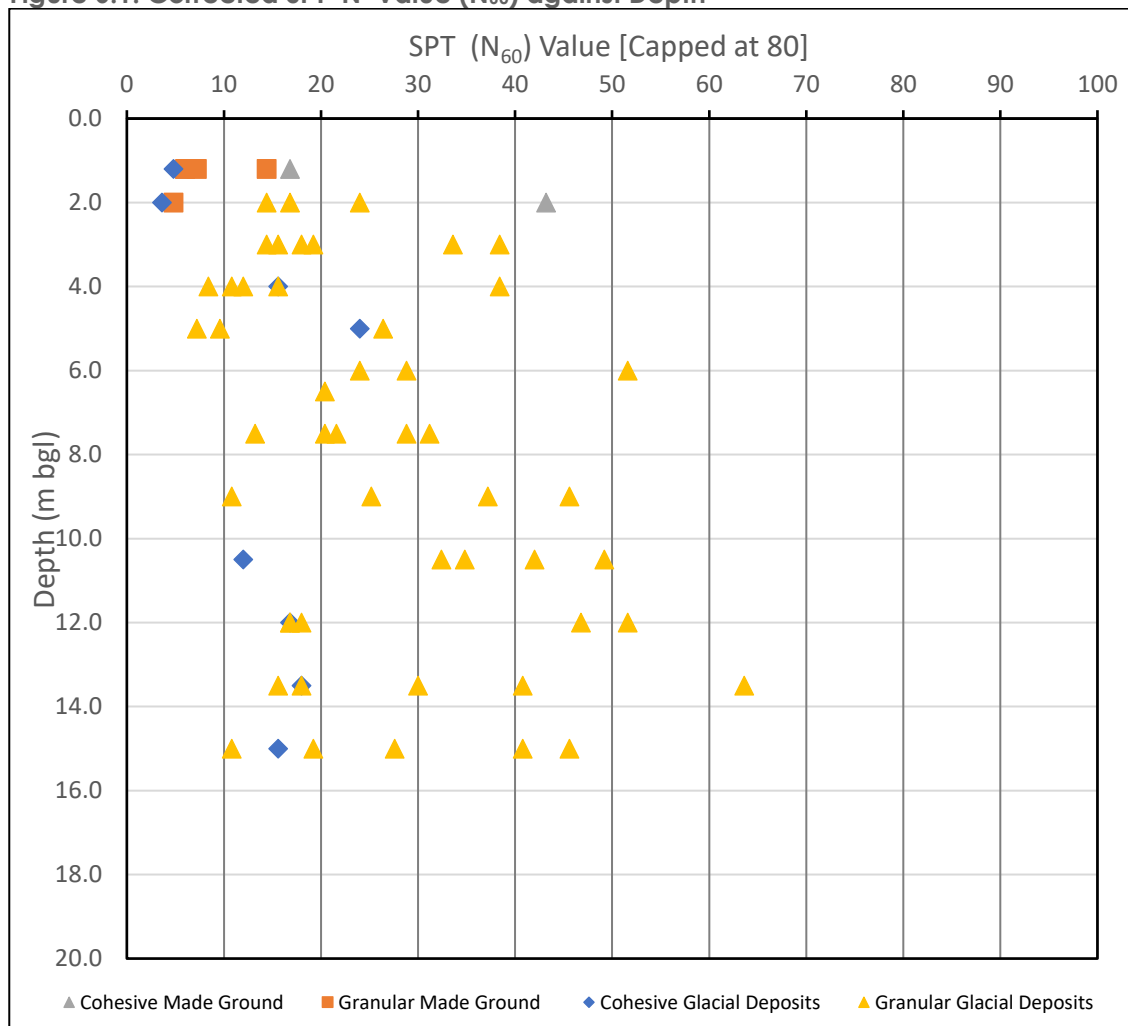
Topsoil

- 6.3 Topsoil was encountered in 15 exploratory holes (TP01 - TP04, and TP06 - TP15). It was recorded with thicknesses of between 0.1m and 0.4m.
- 6.4 The composition varied, generally comprising brown sandy gravelly clay, or clayey gravelly sands. Remnants of Made Ground were encountered locally[?] as fragments of brick and sandstone cobbles within the matrix of the Topsoil.
- 6.5 The depth of Topsoil over the site may vary from that encountered at the locations investigated within the scope of this investigation which may result in variations of topsoil quantities on the site.

Made Ground

- 6.6 Made Ground was encountered at most exploratory holes at the site excluding BH03, with thicknesses ranging between 0.50 and 3.10m.
- 6.7 Made Ground typically comprised very loose to medium dense (based on SPT 'N' values) dark brown slightly clayey gravelly sand with occasional cobbles or occasionally soft to very stiff black/grey sandy gravelly clay. Gravel (and occasional cobbles) predominantly consisted of brick, sandstone, plastic, concrete, glass, clinker, and ceramics. TP04 contained wallpaper, and TP11 had an entire concrete gravel strata beneath typical Made Ground material. The Made Ground within TP12 was noted to have a bituminous odour.
- 6.8 Corrected SPT 'N' values (N_{60}) values within the Made Ground were recorded in the range 6 to 43 blows. The SPT ' N_{60} ' values ranged from 6 to 43 within the cohesive Made Ground and that for the granular Made Ground ranged from 5 to 14. A plot of corrected SPT ' N_{60} ' value against depth is presented as **Figure 6:1** below.

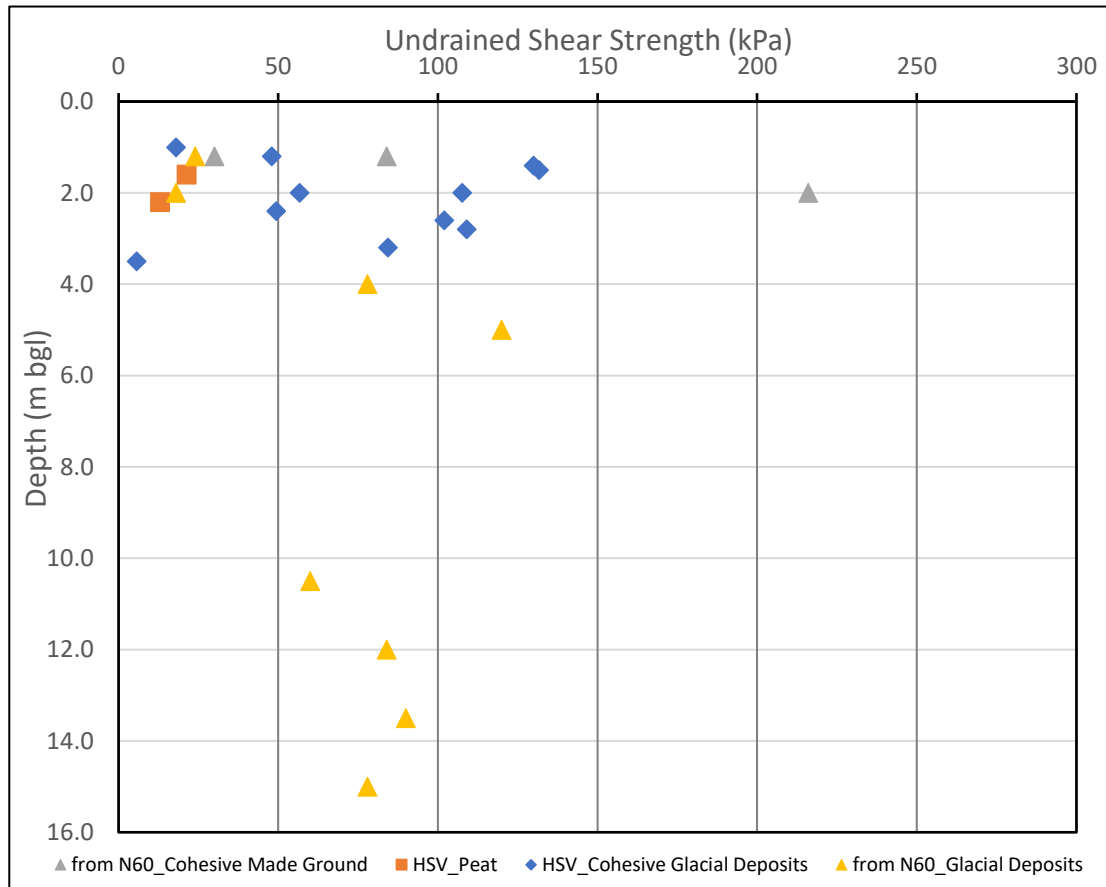
Figure 6:1: Corrected SPT 'N' Value (N_{60}) against Depth



- 6.9 No geotechnical tests were carried out on samples of the Made Ground.

- 6.10 The derived undrained shear strength values from SPT N_{60} values (from Terzaghi & Peck 1967) are presented as **Figure 6.2** alongside the hand shear vane test results. The derived undrained shear strength results within the Made Ground ranged from 30kPa to 216kPa.

Figure 6.2: Undrained Shear Strength Results against Depth – Peat and Glacial Deposits



- 6.11 Chemical tests on 4 samples of the Made Ground recorded pH values ranged from 7.5 to 8.4 and water soluble sulphate 2:1 water soluble extract (SO_4) values ranged from 27mg/l to 86mg/l.

Peat

- 6.12 Peat was encountered across the north western half of the site, and in one isolated area in the east. It was encountered in exploratory holes TP01 - TP08 and TP10. Thicknesses ranged from 0.10m to 0.90m. The material was generally described as soft brown fibrous peat. TP08 and TP10 (in the north east of the site) were both described as a black sandy peat. A thin band of peat was also recorded directly beneath the Made Ground at depth of 1.4m bgl in BH04.
- 6.13 SPT N_{60} values were not recorded within the Peat stratum.
- 6.14 Two moisture content test results on samples of the Peat recorded moisture content values of 395% and 428%. Atterberg limit tests on corresponding samples recorded

extremely high Plasticity Index (PI) values of 245% and 339% confirming the Peat is highly compressible in nature and subject to high volume change potential.

- 6.15 Where suitable cohesive organic deposits (including Peat) were encountered hand shear vane (HSV) tests were undertaken. The tests comprised three individual test locations with the average taken; the average peak results are presented as **Figure 6:2**. The undrained shear strength results from HSV testing record values of between 13kPa and 21kPa. The HSV results obtained in trial pits on recovered samples? are presented on the exploratory hole records presented in **Appendix 2**.
- 6.16 Chemical tests on 2 samples of the Peat recorded pH value of 4.5 and water soluble sulphate 2:1 water soluble extract (SO₄) values ranged from 58.6mg/l to 540mg/l.

Glacial Deposits

- 6.17 The BGS online Viewer indicates Hummocky Glacial Deposits and Glaciofluvial Deposits are present beneath the Peat across the site. It was difficult to distinguish between the glacial geological units during the logging and description of the soils. Hence, for the purpose of this report, the Hummocky Glacial Deposits and Glaciofluvial Deposits are not differentiated and classified simply as cohesive and granular Glacial Deposits. The cohesive and granular Glacial Deposits were generally encountered as interbedded layers during the intrusive works beneath the Topsoil, Made Ground and Peat deposits.
- 6.18 Granular Glacial Deposits were encountered in the majority of exploratory holes with the exception of TP02, TP04, TP06, TP09, TP10 and TP13 with unproven thicknesses of greater than 15.45m. It was typically described as a medium dense to dense dark/light brown sand, with bands of soft brown/brownish grey clay/silt.
- 6.19 The cohesive Glacial Deposits were encountered in the majority of exploratory holes with the exception of BH04, TP01, TP03 to TP07, TP09, TP11 and TP13 with thicknesses ranging from 0.2m to 4.0m. The stratum was typically, described as soft to firm brownish grey silty clay becoming a stiff reddish brown clayey silt or stiff brown clay at depth, with minor bands of sand?.
- 6.20 SPT N₆₀ values within the cohesive Glacial Deposits ranged from 4 to 24 blows and that for the granular Glacial Deposits ranged from 7 to 64 (one refusal – in excess of 50 blows per 300mm penetration). An SPT N₆₀ against depth plot is presented as **Figure 6:1**.
- 6.21 Five moisture content test results carried out on samples of the cohesive Glacial Deposits recorded values of between 13% and 21%. Atterberg limit tests on corresponding samples recorded a low plasticity clay with PI values ranging from 8% to 18% confirming the material is of low volume change potential.
- 6.22 Shear strength results, consisting of HSV test results (and derived values from SPT N₆₀ values) are presented as a graph in **Figure 6:2**. The undrained shear strength results from HSV testing recorded values from 6kPa to >132kPa and that from derived from SPT N₆₀ values ranged from 18kPa to 120kPa. The HSV results obtained in trial pits on recovered samples? are presented on the exploratory hole records presented in **Appendix 2**.

- 6.23 Fourteen PSD tests were undertaken on samples from the granular Glacial Deposits, a summary of the results is provided in **Table 5** below.

Table 6:2 : PSD Results Summary – Granular Glacial Deposits

Location	Depth (m)	Very Coarse Content (%)	Gravel Content (%)	Sand Content (%)	Clay/ Silt Content (%)	Uniformity Coefficient	Earthworks Classification
TP07	3.0	0	22	66	12	> 6.4	Class 1B
BH02	8.5	0	1	82	17	> 3.3	Class 2A/2B
BH03	3.5	0	3	75	22	> 4.1	Class 2A/2B
BH03	7.5	0	1	66	34	> 2.2	Class 2A/2B
BH04	6.0	0	1	72	27	> 2.0	Class 2A/2B
BH04	13.5	0	1	82	17	> 4.0	Class 2A/2B
BH03	7.5	0	1	66	34	> 2.2	Class 2A/2B
BH04	9.0	0	1	72	27	> 2.0	Class 2A/2B
BH04	13.5	0	1	82	17	> 4.0	Class 2A/2B
BH05	4.0	0	0	86	14	> 2.9	Class 1B
TP12	2.8	0	0	84	15	> 2.3	Class 2A/2B
BH01	8.5	0	1	89	10	4.2	Class 1B
BH01	14.5	0	0	61	39	> 1.5	Class 2A/2B
BH02	13.5	0	0	67	33	> 1.7	Class 2A/2B

- 6.24 Two density/moisture content relationship determinations based on light (2.5kg rammer) and heavy (4.5kg rammer) compaction tests were completed on samples of the granular Glacial Deposits gave optimum moisture contents (OMC) of 9.1% (cohesive soil) and 16% (granular soil) with the corresponding Maximum Dry Density (MDD) values being 1.71Mg/m³ and 2.05Mg/m³. The natural moisture contents (range 12% to 13%) indicate the soil may be wet of optimum for cohesive soil.
- 6.25 Three oedometer tests on undisturbed samples of the cohesive Glacial Deposits indicate an estimated modulus of volume compressibility value of 0.17m²/MN to 0.23m²/MN at overburden pressures ranging from 120 to 150kPa.
- 6.26 Chemical tests on 4 samples of the Glacial Deposits recorded pH values ranged from 7.5 to 9.0 and water soluble sulphate 2:1 water soluble extract (SO₄) values ranged from 21.6mg/l to 46.2mg/l.

Hydrogeology

- 6.27 Groundwater was encountered during drilling in several cable percussive holes and machine excavated trial pits with the exception of BH03 to BH05 and TP15. The depths of groundwater strikes varied from 2.8 to 2.9m bgl within the Made Ground of BH01 and BH02 rising to 2.4m and 2.7 bgl after 20 minutes of monitoring, and at 9.70m bgl within the granular Glacial Deposits in BH06 rising to 6.0m bgl after 20 minutes of monitoring during drilling. Within the machine excavated trial pits, groundwater strikes were

recorded at depths ranging from 0.1m to 2.3m bgl in the Made Ground, 1.6m to 2.2m bgl in the Peat and 0.3m to 1.2m bgl in the Glacial Deposits.

- 6.28 Post-investigation monitoring between 8th November and 13th December 2022, recorded groundwater levels at varying depths, ranging between 2.26m and 12.80m bgl with no clearly defined groundwater gradient?

Contamination Observations

- 6.29 A summary of the contamination observations noted during the intrusive investigation works are summarised in **Table 6:3** below.

Table 6:3 : Summary of Contamination Observations

Location	Depth (m bgl)	Observations
TP12	0.20 – 0.95	Bituminous odour

- 6.30 No contamination observations were noted during the groundwater sampling visit or subsequent gas and groundwater monitoring period.

7. GEOTECHNICAL ASSESSMENT

Introduction

- 7.1 The proposed development for Plot U2 is indicated to be a single commercial food store unit and two drive through restaurant units with associated parking spaces, loading bays and external forecourt areas. The building is likely to be a steel portal framed structure.
- 7.2 For the purpose of this foundation appraisal, the generalised ground conditions across the development plot consist of Made Ground of varying composition overlying Peat, in the western and north eastern parts of the site only, underlain by Glacial Deposits comprising interbedded clays, silts and sands, generally becoming stiffer/denser with depth. In the south eastern part of site, made ground directly overlies the Glacial Deposits. The Pennine Lower Coal Measures Formation was not encountered in any of the exploratory holes drilled across the site.
- 7.3 Groundwater is considered to be approximately 2.30m bgl, but is locally perched within superficial deposits and variable across the site. This is based on groundwater strikes encountered and levels recorded within the Glaciofluvial Deposits during the groundwater monitoring. BWB's experience of the local area indicates that groundwater is seasonally variable and may be at shallower depths after periods of extended inclement weather.
- 7.4 Based on the ground conditions discussed in Section 6 and summarised above, a geotechnical ground model, deriving geotechnical parameters, has been developed. This model provides the basis for geotechnical analysis undertaken within this report. There are principally three main lithological units at the site, the Made Ground, Peat, Glacial Deposits (which is sub-divided into granular and cohesive layers).

Earthworks

- 7.5 Generally, due to the flat or level nature of the site, it is unlikely that major earthworks are likely to be required at the site. However, small-scale earthworks up to 2.0m below existing ground level may be required to create a suitable, level development platform across the plot, especially in external areas of the site.
- 7.6 Based on the results obtained, near-surface soil materials are likely to conform to Class 1A/1B or, more commonly, Class 2A/2B general fill in accordance with Specification for Highway Works (SHW), Series 600. It should be noted that no earthworks testing has been carried out on samples of the Made Ground to determine its suitability in earthworks. It is anticipated that the Made Ground will generally conform to Class 2 fill and may be suitable for use in any earthworks at the site but is likely to require selective digging, processing or other treatment. Any Peat removed is likely to be used in the landscaping areas of the site.
- 7.7 The near-surface cohesive soils likely to be re-used in earthworks may be wet of their OMC, and hence are likely to require drying (potentially via chemical modification or stabilisation) to achieve an adequate degree of compaction if placed as engineered fill.

- 7.8 The suitability of earthworks materials has been assessed on the basis of the limited testing carried out as part of this investigation. The materials encountered on site may vary from those analysed; furthermore, inclement weather, winter working or seasonal variations in groundwater may result in materials being unsuitable for incorporation within the works without modification by lime, cement or other methods. In particular, cohesive soils (i.e. clayey silt) are very susceptible to 'wet weather working' and BWB strongly recommends that consideration should be given to lime and/or cement stabilisation of these materials if the earthworks are undertaken during inclement weather or the winter period.
- 7.9 Stockpiled materials often deteriorate due to water infiltration, and they may become unsuitable for incorporation in the works; further testing and re-assessment should be made prior to the finalisation and implementation of the earthworks design.

Foundation Solutions

Simple Foundations Strip/Pads

- 7.10 Anticipated loads have not been provided for this development, however typical foundation loading requirements for a commercial development of this nature are of the order of 150kPa, indicating that shallow strip or pad foundations are not likely to be suitable for this development without ground improvement due to nature of the soils encountered during the intrusive works.
- 7.11 Within the non-engineered Made Ground, Peat, cohesive and granular Glacial Deposits, bearing capacity calculations based on in situ hand shear vanes and empirical correlation between SPT N_{60} values and undrained shear strength as of Stroud 1976, reference in CIRIA143, suggest an allowable bearing capacity that would be less than the anticipated loading requirements.
- 7.12 Therefore, shallow spread foundations transferring loads onto the (untreated) underlying Made Ground, Peat and cohesive and granular Glacial Deposits are unlikely to be suitable for the building units, as there would be a risk of excessive and unpredictable total and differential settlements.
- 7.13 If shallow foundations are adopted, ground improvement is likely to be required and if viable, subject to removal of considerable soft spots and unsuitable strata comprising Peat and some part of the Glacial Deposits.

Ground Improvement Techniques

- 7.14 Ground improvement such as vibro-stone columns (VSC) is unlikely to be suitable to support shallow (pad) spread foundations and a ground bearing floor slab due to the presence of variable Made Ground, Peat and presence of loose sand and soft clay associated with the Glacial Deposits.
- 7.15 The option of ground improvement techniques comprising the installation of Rigid Inclusions (RIs) or Control Modulus Columns (CMC's), with a load transfer platform is considered a more feasible and suitable foundation for the proposed units.

- 7.16 For the adoption of a RI/CMC solution, it is likely organic soils would be left in situ, although this would have potential implications on the ground gas regime and any gas protection requirements.
- 7.17 Settlement under the slab and foundations is expected to be required to be limited to 25mm under expected loads. This will need to be subject to detailed design and assessment by the foundation and ground improvement designers when loads are confirmed. Designs may need to allow for mitigation of differential settlement, between the main structure and external areas; this may need to include for articulation of threshold elements/structures and or dock levellers. Ground treatment beyond building footprints and/ or reinforced concrete cantilever slabs are likely to be needed.
- 7.18 A specialist ground improvement contractor should be consulted in order to confirm the viability of ground improvement and the cost effectiveness for this site.

Piled Foundations

- 7.19 A piled foundation solution is the default option for the support of the proposed building. A specialist piling contractor should be consulted to further assess the most economical and suitable piling solution.

Ground Floor Slabs

- 7.20 Loading requirements of the ground floor slab are expected to be lower than beneath pad or strip foundations, typically 50kPa. Nevertheless, in order to mitigate risks of excessive total/differential settlement, in situ ground improvement or piling as described above, is likely to be required beneath the ground floor slab.

Roads and Pavements

- 7.21 Plasticity index testing undertaken on near-surface cohesive soil samples of the Glacial Deposits (upper 1.5m to 2.5m bgl) ranged from 16% to 21%. CBR values of about 3% are indicated based on these PI values with reference to Table C1 of TRRL 1132 (Structural Design of Bituminous Roads) according to guidance in National Highways document CD225, Design for New Pavement Foundations. It should be noted that lower CBR values of 1% are likely to exist when the cohesive Glacial Deposits becomes more clayey silt, or in areas of Made Ground or Peat. Where the near shallow granular Glacial Deposits are present, increased CBR values of up to 5% or more may be achievable. Peat encountered is likely to require removal and Made Ground excavated, potentially processed and recompacted to an appropriate earthworks specification in accordance with the Specification for Highway Works, Series 600 in the external areas of the site.
- 7.22 Minimum design CBR values for pavement foundations will need to be confirmed by further testing but modification of these formation soils (e.g. by lime or cement) is likely to be required to achieve the minimum design CBR value. An improved CBR of minimum 5% would likely be possible in modified formation soils.
- 7.23 The design of chemical modification to provide a suitable thickness of subgrade should take account of potentially high organic matter content and high water contents in the

underlying soils. Ground improvement techniques and thickness of improved in situ ground should be designed to limit settlement under pavements to 25mm after the accommodation of the sub-base, base and surface courses. This should be subject to detailed design.

- 7.24 It is recommended that in-situ CBR tests at formation level should be carried out to confirm the strength of sub grade and finalise the required pavement construction thickness.

Drainage

- 7.25 No soakaway drainage tests have been undertaken at the site. Additional soil infiltration tests would be required to confirm whether traditional soakaways would be suitable, if required. However, based on the ground conditions encountered together with the variable and shallow groundwater encountered in the area, soakaway drainage is unlikely to be a viable solution.

Excavations

Ease of Excavation

- 7.26 Conventional plant equipment is expected to be suitable for excavations at the site.

Stability of Excavation

- 7.27 Excavations displayed generally good stability across the site in the short term, with all trial pits achieving target depth. However, where granular Glacial Deposits are present and groundwater levels rise following periods of wet weather, running sands could present an issue within excavations and the use of temporary shoring may need to be considered. The potential for stability issues will be reduced if works are undertaken in the drier summer months.
- 7.28 Excavations may become unstable if left open for any significant periods. Where personnel entry is required for inspection; excavations should be sufficiently enlarged, and an assessment of safe temporary angles should be made. Alternatively, temporary shoring should be provided. All works should be subject to specific assessment and design by a temporary works engineer.

Legislation on Personnel Entry to Excavations

- 7.29 It is recommended that no excavations should be entered without appropriate support and a full risk assessment should be completed prior to entry. Mitigation measures to protect from accumulating ground gases should be implemented.

Groundwater

- 7.30 Groundwater is likely to vary seasonally at the site. The ground investigation, undertaken in October (after a particularly dry spring/summer), will have likely captured a lowered

groundwater situation at the site, with various areas of the site displaying evidence of historical waterlogging (e.g. reeds, peat build up).

- 7.31 If groundwater levels rise following extended periods of wet weather, groundwater control may be required during construction of ground works, standard pumping equipment may be suitable, but will need to be assessed at the time of the works. The local water authority should be consulted to assess whether a temporary drainage consent is required, for discharging to the local drainage network.

Chemical Attack on Buried Concrete

- 7.32 Based on the results of six tests across the wider site, and in accordance with the recommendations of BRE Special Digest 1, Concrete in 'Aggressive Ground' 2005, the design concrete Class for each geological unit may be classified as follows:

- Made Ground DS-1 AC-1s
- Peat DS-2 AC-1s
- Glacial Deposits DS-1 AC-1s

- 7.33 It is recommended that any concrete in contact with the Made Ground, Peat and Glacial Deposits should be design for DS-2, AC-1s conditions.

8. PRELIMINARY GROUND GAS ASSESSMENT

Introduction

- 8.1 Ground gas assessment has been undertaken to assess the risks associated with ground gases and volatile vapours to new buildings and their occupants. The results obtained have been assessed in line with relevant guidance (notably CIRIA C665).
- 8.2 Based on the desk study and the ground investigation undertaken, the following potential sources of hazardous ground gas have been identified:
- Made Ground across the site;
 - Peat encountered across the north western half of the site, and in one isolated area in the east.
- 8.3 Based on the potential sources identified, CIRIA C665 guidance indicates that for a site with moderate gas generation potential and a low sensitivity development (the proposed commercial land use), a typical monitoring programme may comprise 6 visits over a period of 3 months.

Methodology

- 8.4 The assessment of potential ground gas generation is based on the observation of trends and changes in gas evolution by the direct measurement of ground gases from gas wells. The works included measurement of methane, carbon dioxide, oxygen, hydrogen sulphide, carbon monoxide, gas flows and barometric pressure. A PID survey was undertaken to measure volatile organic compounds within the borehole response zones.

Results

- 8.5 The minimum and maximum steady state concentrations recorded for borehole flow, oxygen, carbon dioxide and methane are summarised below in **Table 8:1**. The full ground gas monitoring results are presented in **Appendix 4**.

Table 8:1 : Summary of Recorded Ground Gas Results

Borehole ID	Targeted Geology	Steady Flow (l/hr)		Carbon Dioxide (%v/v)		Methane (%v/v)	
		min.	max.	min.	max.	min.	max.
BH01	MG	<0.1	<0.1	<0.1	0.9	<0.1	<0.1
BH02	Glacial Deposits	<0.1	<0.1	<0.1	0.3	<0.1	<0.1
BH03	Glacial Deposits	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
BH04	MG/ Glacial Deposits	<0.1	0.2	0.3	0.6	<0.1	0.3
BH05	MG	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Borehole ID	Targeted Geology	Steady Flow (l/hr)		Carbon Dioxide (%v/v)		Methane (%v/v)	
		min.	max.	min.	max.	min.	max.
BH06	Glacial Deposits	<0.1	<0.1	<0.1	0.2	<0.1	<0.1

8.6 The atmospheric pressures were recorded as follows:

- Round 1 – 990mB during the site visit rising from 988mB over the preceding 12 hours;
- Round 2 – 1000mB during the site visit rising from 1009mB over the preceding 12 hours;
- Round 3 – 1003mB during the site visit falling from 1005mB over the preceding 12 hours;
- Round 4 – 1000mB during the site visit rising from 996mB over the preceding 12 hours;
- Round 5 – 988mB during the site visit rising from 987mB over the preceding 12 hours; and
- Round 6 – 1021mB during the site visit rising from 1014mB over the preceding 12 hours;

8.7 Hydrogen sulphide concentrations were not recorded above the limit of detection of the equipment during the monitoring visits.

8.8 Carbon monoxide concentrations were recorded at trace concentrations of 5ppm and 3ppm (BH04 on Round 1 and Round 2 respectively).

8.9 PID concentrations were recorded at <0.1ppm (the limit of detection of the equipment) on each monitoring visit.

Preliminary Risk Assessment

8.10 CIRIA Report 665 “Assessing Risks Posed by Hazardous Ground Gases to Buildings” presents current best practice on the assessment of ground gases for commercial and residential buildings (with the exception of low rise traditional housing). The report presents a risk based approach based on gas screening levels which depend on both the concentration and emission rate of gas from the ground. Gas screening levels are calculated as follows:

$$\text{Gas screening value (l/hr)} = \frac{\text{gas concentration (\%)} \times \text{measured borehole flow rate (l/h)}}{100}$$

8.11 Maximum gas screening levels of 0.0014 were recorded giving a classification of Characteristic Situation 1 (CS1). Gas protection measures are not indicated to be required as part of the proposed development.

8.12 Peat was recorded in TP01 to TP07 in the west of the site and BH04, TP08 and TP10 in the north east of the site at depths ranging from 1.4m bgl to 3.0m bgl with a maximum thickness of 1.0m recorded in TP1 and TP2. Analysis of peat samples recovered from TP01 and TP07 recorded a TOC of 19% and 26% respectively. TOC was calculated from FOC analysis.

- 8.13 Total Organic Carbon (TOC) content of the Made Ground was recorded between 1.0% and 6.8% (TP04 2.0m).
- 8.14 Total Organic Carbon (TOC) content of the Glacial Deposits was recorded between 1.2% and 3.5% (TP01 3.25m).
- 8.15 Organic odours were recorded in the Made Ground in TP03 (1.8 – 2.4m bgl) and TP04 (1.0-2.8m bgl). Peat was recorded directly below the Made Ground strata in.
- 8.16 CL:AIRE RB17 (November 2012) and Table D.1 included within BS8485:2015 (+A1 2019) recommends a Characteristic Situation 2, for TOC (%) between ≤ 1.0 and $\leq 1.5\%$ and Characteristic Situation 3, for TOC (%) between ≤ 1.5 and $\leq 4.0\%$ recorded in Made Ground with thicknesses of less than 3.0m that has been in place for less than 20 years.
- 8.17 CL:AIRE RB17 (November 2012) Appendix A, Table A.1 recommends CS3 gas protection for natural soils with high organic content.

Initial Recommendations

- 8.18 Based on the data currently available, gas protection measures should be installed in accordance with BS848: 2015. Based on a Type D development and CS3 classification a gas protection score of 2.5 will need to be achieved. Type C uses within the larger building (offices etc) would require a gas protection score of 3.0 to be achieved. **Table 8:2** provides suggested combinations of floor slab, ventilation and membrane that can achieve a suitable level of protection.

Table 8:2: Gas Protection Matrix

Building Type	Points score Required	Structural Slab	Ventilation	Membrane
C	3.0	1.0-1.5	1.5-2.5	2
D	2.5	1.0-1.5	1.5-2.5	2

- 8.19 Should organic soils be removed from beneath the proposed building, then the ground gas regime should be re-assessed.

9. CONTAMINANT DISTRIBUTION AND HUMAN HEALTH RISK ASSESSMENT

- 9.1 Soil contaminant data has been compared against the Land Quality Management Suitable for Use Levels (LQM S4UL) for assessing risk from soil contamination to human health. The results of the soil chemical laboratory results are provided within **Appendix 5**.
- 9.2 The site is to be developed for a commercial end use. The LQM S4UL screening criteria has been developed with the following assumptions which have been changed from the CLEA default parameter set. Soil type is a sandy loam with an organic matter content of 1%.

Pathways

- 9.3 Contamination data have been compared to generic site assessment criteria (GSAC) for a commercial end use (i.e. using all pathways for that end use) based on an organic matter content of 1%.
- 9.4 Exposure pathways considered in this assessment are presented in **Table 9:1**.

Table 9:1 : Commercial Exposure Pathways

Source	Shallow Soils		Deep Soils
Pathway	Commercial / Industrial with managed landscaped areas	Commercial / Industrial with Hard standing areas	Commercial / Industrial
Ingestion of Soil	✓	✗	✗
Ingestion of site derived household dust	✓	✗	✗
Ingestion of contaminated vegetables	✗	✗	✗
Ingestion of soil attached to vegetables	✗	✗	✗
Dermal contact with Soil	✓	✗	✗
Dermal contact with site derived household dust	✓	✗	✗
Inhalation of fugitive soil dust	✓	✗	✗
Inhalation of fugitive site derived household dust	✓	✗	✗
Inhalation of vapours outside	✓	✓	✓
Inhalation of vapours inside	✓	✓	✓

Sources

- 9.5 Generally low levels of heavy metals have been recorded across the site in both made ground and natural soils. Slightly elevated zinc and copper were recorded at TP05 (11,000mg/kg and 530mg/kg respectively at 1.2m).

- 9.6 Total TPH concentrations were recorded up to a maximum concentration of 380mg/kg (TP13A at 0.7m). Speciated TPH undertaken on the sample at TP12 (0.9m) recorded most concentrations below the limits of detection, with trace concentrations of C21-35 Aliphatic (54mg/kg) and Aromatic (72mg/kg) hydrocarbons recorded. Concentrations of BTEX have not been recorded.
- 9.7 Recordable concentrations of PAH have been recorded in the majority of shallow Made Ground soils, with Total PAH concentrations recorded up to a maximum of 18.3mg/kg (TP15 at 0.8m).
- 9.8 The majority of VOCs and SVOCs were recorded below the limits of detection, however, trace aniline (0.6mg/kg), 1,3-dichlorobenzene (0.3mg/kg) and 2-Methylnaphthalene (0.2mg/kg). were recorded at TP12 (0.9m), where the bituminous odour was recorded.
- 9.9 Positive asbestos identification of chrysotile loose fibres were recorded in seven locations within the Made Ground between 0.4m and 1.2m bgl. Summary presented in **Table 9.2** below.

Table 9.2 : Summary of Asbestos Testing Results

Location	Depth	Result
TP02	0.7m	Chrysotile- Loose Fibres
TP03	0.4m	Chrysotile- Loose Fibres
TP03	0.7m	Chrysotile- Loose Fibres
TP04	1.2m	Chrysotile- Loose Fibres
TP05	1.2m	Chrysotile- Loose Fibres
TP08	0.7m	Chrysotile- Loose Fibres
TP15	0.3m	Chrysotile- Loose Fibres

- 9.10 Asbestos quantification, of one positively identified asbestos sample recovered from the Made Ground in TP03 contained 0.074% asbestos by weight. Results of the asbestos quantification are included with **Appendix 5**.

Risk Assessment

- 9.11 When compared to the LQM S4ULs, all contaminants passed their respective screening criteria. Screening sheets are presented in **Appendix 7**.
- 9.12 Asbestos has been identified within the Made Ground across the site. It is considered that a clean capping layer within areas of soft landscaping will be required to sever the pathway. Groundworkers will need to adopt appropriate PPE and maintain good hygiene during works within Made Ground.
- 9.13 The trace VOC concentrations recorded are very low and not considered to represent a risk to human health receptors.

10. CONTROLLED WATERS RISK ASSESSMENT

10.1 No groundwater or surface water testing has been undertaken as part of this assessment. However, soil leachability has been undertaken for a number of metals in the Made Ground. The soil leachability results are presented within **Appendix 5**.

10.2 The controlled waters assessment considers the potential impact of on-site contamination to pertinent controlled waters receptors identified at the site including:

- Peat: Secondary Undifferentiated Aquifer;
- Hummocky Glacial Deposits and Glacifluvial Deposits: Secondary A Aquifer; and
- Pennine Lower Coal Measures: Secondary A Aquifer.

Pathways

10.3 Controlled water risk assessment has been undertaken through assessment of leachable concentrations of contaminants in soil referring to exposure pathways considered and referencing **Table 10:1**.

Table 10:1 : Controlled Water Exposure Pathways

Controlled Waters Exposure Pathway	Receptor
Leaching of soil contamination into recharge infiltration	✓
Vertical migration of impacted pore water through unsaturated zone into underlying aquifer	✓
Horizontal migration of groundwater through aquifer to off site receptors	✓

10.4 The site is underlain by Secondary A Aquifers and has surface waters bodies within 21m of the site boundary. Environmental quality standards (EQS) and drinking water standards (DWS) have been used when assessing surface water and groundwater and quality respectively. Where EQS are not available, World Health Organisation Standards (WHO) and UK Drinking Water Standards (DWS) have been adopted as the relevant screening criteria.

Soil Leachability

10.5 A summary of the soil leachate concentrations and adopted guideline concentrations are presented within **Appendix 8**.

Groundwater

10.6 When compared to the UKDWS, most concentrations are below the relevant screening criteria, with the exception of arsenic (26µg/l) and lead (18µg/l) recorded at 2.0m in TP04. The concentrations are marginally above their respective screening criteria (both 10µg/l) and in the same order of magnitude and are not considered to represent a risk to the underlying aquifer. Given the localised and marginal nature of the exceedances; the leachate concentrations are not considered to represent a risk to underlying aquifers.

Surface Water

- 10.7 Following a direct comparison of leachate laboratory results to water quality standards, several exceedances of the EQS standards were noted in exploratory holes across the site as detailed in **Table 10:2** below.

Table 10:2: Summary of Leachate Exceedances – EQS

Leachable Contaminant	Exceedance Concentration Range (µg/l)	Number of Exceedances	Location (& Depth (m bgl))	EQS (µg/l)
Copper	4.4-55	9/9	BH01 0.5m, TP01 2.4m, TP03 0.2m, TP04 2.0m, TP05 1.2m, TP13A 0.7m, TP08 0.7m, TP09A 0.3m, TP10 0.2m	1
Lead	1.3-18	7/9	BH01 0.5m, TP01 2.4m, TP03 0.2m, TP04 2.0m, TP13A 0.7m, TP08 0.7m, TP10 0.2m	1.2
Nickel	1.8-4.6	1/9	TP05 1.2m,	4
Zinc	10-170	8/9	BH01 0.5m, TP01 2.4m, TP04 2.0m, TP05 1.2m, TP13A 0.7m, TP08 0.7m, TP09A 0.3m, TP10 0.2m	10.9

- 10.8 Low levels of metals have been recorded in the leachate samples. However, the levels of leachate exceedances are not considered significantly elevated as they are all within an order of magnitude of the respective screening criteria.
- 10.9 Furthermore, due to the proposed development comprising large areas with hardstanding and buildings which will limit further infiltration and leaching. The proposed development will further reduce the risk to the identified surface water receptors.

Summary

- 10.10 Marginal exceedances of heavy metal leachate has been recorded in shallow made ground which are not considered to represent a significant risk to controlled waters in the context of the proposed commercial development.

11. ENVIRONMENTAL RISK ASSESSMENT

- 11.1 An updated assessment of identified pollutant source, pathways and receptors has been undertaken following completion of the ground investigation. The preliminary risk assessment presented in **Section 4** has been updated in light of the findings of the ground investigation and the revised conceptual site model developed, as presented in **Table 11:1**.

Sources

- Organic rich soils/Peat
- Asbestos containing material within Made Ground.

Pathways

- Inhalation and ingestion of particulates.
- Accumulation of potentially hazardous ground gasses within confined spaces leading to asphyxiation

Receptors

- Future site users.
- Services Personnel.

Table 11:1 : Preliminary Conceptual Site Model

Source	Pathway	Receptor	Con	Prob	Risk	Mitigation/Investigation
S1: Asbestos containing materials within Made Ground	P1: Ingestion and inhalation of particulates.	R1: Construction/ services personnel	Md	Lw	M/L	The exposure to construction workers/services personnel can be mitigated by utilising appropriate PPE and maintaining good hygiene levels. An asbestos working plan should be completed and all works undertaken implementing the CAR 2012 regulations.
		R2: Future site users (commercial)	Md	Lw	M/L	Proposed development with comprise large areas of hardstanding a building structures limiting direct contact. Soft landscaping areas will require a clean soil cover system over Made Ground.
S2: Potential hazardous ground gases (carbon dioxide/methane) associated with the underlying Peat deposits.	P2: Migration and accumulation of ground gasses in enclosed spaces leading to asphyxiation (carbon dioxide).	R1: Construction/ services personnel	Md	Lw	M/L	Preliminary gas monitoring has not recorded elevated concentrations of methane or carbon dioxide at the site. However, Peat was recorded in the west and north east of the site at depths ranging from 1.4m bgl to 3.0m bgl with a maximum thickness of 1.0m. Both the peat and the Made Ground have high organic content which is indicative of a CS3 site. Gas protection measures should be installed in accordance with BS848: 2015. Based on a Type D development and CS3 classification a gas protection score of 2.5 will need to be achieved. Should organic soils be removed from beneath the proposed building, then the gas regime should also be re-assessed.
		R2: Future site users	Md	Lw	M/L	
VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low						
KEY: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor Hi = High, Li = Likely, Lw = Low Likelihood, UI = Unlikely						

Source	Pathway	Receptor	Con	Prob	Risk	Mitigation/Investigation
Pollutant Linkage Assessment Summary When considered in the context of the conceptual site model, the proposed development is considered to pose a MODERATE/LOW risk to human health. It is considered that the main driver for the risk rating for human health is the potential ground gas risk and presence of asbestos within Made Ground. A risk to controlled waters has not been identified at the site associated with the proposed development. The risk assessment should be updated upon completion of the ground gas monitoring.						

12. ENVIRONMENT LIABILITY ASSESSMENT/DEVELOPMENT CONSTRAINTS

Statutory Liability

- 12.1 Under statutory guidance for definition of contaminated land site may be classified into 4 categories. Categories 1 and 2 would meet the definition of contaminated land and categories 3 and 4 would not meet the definition. Sites assessed under planning would normally be expected to fall within Category 4 as a minimum standard, to allow for a suitable factor of safety should standards change in the future.
- 12.2 It is considered that the site would fall within Category 3 based on the limited identified contamination at the site.
- 12.3 The contaminated land regime has implications for those who cause or knowingly permit land to be contaminated, or who own or occupy land that is contaminated. Contaminated land is defined in Section 78A(2) of Part IIA of the Environmental Protection Act 1990 as:
- a) *Significant harm is being caused or there is a significant possibility of such harm being caused; or*
 - b) *Pollution of controlled waters is being or is likely to be, caused."*
- 12.4 Harm is defined in Section 78A(4) of the Environmental Protection Act 1990 as:
- 12.5 "Harm to the health of living organisms or other interference with ecological systems of which they form part and, in the case of man, includes harm to property."
- 12.6 Once an area of land has been identified as contaminated land, appropriate persons will be identified as being responsible for the cost of cleaning up the land by the enforcing authority. The appropriate person will be liable for all or part of the remediation of the land. Two classes of appropriate person have been identified:
- Class A appropriate persons are those who cause or knowingly permit the pollutants to be in, on or under the land.
- Class B appropriate persons are the owners(s) or occupier(s) of the land.
- 12.7 Where no Class A appropriate persons can be identified, then Class B appropriate persons may become liable.
- 12.8 Based on the information available regarding the site, the potential for Statutory Authority action based on "pollution of controlled water" or "*significant harm*" as defined by Part IIA of the Environmental Protection Act 1990 is considered to be **Low** based on the lack of significant contamination on the site.

Third Party Liability

- 12.9 Based on the information contained in this report, it is the opinion of BWB that the potential for legal action by surrounding landowners, based on the potential for

contamination to migrate off-site, is considered to be low when considering lack of a significant contaminant source on site.

Public Relations

- 12.10 The likelihood of public relations being tarnished due to contamination issues at the site are considered to be **LOW**.

Development Implications

- 12.11 It is recommended that the requirement for earthworks and potential for re-use of or disposal of waste is established at an early stage in the project.
- 12.12 The presence of Peat deposits on site presents geotechnical and human health risks. Consideration should be given to the potential removal of these deposits.

13. WASTE MANAGEMENT

Waste Classification

- 13.1 Soil samples have been characterised against hazardous waste criteria using Hazwasteonline. The results of the waste classification are presented in **Appendix 9**. The assessment indicates that the majority of soils analysed are likely to be classified as non-hazardous with three sample recovered classified as hazardous (due to the presence of elevated zinc concentrations). The waste classification assessment only applies to those soils that have been tested. If other soils are to be disposed of off-site then further analysis may be required.
- 13.2 Asbestos has been found at the site in eight Made Ground soil samples. Quantification of one of these samples indicated 0.074% asbestos by weight. The presence of visible asbestos containing materials in waste or at concentrations exceeding 0.1% by weight will classify the waste as mixed and require disposal as hazardous waste irrespective of the chemical properties of the waste.
- 13.3 Should any soils require disposal off site an assessment of waste classification of the soils for disposal should be made by a competent person. Further chemical analysis may be required to fully characterise waste soils for disposal to landfill or re-use off site. WAC analysis may be required for disposal of soils as inert or hazardous.

14. CONCLUSION AND RECOMMENDATIONS

Conclusions

- 14.1 The proposed development for Plot U2 is understood to be as a food store with associated parking, loading bays and external areas and two smaller food outlets. These are likely to be steel portal framed structures.
- 14.2 The ground conditions across the development plot consist of Made Ground or topsoil overlying Glacial deposits which varied between cohesive and granular soils. The sand strata were typically described as dark brown/light brown/brown sand, with the clay typically described brown/brownish grey. The Pennine Lower Coal Measures bedrock was not encountered during the investigation. Made Ground was generally found to be deeper in the north western area of site (up to 3.0m), and was underlain by peat deposits in this area. Peat was largely absent in the south eastern half of site.
- 14.3 Groundwater is likely to vary greatly seasonally at the site. The ground investigation, undertaken in October (after a particularly dry spring/summer), will have likely captured a lowered groundwater situation at the site, with some areas of the site displaying evidence of historical waterlogging (reeds, peat build up).

Environmental

- 14.4 No soil samples tested exceeded the respective LQM/CIEH S4UL, for a commercial end use screening criteria for risks to human health. Positive asbestos identification of chrysotile loose fibres were recorded in eight locations within the Made Ground between 0.4m and 1.2m bgl.
- 14.5 Gas monitoring has not recorded elevated concentrations of methane or carbon dioxide at the site. However, Peat was recorded in the west and north east of the site. Both the peat and the Made Ground have high organic content which is indicative of a CS3 site.
- 14.6 Low leachate concentrations in the Made Ground are not considered to represent a risk to controlled water receptors. Additionally, the proposed development will reduce infiltration and leachate mobility, further reducing the risk.

Geotechnical

- 14.7 Made Ground may need to be excavated, processed and recompacted prior to any pavement construction; also potentially within the building foot prints dependent on the foundation solution to be adopted. Any shallow organic soils/Peat beneath the external areas will need to be delineated, chased out, removed and replaced with suitable engineered fill. The excavated organic soils/Peat could potentially be reused within landscaping areas of the development.
- 14.8 Ground improvement may be suitable, utilising RI's or CMC's, to support shallow (pad) spread foundations and a ground bearing floor slab, subject to confirmation by a specialist Contractor.

- 14.9 Installation of piled foundations to support buildings, structures and floor slabs is considered to be the default option at the site.
- 14.10 Grading and Atterberg Limit tests for the near-surface Glacial Deposits indicated that excavated site-won materials would generally classify as either Class 1A/1B and/ or Class 2A/2B in accordance with 'Table 6/2 of the SHW, Series 600'. Compaction testing indicates cohesive soils are generally wet of OMC and may require drying (probably via chemical modification) to achieve adequate compaction as engineered fill.
- 14.11 Laboratory index testing correlations indicate a range of CBR values for the design of new pavements, with most results giving values of less than 3.0% and often less than 1%. Minimum design CBR values for pavement foundations is typically 3% and for pavements on the natural soils at the site, modification of the formation soils (e.g. by lime or cement) is likely to be required to achieve the required design CBR value, with geogrid incorporation potentially useful for road construction.
- 14.12 The design sulphate and ASEC class for the Made Ground, Peat and Glacial Deposits is DS-2 and AC-1s.

Recommendations

Environmental

- 14.13 A Remediation Strategy should be completed for the site prior to development to provide remediation and mitigation requirements, identify those soils on site likely to require disposal, set remediation targets if required and provide verification requirements of any gas protection measures required.
- 14.14 Should it be feasible to excavate and remove the organic soils from the eastern of the site, then the site gas regime should be re-assessed.

Geotechnical

- 14.15 Prior to development, additional ground investigation should be considered to delineate the shallow organic soils in order to assess the feasibility for removal from the proposed external areas and to target testing the existing Made Ground for suitability as a fill in the earthworks.
- 14.16 To assist with the design of ground improvement by RIs/CMCs, additional investigation via cone penetration testing is recommended, focussing on the proposed building footprint.
- 14.17 BWB recommends a detailed Geotechnical Assessment Report is carried out once the preferred foundation option solution and design load for the footings and floor slab are confirmed.
- 14.18 An earthworks specification should be prepared prior to development to cover potential earthworks across the site especially the external areas of the proposed development.

15. REFERENCES

1. British Standards Institution, (BSI), BS 8485:2015+A1:2019, Code of Practice for the characterization and remediation from ground gas in affected developments
2. British Standards Institution, (BSI), BS 8576:2013, Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)
3. British Standards Institution, (BSI), BS 10175:2011+A2:2017, Investigation of Contaminated Sites – Code of Practice
4. British Standards Institution, (BSI), BS5930:2015+A1:2020 Code of practice for ground investigations
5. British Standards Institution, (BSI), BS EN 1997-1:2004+A1:2013, Incorporating corrigendum February 2009, Eurocode 7 – Geotechnical Design – Part 1: General rules.
6. British Standards Institution, (BSI), BS EN 1997-2:2007 Incorporating corrigendum June 2010, Eurocode 7 – Geotechnical Design – Part 2: Ground Investigation and testing.
7. Building Research Establishment Special Digest 1 *Third Edition*. Concrete in Aggressive Ground (2005)
8. Building Research Establishment (BRE) BR211, Radon; Guidance on Protective Measures for New Buildings (2015)
9. Construction Industry Research and Information Association (CIRIA), Report 132, A Guide to Safe working on Contaminated Sites (1996).
10. Construction Industry Research and Information Association (CIRIA). 2001, C522 Contaminated land risk assessment, A guide to good practice.
11. Construction Industry Research and Information Association (CIRIA). 2007, Report C665, Assessing Risk Posed by on Hazardous Ground Gases to Buildings
12. Department for Communities and Local Government (DCLG), 2012, National Planning Policy Framework.
13. Department for Environment Food and Rural Affairs (DEFRA), 2012, Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance.
14. Environment Agency report Land Contamination Risk Management, 2020.
15. Environment Agency 2008, Updated technical background to the CLEA model Science Report – SC050021/SR3
16. Environment Agency 2008, Human health toxicological assessment of contaminants in soil Science Report – SC050021/SR2
17. Environment Agency 2009, CLEA Software (Version 1.05) Handbook Better Regulation Science Programme Science report: SC050021/SR4
18. Environment Agency 2008, A review of body weight and height data used within the Contaminated Land Exposure Assessment model (CLEA) Project SC050021/ Technical Review 1

19. Environment Agency, 2006, Remedial Targets Methodology, Hydrogeological Risk Assessment for Land Contamination
20. Health and Safety Executive (HSE) 'Protection of workers and the general public during the Development of Contaminated Land (1991).

DRAWINGS

Drawing 1: Exploratory Hole Location Plan



NOTES

- 1. DO NOT SCALE THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED/ VERIFIED ON SITE. IF IN DOUBT ASK.
- 2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALISTS DRAWINGS AND SPECIFICATIONS.
- 3.ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE. ALL LEVELS IN METRES UNLESS NOTED OTHERWISE.
- 4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.

LEGEND

- Borehole Locations
- Trial Pit Location



Building, Infrastructure and Environmental Consultancy

5th Floor, Waterfront House, Station Street, Nottingham, NG2 3DQ

Client:
Wilson Bowden Developments Ltd

Project Title:
Plot U, Kingsway Business Park

Drawing Title:
Exploratory Hole Location Plan

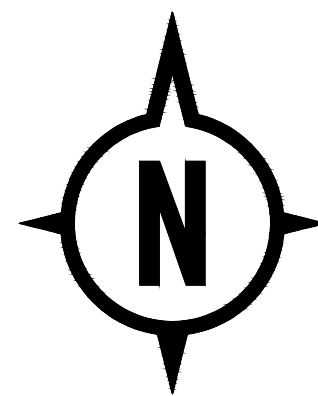
Scale: Not to Scale	Date: Dec-22	Drawn: O.Stewart	Authorised: M.Harper
------------------------	-----------------	---------------------	-------------------------

Drawing Status:
FINAL

Drawing No: 001	Revision: R1
--------------------	-----------------

APPENDICES

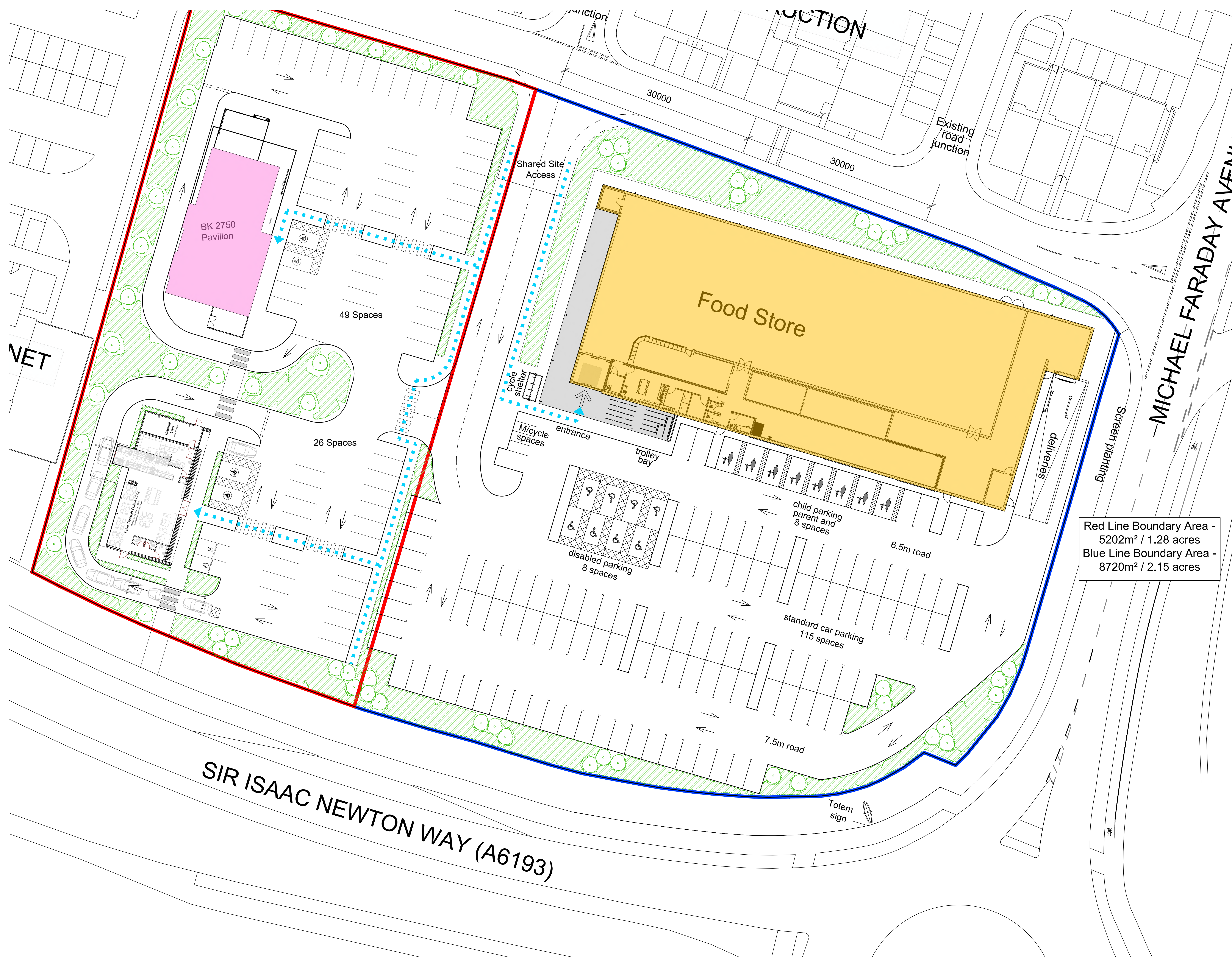
Appendix 1: Masterplan



—MICHAEL FARADAY AVENUE—

Red Line Boundary Area -
5202m² / 1.28 acres
Blue Line Boundary Area -
8720m² / 2.15 acres

REVISIONS	
CLIENT	EURO GARAGES LTD
PROJECT	KINGSWAY ROCHDALE OL16 4PS
TITLE	FEASIBILITY
DATE	31.05.22
SCALE	1:250 @ A1
JOB ID	1826
DWG	4



Appendix 2: Exploratory Hole Logs

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.64						
BH01		Project Number: 220960					Eastings: 391196.21						
		Client: Wilson Bowden Developments Ltd					Northings: 412331.82						
Hole Type: CP		Rig: Dando 2500			Start & End Date: 17/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & Thickness (m)	Description	Legend	Depth (m bgl)	Type (blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
		(3.10)	Grass over loose dark brown gravelly SAND with low cobble content. Gravel is subangular to subrounded, fine to coarse of brick and sandstone. Cobbles are subangular of brick.()			B ES	0.50 0.50	0.50 1.20					
						D	1.20	1.20	SPT	1.20	N=5 (1,2/1,1,2,1)		
						D	1.70	1.70					
						D	2.00	2.00	SPT	2.00	N=4 (2,1/1,1,1,1)		
						B	2.50	3.00					
						D	3.00	3.00	SPT	3.00	N=13 (1,2/4,3,3,3)		
		143.54 (0.90)	Medium dense dark brown slightly clayey SAND.()		3.10	D	3.50	3.50					
									SPT	4.00	N=13 (1,2/4,3,3,3)		
		142.64 (1.30)	Medium dense light brown slightly clayey SAND.()		4.00	B	4.50	5.00					
									SPT	5.00	N=20 (4,3/4,5,6,5)		
		141.34 (1.00)	Stiff greyish brown slightly sandy silty CLAY.()		5.30	B	5.30	6.00					
						U (39)	6.00						
		140.34 (4.20)	Medium dense brown slightly gravelly SAND. Gravel is subrounded, fine to medium of mudstone.()		6.30	B	6.50	7.00					
						D	7.50		SPT	7.50	N=18 (2,4/5,4,4,5)		
						B	8.50	9.00					
									SPT	9.00	N=21 (10,10/6,6,5,4)		
						D	9.50						
Chiselling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:										
			Target depth reached										
Groundwater Remarks:			Groundwater strike at 2.80mbgl, rising to 2.40mbgl after 20 minutes.										
Water Added			Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe upon completion.										



BOREHOLE LOG

Scale 1:50

Sheet 2 of 2

LOCATION ID		Project Name: Plot U2, Kingsway Business Park						Ground Level (m AOD): 146.64							
BH01		Project Number: 220960						Eastings: 391196.21							
		Client: Wilson Bowden Developments Ltd						Northings: 412331.82							
Hole Type: CP		Rig: Dando 2500			Start & End Date: 17/10/2022			Engineer: TF		Checker: MH					
Boring		Strata						Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)			
			Medium dense brown slightly gravelly SAND. Gravel is subrounded, fine to medium of mudstone.()												
		136.14 [3.20]	Medium dense brown SAND with bands of firm greyish brown silty clay.()		10.50	B	10.50	11.00	SPT	10.50	N=27 (5,9/7,7,6,7)				
						D	11.50								
									SPT	12.00	N=14 (2,2/3,4,3,4)				
						B	12.50	13.00							
						D	13.50		SPT	13.50	N=15 (4,3/4,4,4,3)				
		132.94 [1.75]	Medium dense reddish brown silty SAND.()		13.70										
						B	14.50	15.00							
									SPT	15.00	N=9 (4,4/2,2,3,2)				
		131.19	Hole Terminated at 15.45m bgl.		15.45										

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.95						
BH02		Project Number: 220960					Eastings: 391185.96						
		Client: Wilson Bowden Developments Ltd					Northings: 412293.68						
Hole Type: CP		Rig: Dando 2500			Start & End Date: 19/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & Thickness (m)	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
		(2.60)	Soft becoming stiff black sandy gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of sandstone and brick.()			B	0.50	1.00					
						D	1.70		SPT	1.20	N=5 (1,0/1,1,2,1)		
						D	2.00		SPT	2.00	N=36 (4,4/10,9,9,8)		
		144.35 (0.50)	Stiff dark brown sandy gravelly CLAY. Gravel is subangular, fine to medium of brick.		2.60	B	2.50	3.00					
						SPT	3.00	N=32 (3,5/7,9,8,8)					
		143.85 (1.30)	() Dense brown slightly gravelly SAND. Gravel is subangular, fine to medium of coal and sandstone.()		3.10	B	3.50	4.00					
						SPT	4.00	N=32 (3,5/7,9,8,8)					
		142.55 (1.60)	Soft to firm brownish grey silty CLAY.		4.40	D	4.50						
			()			B	5.50	6.00					
						D	5.50		SPT	6.00	N=20 (3,4/4,5,5,6)		
		140.95 (6.50)	Medium dense brown SAND with bands of soft brown silty CLAY.		6.00	B	6.50	7.00					
			()			D	7.50		SPT	7.50	N=11 (3,2/3,3,2,3)		
				B	8.50	9.00							
				SPT	9.00	N=9 (2,4/2,3,2,2)							
				D	9.50								
Chiseling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:										
			Target depth reached										
Groundwater Remarks:			Groundwater strike at 2.90mbgl, rising to 2.70mbgl after 20 minutes.										
Water Added			Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.										



BOREHOLE LOG

Scale 1:50

Sheet 2 of 2

LOCATION ID		Project Name: Plot U2, Kingsway Business Park						Ground Level (m AOD): 146.95					
BH02		Project Number: 220960						Eastings: 391185.96					
		Client: Wilson Bowden Developments Ltd						Northings: 412293.68					
Hole Type: CP		Rig: Dando 2500			Start & End Date: 19/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth (Water Level)	
			Medium dense brown SAND with bands of soft brown silty CLAY. ()			B	10.50	11.00					
						D	11.50						
									SPT	12.00	N=15 (3,4/3,4,4,4)		
		134.45 (2.95)	Medium dense reddish brown silty SAND. ()		12.50	B	12.50	13.00					
						D	13.50						
									SPT	13.50	N=13 (2,2/3,3,3,4)		
						B	14.50	15.00					
									SPT	15.00	N=16 (2,2/3,4,4,5)		
		131.50	Hole Terminated at 15.45m bgl.		15.45								
Remarks													
Chiseling													
From (m bgl)	To (m bgl)	Time (hh:mm)											
			Reason for Termination:										
			Target depth reached										
Groundwater Remarks:													
Groundwater strike at 2.90mbgl, rising to 2.70mbgl after 20 minutes.													
Water Added													
From (m bgl)	To (m bgl)	Volume (l)											
			Other Remarks:										
			Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe upon completion.										
BWB A CAP GROUP COMPANY													

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.40						
BH03		Project Number: 220960					Eastings: 391261.90						
		Client: Wilson Bowden Developments Ltd					Northings: 412316.99						
Hole Type: CP		Rig: Dando 2500			Start & End Date: 20/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
		(3.00)	Soft grey silty sandy CLAY.()										
						B	0.60	1.20					
									SPT	1.20	N=4 (2,1/1,1,1,1)		
						D	1.70						
									SPT	2.00	N=3 (1,0/1,1,0,1)		
						B	2.60	3.00					
									SPT	3.00	N=15 (2,2/4,4,3,4)		
		143.40 [1.30]	Medium dense brown slightly gravelly SAND. Gravel is subangular, fine to medium of coal.()		3.00	B	3.50	4.00					
									SPT	4.00	N=13 (3,3/4,3,3,3)		
		142.10 [0.60]	Soft greyish brown silty CLAY.()		4.30	D	4.50						
									SPT	5.00	N=22 (4,4/5,5,5,7)		
		141.50 [5.60]	Medium dense brown SAND with bands of soft grey clay.()		4.90	B	5.50	6.00					
									SPT	6.00	N=24 (3,5/6,6,5,7)		
						D	6.50						
						B	7.50	8.00	SPT	7.50	N=24 (3,4/4,6,6,8)		
						D	8.50						
						B	9.00	9.50					
						D	9.50						
Chiselling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)											
			Reason for Termination:										
			Target depth reached										
Groundwater Remarks:													
No groundwater encountered.													
Water Added			Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe upon completion.										



BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park						Ground Level (m AOD): 146.40					
BH03		Project Number: 220960						Eastings: 391261.90					
		Client: Wilson Bowden Developments Ltd						Northings: 412316.99					
Hole Type: CP		Rig: Dando 2500			Start & End Date: 20/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
			Medium dense brown SAND with bands of soft grey clay.()										
		135.90 [1.00]	Stiff soft greyish brown silty CLAY.()		10.50	B	10.50	11.00	SPT	10.50	N=10 (1,2/2,3,2,3)		
		134.90 [3.00]	Stiff reddish brown clayey SILT.()		11.50	D	11.50						
								SPT	12.00	N=14 (2,3/3,3,4,4)			
								B	12.50	13.00			
		131.90 [0.95]	Medium dense reddish brown silty SAND.()		14.50	D	14.50						
									SPT	15.00	N=13 (3,4/3,4,4,2)		
		130.95	Hole Terminated at 15.45m bgl.		15.45								
Chiseling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:										
			Target depth reached										
Groundwater Remarks:			No groundwater encountered.										
Water Added			Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.										

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 145.96					
BH04		Project Number: 220960					Eastings: 391308.88					
		Client: Wilson Bowden Developments Ltd					Northings: 412317.17					
Hole Type: CP		Rig: Dando 2500			Start & End Date: 24/10/2022			Engineer: TF		Checker: MH		
Boring		Strata					Samples			In-Situ Tests		
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
		145.96 [1.40]	Loose black slightly clayey slightly gravelly SAND. Gravel is subangular to subrounded, fine to coarse of sandstone.()			B	0.00	0.50				
		144.56 [0.60]	Medium dense brown SAND.() Thin band of peat at 1.40mbgl.		1.40	B D	1.40 1.40	2.00	SPT	1.20	N=6 (1,1/1,1,2,2)	
		143.96 [5.50]	Medium dense becoming dense brownish grey SAND with bands of firm grey slightly sandy clay.()		2.00	B	2.00	2.50	SPT	2.00	N=12 (1,2/2,3,3,4)	
									SPT	3.00	N=12 (1,1/2,2,3,5)	
						D	3.50					
						B	4.00	4.50	SPT	4.00	N=10 (1,1/1,2,3,4)	
						B D	5.50 5.50	6.00				
						B	6.00	6.50	SPT	6.00	N=43 (2,4/7,11,12,13)	
		138.46 [7.95]	Dense reddish brown silty SAND.()		7.50	B	7.50	8.00	SPT	7.50	N=26 (1,4/5,6,7,8)	
						B	9.00	9.50	SPT	9.00	N=38 (3,5/8,8,11,11)	
Chiselling		Remarks										
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:									
			Target depth reached									
Groundwater Remarks:			No groundwater encountered.									
Water Added			Other Remarks:									
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.									



BOREHOLE LOG

LOCATION ID BH04		Project Name: Plot U2, Kingsway Business Park						Ground Level (m AOD): 145.96					
		Project Number: 220960						Eastings: 391308.88					
		Client: Wilson Bowden Developments Ltd						Northings: 412317.17					
Hole Type: CP		Rig: Dando 2500		Start & End Date: 24/10/2022				Engineer: TF		Checker: MH			
Boring		Strata				Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & Thickness (m)	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
			Dense reddish brown silty SAND. ()			D	10.00						
						B	10.50	11.00	SPT	10.50	N=35 (2,4/7,9,9,10)		
									SPT	12.00	N=39 (3,6/9,12,9,9)		
						D	13.00						
						B	13.50	14.00	SPT	13.50	N=34 (5,5/8,8,9,9)		
									SPT	15.00	N=34 (2,5/7,9,9,9)		
		130.51	Hole Terminated at 15.45m bgl.		15.45								
		Remarks											
Chiselling		Reason for Termination: Target depth reached Groundwater Remarks: No groundwater encountered. Other Remarks: Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.											
From (m bgl)	To (m bgl)												Time (hh:mm)
Water Added													
From (m bgl)	To (m bgl)	Volume (l)											



BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.20						
BH05		Project Number: 220960					Eastings: 391244.07						
		Client: Wilson Bowden Developments Ltd					Northings: 412275.49						
Hole Type: CP		Rig: Dando 2500			Start & End Date: 25/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)	
		(1.80)	Firm greyish brown sandy gravelly CLAY. Gravel is subangular, fine to coarse of sandstone and brick.()			D	0.50						
						B	1.20	1.70	SPT	1.20	N=14 (2,3/3,2,4,5)		
		144.40 [0.20]	Stiff grey sandy CLAY.		1.80	D	1.80						
		144.20 [4.90]	(Medium dense becoming loose orangish brown slightly gravelly SAND. Gravel is subangular, fine to medium of coal.()		2.00	B	2.00	2.50	SPT	2.00	N=20 (2,3/4,5,5,6)		
									SPT	3.00	N=28 (2,4/5,6,8,9)		
						D	3.50						
						B	4.00	4.50	SPT	4.00	N=7 (1,2/2,1,2,2)		
									SPT	5.00	N=6 (1,0/1,1,2,2)		
						D	5.50						
						B	6.00	6.50	SPT	6.00	N=17 (1,2/3,5,5,4)		
		139.30 [2.10]	Stiff brown CLAY.()		6.90	B	6.90	7.50					
						U	7.50	8.00					
			Becomes sandy from 8.00mbgl.			D	8.00						
		137.20 [6.45]	Dense reddish brown gravelly SAND. Gravel is subangular, fine to medium of coal.()		9.00	B	9.00	9.50	SPT	9.00	N=31 (3,5/7,7,8,9)		
Chiselling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:										
			Target depth reached										
Groundwater Remarks:			No groundwater encountered.										
Water Added			Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.										



BOREHOLE LOG

Scale 1:50

Sheet 2 of 2

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.20							
BH05		Project Number: 220960					Eastings: 391244.07							
		Client: Wilson Bowden Developments Ltd					Northings: 412275.49							
Hole Type: CP		Rig: Dando 2500		Start & End Date: 25/10/2022			Engineer: TF		Checker: MH					
Boring		Strata					Samples			In-Situ Tests				
Strike	Well	Level (m AOD) & [Thickness (m)]	Description		Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth (Water Level)	
			Dense reddish brown gravelly SAND. Gravel is subangular, fine to medium of coal. ()											
							D	11.00		SPT	10.50	N=29 (3,4/6,8,8,7)		
							B	12.00	12.50	SPT	12.00	N=14 (1,2/2,3,4,5)		
										SPT	13.50	N=25 (2,4/5,7,6,7)		
							D	14.00		SPT	15.00	N=38 (3,5/9,9,10,10)		
		130.75	Hole Terminated at 15.45m bgl.			15.45								
Chiseling		Remarks												
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination:											
			Target depth reached											
Groundwater Remarks:			No groundwater encountered.											
Water Added			Other Remarks:											
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe upon completion.											



A CAF GROUP COMPANY

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.22					
BH06		Project Number: 220960					Eastings: 391283.00					
		Client: Wilson Bowden Developments Ltd					Northings: 412308.00					
Hole Type: CP		Rig: Dando 2500			Start & End Date: 26/10/2022			Engineer: TF		Checker: MH		
Boring		Strata					Samples			In-Situ Tests		
Strike	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
		(1.50)	Grass over medium dense dark brown slightly clayey slightly gravelly SAND. Gravel is subangular, fine to coarse of brick.()			B ES	0.50 0.50	1.00				
		144.72 [0.20]	Firm grey slightly sandy CLAY.()		1.50	D ES	1.50 1.50		SPT	1.20	N=12 (1,2/3,3,3,3)	
		144.52 [6.80]	Medium dense becoming loose brown silty SAND with bands of firm grey clay. ()		1.70	B	2.00	2.50	SPT	2.00	N=14 (2,2/3,3,4,4)	
										3.00	N=16 (2,3/3,4,5,4)	
						D	3.50					
						B	4.00	4.50	SPT	4.00	N=9 (1,2/2,3,2,2)	
										5.00	N=8 (1,1/1,2,3,2)	
						D	5.50					
						U (27)	6.00					
						D	6.50					
						B	7.00	7.50				
									SPT	7.50	N=17 (2,3/4,4,4,5)	
		137.72 [1.20]	Firm to stiff grey CLAY. ()		8.50	D	8.50					
						B	9.00	9.50				
		136.52 [5.75]			9.70	D	9.70					
		Remarks										
Chiseling		Reason for Termination:										
From (m bgl)	To (m bgl)	Time (hh:mm)	Target depth reached									
			Groundwater Remarks:									
			Groundwater strike at 9.70mbgl, rising to 6.00mbgl after 20 minutes.									
Water Added		Other Remarks:										
From (m bgl)	To (m bgl)	Volume (l)	Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe upon completion.									

BOREHOLE LOG

LOCATION ID		Project Name: Plot U2, Kingsway Business Park					Ground Level (m AOD): 146.22						
BH06		Project Number: 220960					Eastings: 391283.00						
		Client: Wilson Bowden Developments Ltd					Northings: 412308.00						
Hole Type: CP		Rig: Dando 2500			Start & End Date: 26/10/2022			Engineer: TF		Checker: MH			
Boring		Strata					Samples			In-Situ Tests			
Strike	Well	Level (m AOD) & [Thickness (m)]	Description		Legend	Depth (m bgl)	Type (U/blows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			Dense reddish brown silty SAND. ()										
							D	11.00		SPT	10.50	N=41 (4,8,10,11,12)	
							B	12.00	12.50	SPT	12.00	N=43 (3,7,9,11,11,12)	
										SPT	13.50	N=50 (5,13/50 for 285mm)	
							D	14.50		SPT	15.00	N=23 (2,2/4,6,6,7)	
		130.77	Hole Terminated at 15.45m bgl.			15.45							
Chiselling		Remarks											
From (m bgl)	To (m bgl)	Time (hh:mm)	Reason for Termination: Target depth reached										
			Groundwater Remarks: Groundwater strike at 9.70mbgl, rising to 6.00mbgl after 20 minutes.										
Water Added			Other Remarks: Location cleared of buried services. Handpit dug to 1.20mbgl. Installed with monitoring standpipe up on completion.										
From (m bgl)	To (m bgl)	Volume (l)											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.20 0.60 Pit Dimensions (m) Degrees					
TP01		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 18/10/2022								
Ground Level (m AOD): 146.68		Eastings & Northings: 391292E 412264N				Engineer: TF		Checker: MH			
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.10m	Grass over soft dark brown sandy SILT with high rootlet content.()		0.10	ES	0.05				
		146.58	Light grey sandy GRAVEL with high cobble content. Gravel is subangular to subrounded, fine to coarse of brick and concrete. Cobbles are subangular to subrounded, of sandstone, concrete and brick.			ES	0.40				
		0.60m									
		145.98									
			()								
			Soft dark brown sandy slightly gravelly SILT. Gravel is subangular to subrounded, fine to medium of clinker and brick.			D	1.00				
						ES	1.00				
		1.50m				ES	1.50				
						B	1.80				
		144.48	Soft brown fibrous PEAT.()		2.20	ES	2.40		HSV	2.30	(7, 10, 22)kPa
		1.00m				D	2.50				
		143.48	Light brown clayey SAND.()		3.20	B	3.00				
		0.10m				D	3.25				
		143.38	Hole Terminated at 3.30m bgl.		3.30	ES	3.25				
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes:											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				3.00 1.00 Pit Dimensions (m) Degrees					
TP02		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 18/10/2022								
Ground Level (m AOD): 146.57		Eastings & Northings: 391198E 412340N				Engineer: TF		Checker: MH			
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
▼		0.40m	Grass over dark brown slightly clayey gravelly SAND. Gravel is subangular to subrounded, fine to coarse of concrete.()		0.40	ES	0.30		HSV	1.80	(20, 18, 26)kPa
		146.16	Dark brown clayey slightly gravelly SAND with low cobble content. Gravel is subangular to subrounded, fine to medium of clinker. Cobbles are subangular of brick.()			ES	0.70				
		1.40m	Pit extended to avoid concrete boulder at 1.20mbgl.			D	1.50				
			Higher gravel content between 1.60mbgl and 1.80mbgl.								
		144.76	Very soft brown fibrous PEAT.()								
		0.90m				ES	2.20				
						D	2.50				
		143.86	Soft brown sandy CLAY with lenses of light brown sand.()			B	2.80				
		0.20m				ES	2.90				
		143.66	Hole Terminated at 2.90m bgl.								
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: Groundwater strike at 1.60mbgl.											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											
BWB A CAF GROUP COMPANY											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park		2.50 0.80 Pit Dimensions (m) Degrees	
TP03		Project Number: 220960			
		Client: Wilson Bowden Developments Ltd			
		Plant: 8 Tonne Excavator	Start & End Date: 18/10/2022		
Ground Level (m AOD): 146.50		Eastings & Northings: 391222E 412340N		Engineer: TF	Checker: MH

Strata					Samples			In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
▼		0.30m	Grass over dark brown clayey SAND with high rootlet content.()		0.300.50	ES	0.20				
		146.20	Brownish grey gravelly SAND with moderate cobble content and fragments of plastic. Gravel is subangular to subrounded, fine to coarse of clinker and brick. Cobbles are subangular of brick.()			ES	0.40				
		0.20m				ES	0.70				
		146.00				B	1.00				
		1.90m	Higher gravel content and organic odour between 1.80mbgl and 2.40mbgl.			ES	2.00				
						D	2.20				
						D	2.50				
		144.10	Very soft brown PEAT.()				ES	2.50			
		0.75m	B				2.80				
			D				3.20				
143.35	Light brown clayey SAND with organic odour.()		3.153.20								
0.05m	Hole Terminated at 3.20m bgl.										
143.30											

Remarks

Reason for Termination:
Limit of dig reached

Groundwater Notes:

Other Remarks:
Location cleared of buried services. Backfilled with arisings upon completion.

BWB

A CAF GROUP COMPANY

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park		2.30 0.60 Pit Dimensions (m) Degrees							
TP04		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 18/10/2022								
Ground Level (m AOD): 146.56		Eastings & Northings: 391217E 412321N		Engineer: TF	Checker: MH						
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
▼		0.30m	Grass over soft dark brown sandy CLAY with high rootlet content.()		0.30	ES	0.20				
		146.26	Dark brown gravelly SAND with low cobble content. Gravel is subangular to subrounded, fine to coarse of brick and concrete. Cobbles are subangular of brick.()			ES	0.50				
		0.40m				ES	0.80				
		145.86				B	0.90				
		0.30m				ES	1.20				
145.56	Black slightly clayey slightly gravelly SAND with strong organic odour and wallpaper and plastic fragments. Gravel is subangular to subrounded, fine to coarse of brick. ()										
	1.80m					ES	2.00				
		143.76	Soft brown PEAT.()		2.80						
		0.10m			2.90	D	2.90				
		143.66	Hole Terminated at 2.90m bgl.								
Remarks											
Reason for Termination: Sides Undercutting											
Groundwater Notes:											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											
BWB A CAF GROUP COMPANY											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park			2.20 1.40 Pit Dimensions (m) Degrees Stability: Stable								
TP05		Project Number: 220960											
		Client: Wilson Bowden Developments Ltd											
		Plant: 8 Tonne Excavator	Start & End Date: 20/10/2022										
Ground Level (m AOD): 147.01		Eastings & Northings: 391188E 412302N			Engineer: TF		Checker: MH						
Strata						Samples		In-Situ Tests					
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result		
▼		1.60m	Grass over dark brown gravelly SAND with moderate cobble content. Gravel is subangular to subrounded, fine to coarse of brick, glass, concrete and sandstone. Cobbles are subangular of brick and sandstone.()		1.60	ES	0.30						
						D	1.00						
						ES	1.30						
			145.41	Soft brown fibrous PEAT.()		1.60	ES	1.80					
			0.60m				D	2.00					
			144.81	Brown to light yellowish grey clayey SAND.()		2.20	ES	2.40					
			1.20m				B	3.00					
			143.61				D	3.30					
				Hole Terminated at 3.40m bgl.			3.40						
		Remarks											
Reason for Termination: Limit of dig reached													
Groundwater Notes: Groundwater strike at 1.60mbgl.													
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.													
BWB A CAF GROUP COMPANY													

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.30 1.20 Pit Dimensions (m) Degrees Stability: Stable									
TP06		Project Number: 220960													
		Client: Wilson Bowden Developments Ltd													
		Plant: 8 Tonne Excavator		Start & End Date: 18/10/2022											
Ground Level (m AOD): 147.04		Eastings & Northings: 391214E 412300N				Engineer: TF		Checker: MH							
Strata										Samples			In-Situ Tests		
Groundwater Strike	Backfill	Level (m AOD)	Description				Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result	
		0.20m	Grass over brown sandy gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of brick, ceramic, sandstone and glass.() Brown sandy GRAVEL with low wood fragment content. Gravel is subangular to subrounded, fine to coarse of sandstone.()					0.20	ES	0.40					
		146.84													
		1.50m													
		145.34	Black silty slightly gravelly SAND. Gravel is subangular, fine of brick.()					1.70							
		0.60m													
144.74	Black gravelly clayey SAND with moderate cobble content. Gravel is subangular to subrounded fine to coarse of sandstone. Cobbles are subangular to subrounded of sandstone.()					2.30	B	2.20	ES	2.40	B	2.50	D	2.70	
0.70m															
144.04	Very soft brown fibrous PEAT.()					3.00	B	3.10	B	3.10	D	3.10			
0.10m															
143.94	Hole Terminated at 3.10m bgl.					3.10									
Remarks															
Reason for Termination: Sides Undercutting															
Groundwater Notes: Groundwater strike at 2.30mbgl.															
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.															
BWB A CAF GROUP COMPANY															

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park			2.20 1.10 Pit Dimensions (m) Degrees Stability: Stable						
TP07		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 20/10/2022								
Ground Level (m AOD): 146.86		Eastings & Northings: 391206E 412279N			Engineer: TF		Checker: MH				
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
▼		0.20m	Grey sandy GRAVEL with high cobble content. Gravel is subangular, fine to coarse of sandstone. Cobbles are subangular of sandstone.()		0.20	ES	0.10				
		146.66				ES	0.30				
		0.60m	Light brown sandy gravelly COBBLES. Gravel is subangular, fine to coarse of sandstone. Cobbles are subangular of sandstone.()		B	0.60					
		146.06	Grey sandy GRAVEL with moderate cobble content. Gravel is subangular, fine to coarse of sandstone. Cobbles are subangular of sandstone.()	0.80	ES	0.90					
		1.00m			B	1.30					
			High cobble content from 1.50mbgl and 1.80mbgl.								
		145.06	Soft dark brown slightly sandy slightly gravelly PEAT. Gravel is subangular, fine to coarse of brick and sandstone.()	1.80	ES	2.00					
		0.60m			B	2.20					
		144.46	Grey and light brown clayey SAND.()	2.40	D	2.60					
		0.80m			B	3.00					
143.66	Hole Terminated at 3.20m bgl.			3.20							
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: Groundwater strike at 1.50mbgl.											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											
BWB A CAF GROUP COMPANY											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park			2.50 1.10 Pit Dimensions (m) Degrees Stability: Stable								
TP08		Project Number: 220960											
		Client: Wilson Bowden Developments Ltd											
		Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022										
Ground Level (m AOD): 146.47		Eastings & Northings: 391270E 412330N			Engineer: TF		Checker: MH						
Strata						Samples		In-Situ Tests					
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result		
▼		0.40m	Grass over soft dark brown sandy CLAY		0.40	ES	0.30						
		146.07	()									ES	0.70
			Grey slightly clayey gravelly fine to coarse SAND with low cobble content. Gravel is angular to subangular, fine to coarse of brick and clinker. Cobbles are subangular of brick.()										
		2.00m											
		144.07	Orangish yellow fine to medium clayey SAND.()										
		0.20m											
		143.87	Black sandy PEAT.()			ES	2.80						
		0.60m											
		143.27	Light brown slightly clayey fine to medium SAND. Black coal content observed.()			ES	3.30						
0.20m		B	3.40										
143.07	Soft light grey slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded, medium to coarse of sandstone.()			B	3.60								
0.30m													
142.77													
Hole Terminated at 3.70m bgl.													
Remarks													
Reason for Termination: Limit of dig reached													
Groundwater Notes: Groundwater strike at 0.80mbgl.													
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.													
BWB A CAF GROUP COMPANY													

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.20 1.30 Pit Dimensions (m) Degrees Stability: Stable			
TP09		Project Number: 220960							
		Client: Wilson Bowden Developments Ltd							
		Plant: 8 Tonne Excavator		Start & End Date: 19/10/2022					
Ground Level (m AOD): 146.21		Eastings & Northings: 391286E 412315N				Engineer: TF		Checker: MH	
Strata Groundwater Strike Backfill Level (m AOD) 0.20m 146.01 0.30m 145.71 Description Grass over soft dark brown sandy slightly gravelly CLAY. Gravel is subangular to subrounded, fine to coarse of brick.() Dark brown sandy clayey GRAVEL with high cobble content. Gravel is subangular to subrounded, fine to coarse of brick and sandstone. Cobbles are subangular of brick and wood fragments.() Road sub base in side of pit between 0.20mbgl and 0.50mbgl. Light brown subangular to subrounded cobbles of sandstone. Hole Terminated at 0.50m bgl. Legend 0.20 0.50 Samples Type From (m) To (m) ES 0.40 In-Situ Tests Type Depth (m) Result									
Remarks									
Reason for Termination: Rapid water ingress Groundwater Notes: Groundwater strike at 0.20mbgl. Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.									

BWB

A CAF GROUP COMPANY

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:	Project Name: Plot U2, Kingsway Business Park		1.30 1.10 Pit Dimensions (m) Degrees		
TP09A	Project Number: 220960				
	Client: Wilson Bowden Developments Ltd				
	Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022			
Ground Level (m AOD): 146.21		Eastings & Northings: 391287E 412319N		Engineer: TF	Checker: MH

Strata					Samples			In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
▼		0.30m	Grass over soft dark brown sandy CLAY.()		0.30	ES	0.30				
		145.91	Grey slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of brick and clinker. Whole brick content and pottery fragments observed.()			B	0.60				
		0.70m									
		145.21	Firm light grey CLAY.()		1.00	ES	1.10				
		0.30m	Light brown slightly clayey slightly gravelly fine to medium SAND. Gravel is subangular, fine to medium of coal. ()		1.30	D	1.20				
144.91		B		1.60							
		D		1.90							
		D		2.30							
		2.10m	Reddish brown from 2.00mbgl.								
			Lenses of clay from 2.50mbgl.								
		142.81	Hole Terminated at 3.40m bgl.		3.40						

Remarks

Reason for Termination:

Limit of dig reached

Groundwater Notes:

Groundwater strike at 1.20mgl.

Other Remarks:

Location cleared of buried services. Backfilled with arisings upon completion.

BWB

A CAF GROUP COMPANY

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park			2.20 1.30 Pit Dimensions (m) Degrees Stability: Stable						
TP10		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022								
Ground Level (m AOD): 146.31		Eastings & Northings: 391303E 412304N			Engineer: TF		Checker: MH				
Strata						Samples			In-Situ Tests		
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.20m	Grass over dark brown clayey fine to medium SAND.()		0.20	ES	0.20				
		146.11	Greyish brown slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of brick.()								
		0.50m									
		145.61	Soft to firm light grey sandy CLAY. Coal fragments observed.()								
		0.70m									
		144.91	Black sandy PEAT.()		1.40	B	1.00	HSV	1.00	(18, 16, 20)kPa	
		0.30m			1.20		D				
		144.61	Firm yellowish grey sandy slightly gravelly CLAY. Gravel is subangular, fine to medium of coal.()		1.70	B	2.00	HSV	2.40	(46, 50, 52)kPa	
		0.90m			2.40		D				
		143.71	Firm to stiff blueish grey CLAY. Coal fragments observed.()		2.60	B	3.00	HSV	3.20	(91, 88, 74)kPa	
		0.60m			3.20						
		143.11	Hole Terminated at 3.20m bgl.								
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: Groundwater strike at 0.40mbgl											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park		2.40 1.60 Pit Dimensions (m) Degrees Stability:	
TP11		Project Number: 220960			
		Client: Wilson Bowden Developments Ltd			
		Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022		
Ground Level (m AOD): 146.16		Eastings & Northings: 391245E 412295N		Engineer: TF	Checker: MH

Strata					Samples			In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.25m	Grass over reddish brown slightly clayey fine to medium SAND.()		0.25	ES	0.20				
		145.91	Greyish brown slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of brick.()			B	0.40				
		0.60m									
		145.31	Light grey CONCRETE. Aggregate of limestone.()								
		0.15m	Orange slightly gravelly fine to medium SAND. Gravel is subrounded to rounded of sandstone.()			ES	1.20				
145.16	B	1.50									
		2.40m									
			Lenses of clay and coal from 2.80mbgl.			B	3.00				
		142.76	Hole Terminated at 3.40m bgl.		3.40						

Remarks

Reason for Termination:

Limit of dig reached

Groundwater Notes:

Groundwater strike at 0.60mbgl.

Other Remarks:

Location cleared of buried services. Backfilled with arisings upon completion.

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.20 1.20 Pit Dimensions (m) Degrees					
TP12		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022								
Ground Level (m AOD): 146.12		Eastings & Northings: 391279E 412284N				Engineer: TF		Checker: MH			
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.20m	Grass over soft dark brown sandy CLAY.()		0.20	ES	0.20				
		145.92	Greyish brown slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of brick. Bituminous odour observed.()								
		0.60m									
		145.32	Gray slightly clayey fine to medium SAND. Bituminous odour observed.()								
		0.15m									
145.17	Firm grey slightly gravelly CLAY, gravel is subangular to subrounded, fine to coarse of sandstone and mudstone.()	0.80	ES	0.90	HSV	1.40	(>130, >130, 114)kPa				
		0.95	ES2	0.90							
			D	1.00							
1.55m			B	1.80							
		143.62	Orange slightly gravelly fine to medium SAND. Gravel is subrounded to rounded of sandstone.		2.50	B	2.80				
		1.10m	()								
		142.52	Hole Terminated at 3.60m bgl.		3.60	B	3.60				
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: Groundwater strike at 0.30mbgl											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.30 1.00 Pit Dimensions (m) Degrees							
TP13		Project Number: 220960											
		Client: Wilson Bowden Developments Ltd											
		Plant: 8 Tonne Excavator		Start & End Date: 19/10/2022									
Ground Level (m AOD): 146.09		Eastings & Northings: 391304E 412279N				Engineer: TF		Checker: MH					
Strata						Samples			In-Situ Tests				
Groundwater Strike	Backfill	Level (m AOD)	Description			Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.40m 145.69	Reeds over dark brown very soft sandy gravelly CLAY with plastic fragments. Gravel is subangular to subrounded, fine to coarse of brick and ceramic.()				0.40	ES	0.20				
			Hole Terminated at 0.40m bgl.										
Remarks													
Reason for Termination: Rapid Water Ingress													
Groundwater Notes: Groundwater strike at 0.10mbgl.													
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.													

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:	Project Name: Plot U2, Kingsway Business Park		1.60 1.10 Pit Dimensions (m) Degrees								
TP13A	Project Number: 220960										
	Client: Wilson Bowden Developments Ltd										
	Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022									
Ground Level (m AOD): 146.09		Eastings & Northings: 391305E 412279N		Engineer: TF	Checker: MH						
Strata					Samples		In-Situ Tests				
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		1.10m	Grass over dark brown clayey gravelly SAND with moderate cobble content and plastic fragments. Gravel is subangular to subrounded, fine to coarse of sandstone, concrete and brick. Cobbles are subangular to subrounded of sandstone.()			ES	0.60				
		144.99	Light brown clayey SAND.()			B	1.00				
		0.40m				ES	1.20				
		144.59	Stiff grey slightly sandy CLAY.() Orange mottling between 1.50mbgl and 1.80mbgl.			D	1.40				
						D	1.70				
		1.30m				B	2.30	HSV	2.00	(109, 110, 104)kPa	
	Lenses of brownish grey sand between 1.50mbgl and 1.80mbgl.										
143.29		B	2.70	HSV	2.60	(106, 108, 92)kPa					
		Hole Terminated at 2.80m bgl.									
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: Groundwater strike at 0.60mbgl.											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park		2.50 1.20 Pit Dimensions (m) Degrees	
TP14		Project Number: 220960			
		Client: Wilson Bowden Developments Ltd			
		Plant: 8 Tonne Excavator	Start & End Date: 19/10/2022		
Ground Level (m AOD): 146.05		Eastings & Northings: 391257E 412272N		Engineer: TF	Checker: MH

Strata					Samples			In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.20m	Vegetation over very soft dark brown sandy gravelly CLAY. Gravel is subangular, fine to coarse of brick and sandstone.() Dark grey and light grey gravelly SAND with moderate cobble content. Gravel is subangular, fine to coarse of brick and sandstone. Cobbles are subangular of brick.() Very stiff orange mottled grey sandy CLAY.()		0.20	ES	0.10				>135, 132, 128)kPa
					ES	0.30					
					D	0.50					
			145.35		0.70	ES	0.90				
						B	1.00				
		1.20m				D	1.50		HSV	1.50	
		144.15	Orange and brown clayey SAND.()		1.90						
		1.00m				B	2.40				
		143.15	Hole Terminated at 2.90m bgl.		2.90						

Remarks

Reason for Termination:

Limit of dig reached

Groundwater Notes:

Groundwater strike at 0.70mbgl.

Other Remarks:

Location cleared of buried services. Backfilled with arisings upon completion.

TRIAL PIT LOG

Scale: 1:50Sheet 1 of 1

LOCATION ID:		Project Name: Plot U2, Kingsway Business Park				2.20 1.10 Pit Dimensions (m) Degrees					
TP15		Project Number: 220960									
		Client: Wilson Bowden Developments Ltd									
		Plant: 8 Tonne Excavator		Start & End Date: 19/10/2022							
Ground Level (m AOD): 146.32		Eastings & Northings: 391277E 412266N				Engineer: TF		Checker:			
Strata						Samples		In-Situ Tests			
Groundwater Strike	Backfill	Level (m AOD)	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
		0.20m	Grass over soft dark brown sandy CLAY.()		0.20						
		146.12	Greyish brown slightly clayey gravelly fine to coarse SAND. Gravel is angular to subangular, fine to coarse of brick.()								
		0.50m				ES	0.50				
		145.62	Firm reddish brown mottled light grey slightly gravelly CLAY. Gravel is subangular to subrounded of sandstone and mudstone.()		0.70	ES	0.80				
		1.00m				D	1.00		HSV	1.20	(42, 50, 52)kPa
		144.62	Firm to stiff blueish grey mottled orange slightly gravelly CLAY. Gravel is subangular to subrounded of mudstone.()		1.70	D	2.00		HSV	2.00	(60, 52, 58)kPa
		1.50m	Colour change to bluish grey with no mottling and very stiff from 2.40mbgl.			B	2.50				
									HSV	2.80	(109, 109, 109)kPa
		143.12	Hole Terminated at 3.20m bgl.		3.20						
Remarks											
Reason for Termination: Limit of dig reached											
Groundwater Notes: No groundwater encountered.											
Other Remarks: Location cleared of buried services. Backfilled with arisings upon completion.											
BWB A CAF GROUP COMPANY											

Appendix 3: SPT Certificate

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: AR3886
Test Date: 24/01/2022
Report Date: 24/01/2022
File Name: AR3886.spt
Test Operator: MT

Instrumented Rod Data

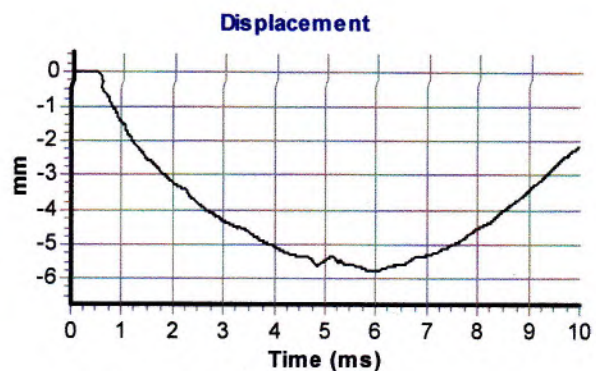
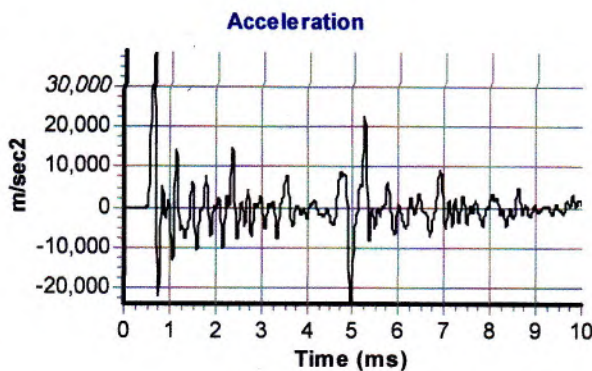
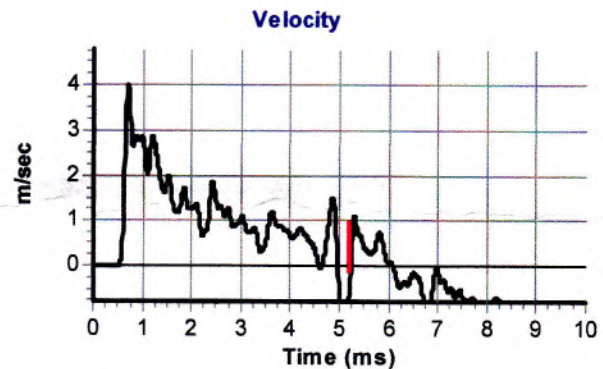
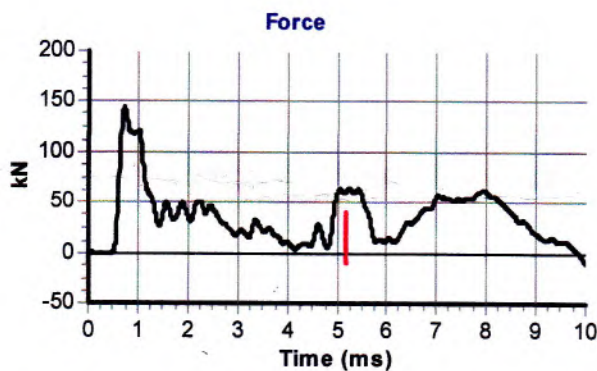
Diameter d_r (mm): 54
Wall Thickness t_r (mm): 6.0
Assumed Modulus E_a (GPa): 200
Accelerometer No.1: 7080
Accelerometer No.2: 11609

SPT Hammer Information

Hammer Mass m (kg): 63.5
Falling Height h (mm): 760
SPT String Length L (m): 10.0

Comments / Location

R&D DRILLING LIMITED - 78829



Calculations

Area of Rod A (mm^2): 905
Theoretical Energy E_{theor} (J): 473
Measured Energy E_{meas} (J): 342

Energy Ratio E_r (%): **72**

Signed: M.TONER

Title: TRAINEE FITTER

The recommended calibration interval is 12 months

Appendix 4: Ground Gas and Groundwater Monitoring Data

BWB

Dry = No Groundwater

CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Overcast	Overcast
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)	12.0	12.0
Barometric Pressure (h Pa / mB)	990.0	990.0
App 12 Hour Pressure (h Pa / mB)	991.0	
12 Hour Pressure Trend		
PID - Air	<0.1	<0.1
PID - Calibration Gas		

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		08 November 2022
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

[illegible]

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		28/11/2022
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

BWB
CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Overcast	Overcast
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)	8.0	8.0
Barometric Pressure (h Pa / mB)	1009.0	1009.0
App 12 Hour Pressure (h Pa / mB)	1004.0	
12 Hour Pressure Trend		
PID - Air	<0.1	<0.1
PID - Calibration Gas		

[illegible]

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		13/12/2022
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

BWB

Weather Conditions	Start	End
(Dry / Raining)	Light Snow	Light Snow
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)		
Barometric Pressure (h Pa / mB)	1003.0	1003.0
App 12 Hour Pressure (h Pa / mB)		
12 Hour Pressure Trend		
PID - Air		
PID - Calibration Gas		

[illegible]

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		11/01/2023
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

BWB
CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Drizzle	Overcast
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)		
Barometric Pressure (h Pa / mB)	1000.0	1000.0
App 12 Hour Pressure (h Pa / mB)		
12 Hour Pressure Trend		
PID - Air		
PID - Calibration Gas		

[illegible]

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		17/01/2023
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

BWB
CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

Weather Conditions	Start	End
(Dry / Raining)	Overcast	Overcast
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)		
Barometric Pressure (h Pa / mB)	988.0	988.0
App 12 Hour Pressure (h Pa / mB)		
12 Hour Pressure Trend		
PID - Air		
PID - Calibration Gas		

[illegible]

Site:		Plot U, Kingsway
Client:		Wilson Bowden Developments
Job No.:		220960
Date:		30/01/2023
Start / End Time:		
Engineer:		OS
Monitoring Equipment:	Gas Meter ID	
	PID ID	
	Dip Tape	
	Other	

BWB

Weather Conditions	Start	End
(Dry / Raining)	Overcast	Overcast
Wind Strength (m/s)		
Wind Direction (from)		
Temperature (°C)		
Barometric Pressure (h Pa / mB)	1021.0	1021.0
App 12 Hour Pressure (h Pa / mB)		
12 Hour Pressure Trend		
PID - Air		
PID - Calibration Gas		

[illegible]

Appendix 5: Soil Chemical Laboratory Report



Thomas Flame
BWB Consulting Limited
Westminster House
11 Portland Street
Manchester
M1 3HU

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: Thomas.Flame@bwbconsulting.com

Analytical Report Number : 22-14437

Project / Site name:	Plot U2, Kingsway Bus, Park	Samples received on:	26/10/2022
Your job number:	220960	Samples instructed on/ Analysis started on:	21/12/2022
Your order number:	3055	Analysis completed by:	10/01/2023
Report Issue Number:	1	Report issued on:	10/01/2023
Samples Analysed:	10 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-14437

Project / Site name: Plot U2, Kingsway Bus, Park

Your Order No: 3055

Lab Sample Number				2540909	2540910	2540911	2540912	2540913
Sample Reference				BH01	TP03	TP01	TP05	TP13A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20-1.20	1.00-1.00	2.50-2.50	2.00-2.00	1.00-1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	-	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	-	80	67	12
Total mass of sample received	kg	0.001	NONE	0.3	-	0.3	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	-	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.074	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.074	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	LFT	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4	-	U/S*	4.5	7.8
Total Sulphate as SO ₄	%	0.005	MCERTS	0.089	-	-	-	0.017
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.045	-	0.54	0.059	0.027
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	45	-	540	58.6	27
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	2.4	-	-	-	5.6
Total Sulphur	%	0.005	MCERTS	0.054	-	-	-	0.013
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	-	-	-	2.7

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	< 5.0	-	-	-	10
Magnesium (leachate equivalent)	mg/l	2.5	NONE	< 2.5	-	-	-	5.1

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

*U/S - Unsuitable for analysis, sample absorbed all water used for extraction.

Analytical Report Number: 22-14437

Project / Site name: Plot U2, Kingsway Bus, Park

Your Order No: 3055

Lab Sample Number				2540914	2540915	2540916	2540917	2540918
Sample Reference				TP14	BH02	TP11	TP12	BH01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50-0.50	5.50-6.00	1.50-15.0	1.00-1.00	6.50-7.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	-	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	-	15	6.1	15	15
Total mass of sample received	kg	0.001	NONE	-	0.3	0.3	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	N/A	N/A	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	9	8	7.5	8.6
Total Sulphate as SO ₄	%	0.005	MCERTS	-	-	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.046	0.027	0.022	0.026
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	46.2	27.4	21.6	25.7
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	-	230	1.8	29	5.1
Total Sulphur	%	0.005	MCERTS	-	-	-	-	-
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	-	3.2	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	-	10	< 5.0	< 5.0	< 5.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	-	5.1	< 2.5	< 2.5	< 2.5

U/S = Unsuitable Sample I/S = Insufficient Sample ND = Not detected

*U/S - Unsuitable for analysis, sample absorbed all water used for extraction.



Analytical Report Number: 22-14437
Project / Site name: Plot U2, Kingsway Bus, Park
Your Order No: 3055

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2540910	TP03	1.00-1.00	114	Loose Fibres & Loose Fibrous Debris	Chrysotile & Amosite	0.074	0.074

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 22-14437

Project / Site name: Plot U2, Kingsway Bus, Park

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2540909	BH01	None Supplied	1.20-1.20	Black loam and gravel.
2540911	TP01	None Supplied	2.50-2.50	Black loam with peat.
2540912	TP05	None Supplied	2.00-2.00	Brown loam with vegetation and peat.
2540913	TP13A	None Supplied	1.00-1.00	Brown clay and sand with vegetation and gravel
2540915	BH02	None Supplied	5.50-6.00	Brown clay and sand.
2540916	TP11	None Supplied	1.50-15.0	Brown sand.
2540917	TP12	None Supplied	1.00-1.00	Brown clay and sand with vegetation.
2540918	BH01	None Supplied	6.50-7.00	Brown loam and gravel.

Analytical Report Number : 22-14437

Project / Site name: Plot U2, Kingsway Bus, Park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 22-14437

Project / Site name: Plot U2, Kingsway Bus, Park

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Key: a - No sampling date b - Incorrect container c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH01	None Supplied	S	2540909	a	None Supplied	None Supplied	None Supplied
BH01	None Supplied	S	2540918	a	None Supplied	None Supplied	None Supplied
BH02	None Supplied	S	2540915	a	None Supplied	None Supplied	None Supplied
TP01	None Supplied	S	2540911	a	None Supplied	None Supplied	None Supplied
TP03	None Supplied	S	2540910	a	None Supplied	None Supplied	None Supplied
TP05	None Supplied	S	2540912	a	None Supplied	None Supplied	None Supplied
TP11	None Supplied	S	2540916	a	None Supplied	None Supplied	None Supplied
TP12	None Supplied	S	2540917	a	None Supplied	None Supplied	None Supplied
TP13A	None Supplied	S	2540913	a	None Supplied	None Supplied	None Supplied
TP14	None Supplied	S	2540914	a	None Supplied	None Supplied	None Supplied

Thomas Flame
BWB Consulting Limited
Westminster House
11 Portland Street
Manchester
M1 3HU

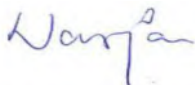
i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: Thomas.Flame@bwbconsulting.com

Analytical Report Number : 22-93432

Project / Site name:	Plot U2, Kingsway business park	Samples received on:	21/10/2022
Your job number:	220960	Samples instructed on/ Analysis started on:	28/10/2022
Your order number:	3054	Analysis completed by:	08/11/2022
Report Issue Number:	1	Report issued on:	08/11/2022
Samples Analysed:	7 leachate samples - 21 soil samples		


Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480651	2480652	2480653	2480654	2480655
Sample Reference				TP03	TP03	TP03	TP01	TP01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.70	0.40	2.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		
Stone Content				%	0.1	NONE	< 0.1	< 0.1
Moisture Content				%	0.01	NONE	18	79
Total mass of sample received				kg	0.001	NONE	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile- Loose Fibrous Debris	Chrysotile- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	Detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	SPU	SPU	SPU	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.6	-	-	8.2	I/S
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.013	-	-	0.26	0.16
Total Sulphur	mg/kg	50	MCERTS	370	-	-	520	3300
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.034	-	-	0.0081	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	0.19

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	---	---	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	-	-	0.08	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	< 0.05	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.1	-	-	0.21	< 0.05
Anthracene	mg/kg	0.05	NONE	< 0.05	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	NONE	0.28	-	-	0.2	< 0.05
Pyrene	mg/kg	0.05	NONE	0.28	-	-	0.21	< 0.05
Benzo(a)anthracene	mg/kg	0.05	NONE	0.13	-	-	0.15	< 0.05
Chrysene	mg/kg	0.05	NONE	0.13	-	-	0.16	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.19	-	-	0.2	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.07	-	-	0.06	< 0.05
Benzo(a)pyrene	mg/kg	0.05	NONE	0.19	-	-	0.15	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.1	-	-	0.1	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.12	-	-	0.14	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	1.59	-	-	1.66	< 0.80
-----------------------------	-------	-----	------	------	---	---	------	--------

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number	2480651	2480652	2480653	2480654	2480655
Sample Reference	TP03	TP03	TP03	TP01	TP01
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.20	0.40	0.70	0.40	2.40
Date Sampled	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	-	-	8.1	2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	90	-	-	170	44
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.79	-	-	0.93	0.07
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	-	-	0.4	3.4
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	-	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	-	-	28	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25	-	-	45	4.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	31	-	-	35	40
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	-	-	32	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	-	-	25	1.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	70	-	-	140	24

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-xylene	µg/kg	1	NONE	-	-	-	-	-
o-xylene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-

Petroleum Hydrocarbons

TPH C10 - C40 EH_CU_ID_TOTAL	mg/kg	10	NONE	15	-	-	58	320
------------------------------	-------	----	------	----	---	---	----	-----

TPH2 (C6 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	-	-	< 0.1	< 0.1
-----------------------------	-------	-----	------	-------	---	---	-------	-------

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number				2480651	2480652	2480653	2480654	2480655
Sample Reference				TP03	TP03	TP03	TP01	TP01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.70	0.40	2.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

VOCs

Chloromethane	µg/kg	1	NONE	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	NONE	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloromethane	µg/kg	1	NONE	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	NONE	-	-	-	-	-
Tetrachloromethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloroethene	µg/kg	1	NONE	-	-	-	-	-
Dibromomethane	µg/kg	1	NONE	-	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Dibromochloromethane	µg/kg	1	NONE	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	NONE	-	-	-	-	-
Chlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-Xylene	µg/kg	1	NONE	-	-	-	-	-
Styrene	µg/kg	1	NONE	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	NONE	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	-
Bromobenzene	µg/kg	1	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	1	NONE	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Butylbenzene	µg/kg	1	NONE	-	-	-	-	-

Analytical Report Number: 22-93432
Project / Site name: Plot U2, Kingsway business park
Your Order No: 3054

Lab Sample Number				2480651	2480652	2480653	2480654	2480655
Sample Reference				TP03	TP03	TP03	TP01	TP01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.70	0.40	2.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480651	2480652	2480653	2480654	2480655
Sample Reference				TP03	TP03	TP03	TP01	TP01
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.40	0.70	0.40	2.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480656	2480657	2480658	2480659	2480660
Sample Reference				TP01	TP02	TP04	TP04	TP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.25	0.70	1.20	2.00	0.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	24	16	-	45	7.1
Total mass of sample received	kg	0.001	NONE	0.3	0.3	-	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile- Loose Fibres	Chrysotile- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	Detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	SPU	SPU	N/A	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	4.8	6.5	-	6.2	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.17	0.056	-	0.031	1.1
Total Sulphur	mg/kg	50	MCERTS	460	570	-	1500	1400
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.035	0.025	-	0.068	0.011
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	---	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	0.78	-	0.13	0.06
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	0.09	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	0.48	-	0.19	0.13
Fluorene	mg/kg	0.05	NONE	< 0.05	0.35	-	0.16	0.12
Phenanthrene	mg/kg	0.05	NONE	< 0.05	2.9	-	1	0.92
Anthracene	mg/kg	0.05	NONE	< 0.05	0.49	-	0.21	0.31
Fluoranthene	mg/kg	0.05	NONE	< 0.05	3.1	-	2	1.7
Pyrene	mg/kg	0.05	NONE	< 0.05	2.7	-	1.9	1.6
Benzo(a)anthracene	mg/kg	0.05	NONE	< 0.05	1.3	-	1	0.77
Chrysene	mg/kg	0.05	NONE	< 0.05	1.8	-	1.1	0.79
Benzo(b)fluoranthene	mg/kg	0.05	NONE	< 0.05	1.3	-	0.95	0.67
Benzo(k)fluoranthene	mg/kg	0.05	NONE	< 0.05	1	-	0.55	0.68
Benzo(a)pyrene	mg/kg	0.05	NONE	< 0.05	1.3	-	0.8	0.8
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	0.65	-	0.45	0.4
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	0.17	-	0.08	0.08
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	0.84	-	0.47	0.52

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	< 0.80	19.2	-	11	9.52
-----------------------------	-------	-----	------	--------	------	---	----	------

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480656	2480657	2480658	2480659	2480660
Sample Reference				TP01	TP02	TP04	TP04	TP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.25	0.70	1.20	2.00	0.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	2.9	28	-	16	7.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	25	320	-	92	120
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.34	1.2	-	0.9	0.92
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.7	-	2.1	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	-	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	73	-	14	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	10	300	-	68	30
Lead (aqua regia extractable)	mg/kg	1	MCERTS	12	230	-	390	31
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	170	-	21	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	19	48	-	24	29
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	21	870	-	100	88

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-xylene	µg/kg	1	NONE	-	-	-	-	-
o-xylene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-

Petroleum Hydrocarbons

TPH C10 - C40 EH, CU, ID, TOTAL	mg/kg	10	NONE	35	110	-	94	110
--	-------	----	------	----	-----	---	----	-----

TPH2 (C6 - C10) HS, ID, TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	< 0.1
--	-------	-----	------	-------	-------	---	-------	-------

TPH-CWG - Aliphatic >EC5 - EC6 HS, ID, AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS, ID, AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS, ID, AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH, CU, ID, AL	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH, CU, ID, AL	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH, CU, ID, AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH, CU, ID, AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH, CU+HS, ID, AL	mg/kg	10	NONE	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS, ID, AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS, ID, AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS, ID, AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH, CU, ID, AR	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH, CU, ID, AR	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH, CU, ID, AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH, CU, ID, AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH, CU+HS, ID, AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number				2480656	2480657	2480658	2480659	2480660
Sample Reference				TP01	TP02	TP04	TP04	TP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.25	0.70	1.20	2.00	0.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	NONE	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	NONE	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloromethane	µg/kg	1	NONE	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	NONE	-	-	-	-	-
Tetrachloromethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloroethene	µg/kg	1	NONE	-	-	-	-	-
Dibromomethane	µg/kg	1	NONE	-	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Dibromochloromethane	µg/kg	1	NONE	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	NONE	-	-	-	-	-
Chlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-Xylene	µg/kg	1	NONE	-	-	-	-	-
Styrene	µg/kg	1	NONE	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	NONE	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	-
Bromobenzene	µg/kg	1	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	1	NONE	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Butylbenzene	µg/kg	1	NONE	-	-	-	-	-

Analytical Report Number: 22-93432
Project / Site name: Plot U2, Kingsway business park
Your Order No: 3054

Lab Sample Number				2480656	2480657	2480658	2480659	2480660
Sample Reference				TP01	TP02	TP04	TP04	TP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.25	0.70	1.20	2.00	0.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480656	2480657	2480658	2480659	2480660
Sample Reference				TP01	TP02	TP04	TP04	TP06
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				3.25	0.70	1.20	2.00	0.40
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number	2480661	2480662	2480663	2480664	2480665
Sample Reference	TP09	TP13	TP13A	TP13A	TP07
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.40	0.10	0.70	1.20	2.00
Date Sampled	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	23	53
Total mass of sample received	kg	0.001	NONE	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	N/A	SPU	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.5	7.5	7.3	6.4	6.1
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.41	0.086	0.035	0.03	0.03
Total Sulphur	mg/kg	50	MCERTS	1800	440	390	160	3600
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.039	0.026	0.01	0.012	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	0.26

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------	-------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	NONE	0.07	< 0.05	0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	NONE	0.6	0.3	0.44	0.14	0.12
Anthracene	mg/kg	0.05	NONE	0.17	0.09	0.11	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	NONE	1.1	0.59	0.77	0.2	0.19
Pyrene	mg/kg	0.05	NONE	0.98	0.59	0.71	0.21	0.17
Benzo(a)anthracene	mg/kg	0.05	NONE	0.47	0.31	0.38	0.09	0.11
Chrysene	mg/kg	0.05	NONE	0.52	0.37	0.41	0.08	0.15
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.42	0.28	0.3	0.08	0.23
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.47	0.35	0.22	0.07	0.08
Benzo(a)pyrene	mg/kg	0.05	NONE	0.45	0.35	0.26	0.08	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.24	0.18	0.16	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.28	0.23	0.19	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	5.88	3.64	4	0.95	1.05
-----------------------------	-------	-----	------	------	------	---	------	------

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number	2480661	2480662	2480663	2480664	2480665
Sample Reference	TP09	TP13	TP13A	TP13A	TP07
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.40	0.10	0.70	1.20	2.00
Date Sampled	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	11	10	5.2	2	14
Barium (aqua regia extractable)	mg/kg	1	MCERTS	110	120	77	30	54
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.79	0.77	0.73	0.36	0.46
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	0.5	0.4	0.3	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	19	20	12	9.6
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	50	19	8.8	21
Lead (aqua regia extractable)	mg/kg	1	MCERTS	69	64	23	11	83
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	18	19	10	9.8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	23	13	14
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	81	210	50	25	31

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-xylene	µg/kg	1	NONE	-	-	-	-	-
o-xylene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-

Petroleum Hydrocarbons

TPH C10 - C40 EH_CU_ID_TOTAL	mg/kg	10	NONE	69	80	380	12	120
---	-------	----	------	----	----	-----	----	-----

TPH2 (C6 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
--	-------	-----	------	-------	-------	-------	-------	-------

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	-	-	-	-	-

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	-	-	-	-	-

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number				2480661	2480662	2480663	2480664	2480665
Sample Reference				TP09	TP13	TP13A	TP13A	TP07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.10	0.70	1.20	2.00
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	NONE	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	NONE	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloromethane	µg/kg	1	NONE	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	NONE	-	-	-	-	-
Tetrachloromethane	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Trichloroethene	µg/kg	1	NONE	-	-	-	-	-
Dibromomethane	µg/kg	1	NONE	-	-	-	-	-
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	-
Toluene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	NONE	-	-	-	-	-
Dibromochloromethane	µg/kg	1	NONE	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	NONE	-	-	-	-	-
Chlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	-
p & m-Xylene	µg/kg	1	NONE	-	-	-	-	-
Styrene	µg/kg	1	NONE	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	NONE	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	-
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	-
Bromobenzene	µg/kg	1	NONE	-	-	-	-	-
n-Propylbenzene	µg/kg	1	NONE	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Butylbenzene	µg/kg	1	NONE	-	-	-	-	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480661	2480662	2480663	2480664	2480665
Sample Reference				TP09	TP13	TP13A	TP13A	TP07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.10	0.70	1.20	2.00
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	NONE	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	-
Fluorene	mg/kg	0.05	NONE	-	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	-
Anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Carbazole	mg/kg	0.3	NONE	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480661	2480662	2480663	2480664	2480665
Sample Reference				TP09	TP13	TP13A	TP13A	TP07
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.40	0.10	0.70	1.20	2.00
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Chrysene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number	2480666	2480667	2480668	2480669	2480670
Sample Reference	TP14	TP14	TP08	TP09A	TP12
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.10	0.90	0.70	0.30	0.90
Date Sampled	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	7.3
Total mass of sample received	kg	0.001	NONE	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Chrysotile- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	SPU	SPU	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.4	5.7	-	-	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.053	0.011	-	-	-
Total Sulphur	mg/kg	50	MCERTS	430	72	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.023	0.007	-	-	-
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
----------------------------	-------	---	--------	-------	-------	---	---	---

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	-
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	-
Fluorene	mg/kg	0.05	NONE	0.05	< 0.05	-	-	-
Phenanthrene	mg/kg	0.05	NONE	0.55	< 0.05	-	-	-
Anthracene	mg/kg	0.05	NONE	0.16	< 0.05	-	-	-
Fluoranthene	mg/kg	0.05	NONE	0.98	< 0.05	-	-	-
Pyrene	mg/kg	0.05	NONE	0.92	< 0.05	-	-	-
Benzo(a)anthracene	mg/kg	0.05	NONE	0.36	< 0.05	-	-	-
Chrysene	mg/kg	0.05	NONE	0.44	< 0.05	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.32	< 0.05	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.39	< 0.05	-	-	-
Benzo(a)pyrene	mg/kg	0.05	NONE	0.38	< 0.05	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.2	< 0.05	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.24	< 0.05	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	4.99	< 0.80	-	-	-
-----------------------------	-------	-----	------	------	--------	---	---	---

Analytical Report Number: 22-93432
 Project / Site name: Plot U2, Kingsway business park
 Your Order No: 3054

Lab Sample Number	2480666	2480667	2480668	2480669	2480670
Sample Reference	TP14	TP14	TP08	TP09A	TP12
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.10	0.90	0.70	0.30	0.90
Date Sampled	19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	6.5	4	-	-	-
Barium (aqua regia extractable)	mg/kg	1	MCERTS	180	73	-	-	-
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.59	1	-	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	< 0.2	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.5	< 0.2	-	-	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S	< 1.8	-	-	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	24	-	-	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31	21	-	-	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	47	15	-	-	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	-	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	17	22	-	-	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	-
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	19	25	-	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	1000	46	-	-	-

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Toluene	µg/kg	1	NONE	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
p & m-xylene	µg/kg	1	NONE	-	-	-	-	< 1.0
o-xylene	µg/kg	1	NONE	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	< 1.0

Petroleum Hydrocarbons

TPH C10 - C40 EH_CU_ID_TOTAL	mg/kg	10	NONE	< 10	< 10	-	-	-
------------------------------	-------	----	------	------	------	---	---	---

TPH2 (C6 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-	-
-----------------------------	-------	-----	------	-------	-------	---	---	---

TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_ID_AL	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_ID_AL	mg/kg	1	NONE	-	-	-	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH_CU_ID_AL	mg/kg	2	NONE	-	-	-	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_ID_AL	mg/kg	8	NONE	-	-	-	-	54
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_ID_AL	mg/kg	10	NONE	-	-	-	-	61

TPH-CWG - Aromatic >EC5 - EC7 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_ID_AR	mg/kg	0.001	NONE	-	-	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH_CU_ID_AR	mg/kg	1	NONE	-	-	-	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_ID_AR	mg/kg	2	NONE	-	-	-	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_ID_AR	mg/kg	10	NONE	-	-	-	-	72
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_ID_AR	mg/kg	10	NONE	-	-	-	-	80

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480666	2480667	2480668	2480669	2480670
Sample Reference				TP14	TP14	TP08	TP09A	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.90	0.70	0.30	0.90
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
VOCs								
Chloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Bromomethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	< 1.0
Trichloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	NONE	-	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
Benzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	NONE	-	-	-	-	< 1.0
Trichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
Dibromomethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	NONE	-	-	-	-	< 1.0
Toluene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	NONE	-	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
p & m-Xylene	µg/kg	1	NONE	-	-	-	-	< 1.0
Styrene	µg/kg	1	NONE	-	-	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	-	-	-	-	< 1.0
o-Xylene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Bromobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
n-Propylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Butylbenzene	µg/kg	1	NONE	-	-	-	-	< 1.0

Analytical Report Number: 22-93432
Project / Site name: Plot U2, Kingsway business park
Your Order No: 3054

Lab Sample Number				2480666	2480667	2480668	2480669	2480670
Sample Reference				TP14	TP14	TP08	TP09A	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.90	0.70	0.30	0.90
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	NONE	-	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-	-	-	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	-	-	-	-	0.6
Phenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	0.3
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	NONE	-	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Isophorone	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	NONE	-	-	-	-	0.22
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	0.2
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	NONE	-	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	NONE	-	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	NONE	-	-	-	-	0.19
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	NONE	-	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Fluorene	mg/kg	0.05	NONE	-	-	-	-	0.19
Azobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	NONE	-	-	-	-	1.4
Anthracene	mg/kg	0.05	NONE	-	-	-	-	0.39
Carbazole	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	-	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	NONE	-	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	NONE	-	-	-	-	2.2
Pyrene	mg/kg	0.05	NONE	-	-	-	-	2.1
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-	-	-	< 0.3

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480666	2480667	2480668	2480669	2480670
Sample Reference				TP14	TP14	TP08	TP09A	TP12
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.90	0.70	0.30	0.90
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Benzo(a)anthracene	mg/kg	0.05	NONE	-	-	-	-	0.93
Chrysene	mg/kg	0.05	NONE	-	-	-	-	1.1
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	0.83
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-	-	-	-	0.62
Benzo(a)pyrene	mg/kg	0.05	NONE	-	-	-	-	0.92
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-	-	-	-	0.4
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-	-	-	-	0.08
Benzo(ghi)perylene	mg/kg	0.05	NONE	-	-	-	-	0.49

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480671
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	13
Total mass of sample received	kg	0.001	NONE	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.031
Total Sulphur	mg/kg	50	MCERTS	520
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.016
Fraction Organic Carbon (FOC)	N/A	0.001	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
----------------------------	-------	---	--------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	0.94
Acenaphthylene	mg/kg	0.05	NONE	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.58
Fluorene	mg/kg	0.05	NONE	0.42
Phenanthrene	mg/kg	0.05	NONE	2.4
Anthracene	mg/kg	0.05	NONE	0.38
Fluoranthene	mg/kg	0.05	NONE	1.8
Pyrene	mg/kg	0.05	NONE	1.9
Benzo(a)anthracene	mg/kg	0.05	NONE	0.98
Chrysene	mg/kg	0.05	NONE	0.97
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.9
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.32
Benzo(a)pyrene	mg/kg	0.05	NONE	0.73
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.38
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.08
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.42

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	13.2
-----------------------------	-------	-----	------	------

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480671
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.9
Barium (aqua regia extractable)	mg/kg	1	MCERTS	95
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.8
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	46
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	23
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	75

Monoaromatics & Oxygenates

Benzene	µg/kg	1	NONE	-
Toluene	µg/kg	1	NONE	-
Ethylbenzene	µg/kg	1	NONE	-
p & m-xylene	µg/kg	1	NONE	-
o-xylene	µg/kg	1	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-

Petroleum Hydrocarbons

TPH C10 - C40 _{EH, CU, ID, TOTAL}	mg/kg	10	NONE	55
--	-------	----	------	----

TPH2 (C6 - C10) _{HS, ID, TOTAL}	mg/kg	0.1	NONE	< 0.1
--	-------	-----	------	-------

TPH-CWG - Aliphatic >EC5 - EC6 _{HS, ID, AL}	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC6 - EC8 _{HS, ID, AL}	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC8 - EC10 _{HS, ID, AL}	mg/kg	0.001	NONE	-
TPH-CWG - Aliphatic >EC10 - EC12 _{EH, CU, ID, AL}	mg/kg	1	NONE	-
TPH-CWG - Aliphatic >EC12 - EC16 _{EH, CU, ID, AL}	mg/kg	2	NONE	-
TPH-CWG - Aliphatic >EC16 - EC21 _{EH, CU, ID, AL}	mg/kg	8	NONE	-
TPH-CWG - Aliphatic >EC21 - EC35 _{EH, CU, ID, AL}	mg/kg	8	NONE	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH, CU+HS, ID, AL}	mg/kg	10	NONE	-

TPH-CWG - Aromatic >EC5 - EC7 _{HS, ID, AR}	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC7 - EC8 _{HS, ID, AR}	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC8 - EC10 _{HS, ID, AR}	mg/kg	0.001	NONE	-
TPH-CWG - Aromatic >EC10 - EC12 _{EH, CU, ID, AR}	mg/kg	1	NONE	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH, CU, ID, AR}	mg/kg	2	NONE	-
TPH-CWG - Aromatic >EC16 - EC21 _{EH, CU, ID, AR}	mg/kg	10	NONE	-
TPH-CWG - Aromatic >EC21 - EC35 _{EH, CU, ID, AR}	mg/kg	10	NONE	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH, CU+HS, ID, AR}	mg/kg	10	NONE	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480671
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
VOCs				
Chloromethane	µg/kg	1	NONE	-
Chloroethane	µg/kg	1	NONE	-
Bromomethane	µg/kg	1	NONE	-
Vinyl Chloride	µg/kg	1	NONE	-
Trichlorofluoromethane	µg/kg	1	NONE	-
1,1-Dichloroethene	µg/kg	1	NONE	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	NONE	-
Cis-1,2-dichloroethene	µg/kg	1	NONE	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	NONE	-
1,1-Dichloroethane	µg/kg	1	NONE	-
2,2-Dichloropropane	µg/kg	1	NONE	-
Trichloromethane	µg/kg	1	NONE	-
1,1,1-Trichloroethane	µg/kg	1	NONE	-
1,2-Dichloroethane	µg/kg	1	NONE	-
1,1-Dichloropropene	µg/kg	1	NONE	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-
Benzene	µg/kg	1	NONE	-
Tetrachloromethane	µg/kg	1	NONE	-
1,2-Dichloropropane	µg/kg	1	NONE	-
Trichloroethene	µg/kg	1	NONE	-
Dibromomethane	µg/kg	1	NONE	-
Bromodichloromethane	µg/kg	1	NONE	-
Cis-1,3-dichloropropene	µg/kg	1	NONE	-
Trans-1,3-dichloropropene	µg/kg	1	NONE	-
Toluene	µg/kg	1	NONE	-
1,1,2-Trichloroethane	µg/kg	1	NONE	-
1,3-Dichloropropane	µg/kg	1	NONE	-
Dibromochloromethane	µg/kg	1	NONE	-
Tetrachloroethene	µg/kg	1	NONE	-
1,2-Dibromoethane	µg/kg	1	NONE	-
Chlorobenzene	µg/kg	1	NONE	-
1,1,1,2-Tetrachloroethane	µg/kg	1	NONE	-
Ethylbenzene	µg/kg	1	NONE	-
p & m-Xylene	µg/kg	1	NONE	-
Styrene	µg/kg	1	NONE	-
Tribromomethane	µg/kg	1	NONE	-
o-Xylene	µg/kg	1	NONE	-
1,1,2,2-Tetrachloroethane	µg/kg	1	NONE	-
Isopropylbenzene	µg/kg	1	NONE	-
Bromobenzene	µg/kg	1	NONE	-
n-Propylbenzene	µg/kg	1	NONE	-
2-Chlorotoluene	µg/kg	1	NONE	-
4-Chlorotoluene	µg/kg	1	NONE	-
1,3,5-Trimethylbenzene	µg/kg	1	NONE	-
tert-Butylbenzene	µg/kg	1	NONE	-
1,2,4-Trimethylbenzene	µg/kg	1	NONE	-
sec-Butylbenzene	µg/kg	1	NONE	-
1,3-Dichlorobenzene	µg/kg	1	NONE	-
p-Isopropyltoluene	µg/kg	1	NONE	-
1,2-Dichlorobenzene	µg/kg	1	NONE	-
1,4-Dichlorobenzene	µg/kg	1	NONE	-
Butylbenzene	µg/kg	1	NONE	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number					2480671
Sample Reference					TP15
Sample Number					None Supplied
Depth (m)					0.30
Date Sampled					19/10/2022
Time Taken					None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
1,2-Dibromo-3-chloropropane	µg/kg	1	NONE	-	-
1,2,4-Trichlorobenzene	µg/kg	1	NONE	-	-
Hexachlorobutadiene	µg/kg	1	NONE	-	-
1,2,3-Trichlorobenzene	µg/kg	1	NONE	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	-
Phenol	mg/kg	0.2	NONE	-	-
2-Chlorophenol	mg/kg	0.1	NONE	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	NONE	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-
1,2-Dichlorobenzene	mg/kg	0.1	NONE	-	-
1,4-Dichlorobenzene	mg/kg	0.2	NONE	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	NONE	-	-
2-Methylphenol	mg/kg	0.3	NONE	-	-
Hexachloroethane	mg/kg	0.05	NONE	-	-
Nitrobenzene	mg/kg	0.3	NONE	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-
Isophorone	mg/kg	0.2	NONE	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-
2,4-Dimethylphenol	mg/kg	0.3	NONE	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	NONE	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	NONE	-	-
Naphthalene	mg/kg	0.05	NONE	-	-
2,4-Dichlorophenol	mg/kg	0.3	NONE	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-
Hexachlorobutadiene	mg/kg	0.1	NONE	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-
2-Chloronaphthalene	mg/kg	0.1	NONE	-	-
Dimethylphthalate	mg/kg	0.1	NONE	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-
Acenaphthylene	mg/kg	0.05	NONE	-	-
Acenaphthene	mg/kg	0.05	NONE	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-
Dibenzofuran	mg/kg	0.2	NONE	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	NONE	-	-
Diethyl phthalate	mg/kg	0.2	NONE	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-
Fluorene	mg/kg	0.05	NONE	-	-
Azobenzene	mg/kg	0.3	NONE	-	-
Bromophenyl phenyl ether	mg/kg	0.2	NONE	-	-
Hexachlorobenzene	mg/kg	0.3	NONE	-	-
Phenanthrene	mg/kg	0.05	NONE	-	-
Anthracene	mg/kg	0.05	NONE	-	-
Carbazole	mg/kg	0.3	NONE	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-
Fluoranthene	mg/kg	0.05	NONE	-	-
Pyrene	mg/kg	0.05	NONE	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480671
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				19/10/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Benzo(a)anthracene	mg/kg	0.05	NONE	-
Chrysene	mg/kg	0.05	NONE	-
Benzo(b)fluoranthene	mg/kg	0.05	NONE	-
Benzo(k)fluoranthene	mg/kg	0.05	NONE	-
Benzo(a)pyrene	mg/kg	0.05	NONE	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	-
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	-
Benzo(ghi)perylene	mg/kg	0.05	NONE	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480672	2480673	2480674	2480675	2480676
Sample Reference				BH01	TP03	TP01	TP04	TP13A
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.20	2.40	2.00	0.70
Date Sampled				19/10/2022	19/10/2022	19/10/2022	19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Limit of detection	Accreditation Status		

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.8	8	5.2	7	7.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	9.3	5.7	17.3	9.9	18.4

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	2.7	3.5	2.8	26	3.8
Barium (dissolved)	µg/l	0.05	ISO 17025	71	27	36	19	33
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	< 10	< 10	130	200	19
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	1.9	< 0.4	< 0.4	2.4
Copper (dissolved)	µg/l	0.7	ISO 17025	19	49	52	55	19
Lead (dissolved)	µg/l	1	ISO 17025	7.9	5.6	1.3	18	5
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.8	3.6	3.7	2.2	2.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	4.8	< 1.7	< 1.7	3.2
Zinc (dissolved)	µg/l	0.4	ISO 17025	33	10	43	19	13

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93432

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2480677	2480678
Sample Reference				TP08	TP10
Sample Number				None Supplied	None Supplied
Depth (m)				0.70	0.20
Date Sampled				19/10/2022	19/10/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)				Units	Limit of detection
				Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	8	7.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	17.6	11.5

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	1.2	1.9
Barium (dissolved)	µg/l	0.05	ISO 17025	24	36
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	39	13
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.4	1.8
Copper (dissolved)	µg/l	0.7	ISO 17025	19	26
Lead (dissolved)	µg/l	1	ISO 17025	1.6	3.1
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.9	2.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7	2.3
Zinc (dissolved)	µg/l	0.4	ISO 17025	11	19

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-93432

Project / Site name: Plot U2, Kingsway business park

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2480651	TP03	None Supplied	0.2	Brown clay and loam with gravel.
2480654	TP01	None Supplied	0.4	Brown clay and loam with gravel.
2480655	TP01	None Supplied	2.4	Brown clay and sand with vegetation and peat
2480656	TP01	None Supplied	3.25	Brown clay and sand with gravel.
2480657	TP02	None Supplied	0.7	Brown clay and sand with gravel.
2480659	TP04	None Supplied	2	Brown sandy clay with gravel.
2480660	TP06	None Supplied	0.4	Brown clay and sand with gravel.
2480661	TP09	None Supplied	0.4	Brown clay and sand with gravel.
2480662	TP13	None Supplied	0.1	Brown sandy clay with gravel.
2480663	TP13A	None Supplied	0.7	Brown sandy clay with gravel.
2480664	TP13A	None Supplied	1.2	Brown clay and sand with gravel.
2480665	TP07	None Supplied	2	Brown clay and sand with gravel.
2480666	TP14	None Supplied	0.1	Brown sandy clay with gravel.
2480667	TP14	None Supplied	0.9	Brown sandy clay with gravel.
2480670	TP12	None Supplied	0.9	Brown sandy clay with gravel.
2480671	TP15	None Supplied	0.3	Brown sandy clay with gravel.

Analytical Report Number : 22-93432

Project / Site name: Plot U2, Kingsway business park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Fraction of Organic Carbon in soil	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS

Analytical Report Number : 22-93432

Project / Site name: Plot U2, Kingsway business park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	NONE
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	NONE
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

Analytical Report Number : 22-93432

Project / Site name: Plot U2, Kingsway business park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
----------------------	-------------------------------	-----------------------------	---------------	--------------------	----------------------

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



Analytical Report Number : 22-93432

Project / Site name: Plot U2, Kingsway business park

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP01	None Supplied	S	2480654	c	Free cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480654	c	Complex Cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480654	c	Total cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480655	c	Free cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480655	c	Complex Cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480655	c	Total cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480656	c	Free cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480656	c	Complex Cyanide in soil	L080-PL	c
TP01	None Supplied	S	2480656	c	Total cyanide in soil	L080-PL	c
TP02	None Supplied	S	2480657	c	Free cyanide in soil	L080-PL	c
TP02	None Supplied	S	2480657	c	Complex Cyanide in soil	L080-PL	c
TP02	None Supplied	S	2480657	c	Total cyanide in soil	L080-PL	c
TP03	None Supplied	S	2480651	c	Free cyanide in soil	L080-PL	c
TP03	None Supplied	S	2480651	c	Complex Cyanide in soil	L080-PL	c
TP03	None Supplied	S	2480651	c	Total cyanide in soil	L080-PL	c
TP04	None Supplied	S	2480659	c	Free cyanide in soil	L080-PL	c
TP04	None Supplied	S	2480659	c	Complex Cyanide in soil	L080-PL	c
TP04	None Supplied	S	2480659	c	Total cyanide in soil	L080-PL	c
TP06	None Supplied	S	2480660	c	Free cyanide in soil	L080-PL	c
TP06	None Supplied	S	2480660	c	Complex Cyanide in soil	L080-PL	c
TP06	None Supplied	S	2480660	c	Total cyanide in soil	L080-PL	c
TP07	None Supplied	S	2480665	c	Free cyanide in soil	L080-PL	c
TP07	None Supplied	S	2480665	c	Complex Cyanide in soil	L080-PL	c
TP07	None Supplied	S	2480665	c	Total cyanide in soil	L080-PL	c
TP09	None Supplied	S	2480661	c	Free cyanide in soil	L080-PL	c
TP09	None Supplied	S	2480661	c	Complex Cyanide in soil	L080-PL	c
TP09	None Supplied	S	2480661	c	Total cyanide in soil	L080-PL	c
TP13	None Supplied	S	2480662	c	Free cyanide in soil	L080-PL	c
TP13	None Supplied	S	2480662	c	Complex Cyanide in soil	L080-PL	c
TP13	None Supplied	S	2480662	c	Total cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480663	c	Free cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480663	c	Complex Cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480663	c	Total cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480664	c	Free cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480664	c	Complex Cyanide in soil	L080-PL	c
TP13A	None Supplied	S	2480664	c	Total cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480666	c	Free cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480666	c	Complex Cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480666	c	Total cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480667	c	Free cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480667	c	Complex Cyanide in soil	L080-PL	c
TP14	None Supplied	S	2480667	c	Total cyanide in soil	L080-PL	c
TP15	None Supplied	S	2480671	c	Free cyanide in soil	L080-PL	c
TP15	None Supplied	S	2480671	c	Complex Cyanide in soil	L080-PL	c
TP15	None Supplied	S	2480671	c	Total cyanide in soil	L080-PL	c

Thomas Flame
BWB Consulting Limited
Westminster House
11 Portland Street
Manchester
M1 3HU

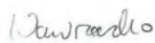
i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: Thomas.Flame@bwbconsulting.com

Analytical Report Number : 22-93923

Project / Site name:	Plot U2, Kingsway Business Park	Samples received on:	21/10/2022
Your job number:	220960	Samples instructed on/ Analysis started on:	02/11/2022
Your order number:	3054	Analysis completed by:	10/11/2022
Report Issue Number:	1	Report issued on:	10/11/2022
Samples Analysed:	1 leachate sample - 2 soil samples		


Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-93923

Project / Site name: Plot U2, Kingsway Business Park

Your Order No: 3054

Lab Sample Number				2483803	2483804
Sample Reference				TP05	TP112
Sample Number				None Supplied	None Supplied
Depth (m)				1.20	0.20
Date Sampled				21/10/2022	21/10/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)					
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	19
Total mass of sample received	kg	0.001	NONE	0.3	0.3

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile- Loose Fibrous Debris	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.8	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.03	0.31
Water Soluble SO ₄ (2:1 Leach. Equiv.) 1hr extraction	g/l	0.00125	MCERTS	0.03	-
Total Sulphur	mg/kg	50	MCERTS	690	660
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0.029

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
----------------------------	-------	---	--------	-------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05	0.07
Acenaphthylene	mg/kg	0.05	NONE	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	NONE	< 0.05	0.18
Fluorene	mg/kg	0.05	NONE	< 0.05	0.16
Phenanthrene	mg/kg	0.05	NONE	0.16	1.2
Anthracene	mg/kg	0.05	NONE	< 0.05	0.28
Fluoranthene	mg/kg	0.05	NONE	0.2	1.1
Pyrene	mg/kg	0.05	NONE	0.16	0.97
Benzo(a)anthracene	mg/kg	0.05	NONE	0.1	0.56
Chrysene	mg/kg	0.05	NONE	0.17	0.51
Benzo(b)fluoranthene	mg/kg	0.05	NONE	0.14	0.51
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.07	0.24
Benzo(a)pyrene	mg/kg	0.05	NONE	0.05	0.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	< 0.05	0.18
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	NONE	< 0.05	0.23

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	1.05	6.67
-----------------------------	-------	-----	------	------	------

Analytical Report Number: 22-93923

Project / Site name: Plot U2, Kingsway Business Park

Your Order No: 3054

Lab Sample Number				2483803	2483804
Sample Reference				TP05	TP112
Sample Number				None Supplied	None Supplied
Depth (m)				1.20	0.20
Date Sampled				21/10/2022	21/10/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection
				Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	6.1
Barium (aqua regia extractable)	mg/kg	1	MCERTS	79	110
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.52	0.56
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	7.6	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	24	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	530	38
Lead (aqua regia extractable)	mg/kg	1	MCERTS	81	48
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	50	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	27	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	11000	230

Petroleum Hydrocarbons

TPH C10 - C40 EH_CU_ID_TOTAL	mg/kg	10	NONE	< 10	72
TPH2 (C6 - C10) HS_ID_TOTAL	mg/kg	0.1	NONE	< 0.1	< 0.1

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-93923

Project / Site name: Plot U2, Kingsway Business Park

Your Order No: 3054

Lab Sample Number				2483805
Sample Reference				TP05
Sample Number				None Supplied
Depth (m)				1.20
Date Sampled				21/10/2022
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	7.7
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	24.9

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	2
Barium (dissolved)	µg/l	0.05	ISO 17025	42
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	32
Cadmium (dissolved)	µg/l	0.08	ISO 17025	0.16
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	4.4
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	4.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	170

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-93923

Project / Site name: Plot U2, Kingsway Business Park

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2483803	TP05	None Supplied	1.2	Brown clay and sand with gravel.
2483804	TP112	None Supplied	0.2	Brown clay and sand with gravel and vegetation.

Analytical Report Number : 22-93923

Project / Site name: Plot U2, Kingsway Business Park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE

Analytical Report Number : 22-93923

Project / Site name: Plot U2, Kingsway Business Park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil TM	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Sulphate, water soluble, in soil (1hr extraction)	Sulphate, water soluble, in soil (1hr extraction)	In-house method	L038-PL	D	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture

correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



Analytical Report Number : 22-93923

Project / Site name: Plot U2, Kingsway Business Park

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP05	None Supplied	S	2483803	c	Free cyanide in soil	L080-PL	c
TP05	None Supplied	S	2483803	c	Complex Cyanide in soil	L080-PL	c
TP05	None Supplied	S	2483803	c	Total cyanide in soil	L080-PL	c
TP112	None Supplied	S	2483804	c	Free cyanide in soil	L080-PL	c
TP112	None Supplied	S	2483804	c	Complex Cyanide in soil	L080-PL	c
TP112	None Supplied	S	2483804	c	Total cyanide in soil	L080-PL	c



Thomas Flame
BWB Consulting Limited
Westminster House
11 Portland Street
Manchester
M1 3HU

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

e: Thomas.Flame@bwbconsulting.com

Analytical Report Number : 22-94998

Project / Site name:	Plot U2, Kingsway buisness park	Samples received on:	31/10/2022
Your job number:	220960	Samples instructed on/ Analysis started on:	07/11/2022
Your order number:	3054	Analysis completed by:	23/11/2022
Report Issue Number:	1	Report issued on:	23/11/2022
Samples Analysed:	1 leachate sample - 1 soil sample		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-94998

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2489930
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	12
Moisture Content	%	0.01	NONE	7.5
Total mass of sample received	kg	0.001	NONE	0.3

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	3.2
Complex Cyanide	mg/kg	1	MCERTS	3.2
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.089
Total Sulphur	mg/kg	50	MCERTS	1200
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.013

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0
----------------------------	-------	---	--------	-------

Speciated PAHs

Naphthalene	mg/kg	0.05	NONE	< 0.05
Acenaphthylene	mg/kg	0.05	NONE	< 0.05
Acenaphthene	mg/kg	0.05	NONE	0.28
Fluorene	mg/kg	0.05	NONE	0.2
Phenanthrene	mg/kg	0.05	NONE	2.1
Anthracene	mg/kg	0.05	NONE	0.69
Fluoranthene	mg/kg	0.05	NONE	3.5
Pyrene	mg/kg	0.05	NONE	3.2
Benzo(a)anthracene	mg/kg	0.05	NONE	1.6
Chrysene	mg/kg	0.05	NONE	1.3
Benzo(b)fluoranthene	mg/kg	0.05	NONE	1.5
Benzo(k)fluoranthene	mg/kg	0.05	NONE	0.76
Benzo(a)pyrene	mg/kg	0.05	NONE	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	NONE	0.68
Dibenz(a,h)anthracene	mg/kg	0.05	NONE	0.14
Benzo(ghi)perylene	mg/kg	0.05	NONE	0.79

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	NONE	18.3
-----------------------------	-------	-----	------	------

Analytical Report Number: 22-94998

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2489930
Sample Reference				TP15
Sample Number				None Supplied
Depth (m)				0.80
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18
Barium (aqua regia extractable)	mg/kg	1	MCERTS	440
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	2.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	140
Copper (aqua regia extractable)	mg/kg	1	MCERTS	280
Lead (aqua regia extractable)	mg/kg	1	MCERTS	160
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	49
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	75
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	390

Petroleum Hydrocarbons

TPH C10 - C40 _{EH,CU,ID,TOTAL}	mg/kg	10	NONE	130
TPH2 (C6 - C10) _{HS,ID,TOTAL}	mg/kg	0.1	NONE	< 0.1

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-94998

Project / Site name: Plot U2, Kingsway business park

Your Order No: 3054

Lab Sample Number				2490419
Sample Reference				TP9A
Sample Number				None Supplied
Depth (m)				0.30
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

pH (automated)	pH Units	N/A	ISO 17025	8
Total Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO ₄	mg/l	0.1	ISO 17025	228

Heavy Metals / Metalloids

Arsenic (dissolved)	µg/l	1	ISO 17025	< 1.0
Barium (dissolved)	µg/l	0.05	ISO 17025	60
Beryllium (dissolved)	µg/l	0.2	ISO 17025	< 0.2
Boron (dissolved)	µg/l	10	ISO 17025	49
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	17
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	2.5
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0
Vanadium (dissolved)	µg/l	1.7	ISO 17025	< 1.7
Zinc (dissolved)	µg/l	0.4	ISO 17025	24

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 22-94998
Project / Site name: Plot U2, Kingsway buisness park

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2489930	TP15	None Supplied	0.8	Brown sandy loam with gravel and stones.

Analytical Report Number : 22-94998

Project / Site name: Plot U2, Kingsway buisness park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
BS EN 12457-1 (2:1) Leachate Prep	2:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-1.	L043-PL	W	NONE
Metals by ICP-OES in leachate	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Boron in leachate	Determination of boron in leachate. Sample acidified and followed by ICP-OES.	In-house method based on MEWAM	L039-PL	W	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in leachate (automated)	Determination of pH in leachate by electrometric measurement.	In house method.	L099B	W	ISO 17025
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
TPH2 (Soil)	Determination of hydrocarbons C6-C10 by headspace GC-MS.	In-house method based on USEPA8260	L088-PL	W	NONE
Total cyanide in leachate	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025

Analytical Report Number : 22-94998

Project / Site name: Plot U2, Kingsway business park

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	D	NONE
Sulphate in leachates	Determination of sulphate in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 dphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK or A' analysis have been carried out in our laboratory in the United Kingdom (WATFORD).

For method numbers ending in 'F' analysis have been carried out in our laboratory in the United Kingdom (East Kilbride).

For method numbers ending in 'PL or B' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report



Analytical Report Number : 22-94998

Project / Site name: Plot U2, Kingsway buisness park

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis. Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP15	None Supplied	S	2489930	a	None Supplied	None Supplied	None Supplied
TP9A	None Supplied	L	2490419	a	None Supplied	None Supplied	None Supplied

Appendix 6 : Geotechnical Testing Laboratory Report

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

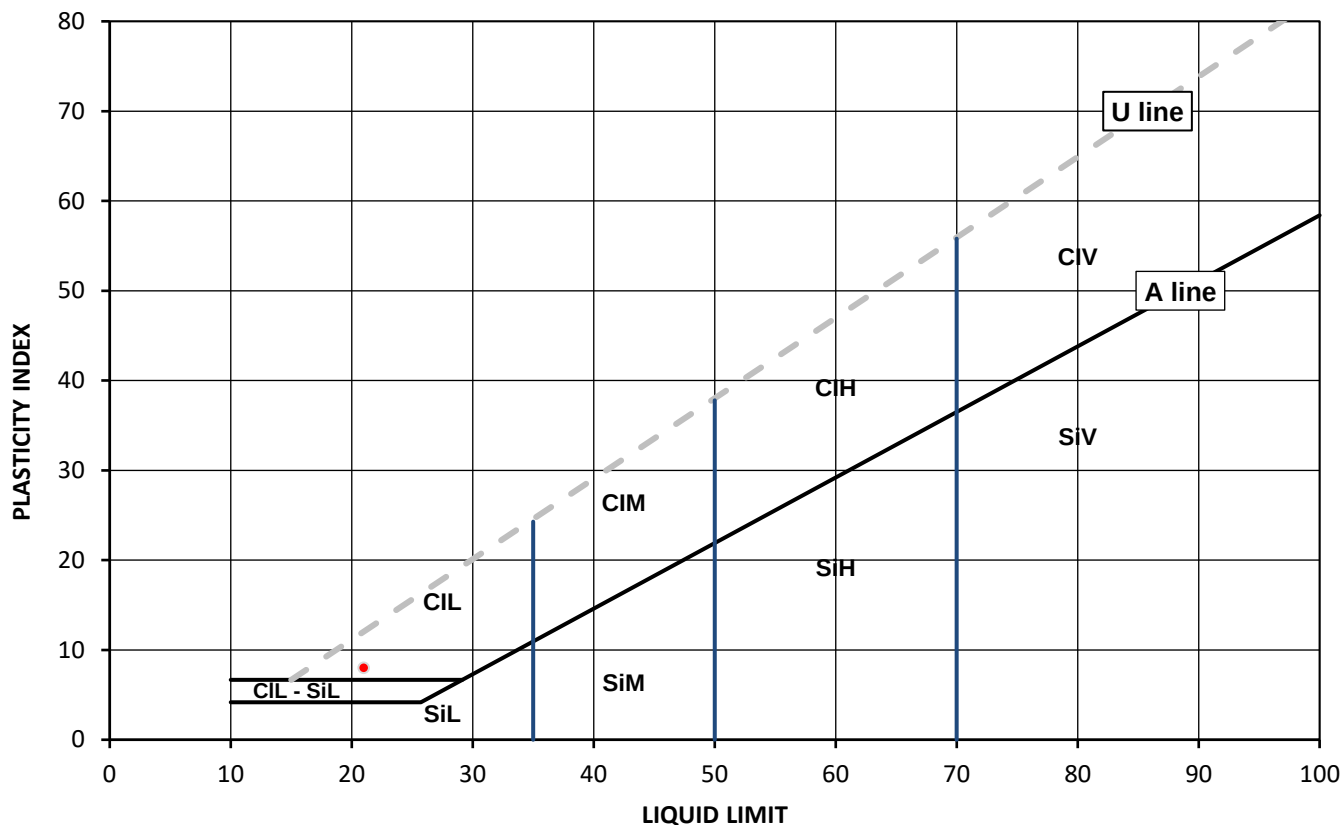
Test Results:

Laboratory Reference: 2487772
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Brownish grey slightly gravelly slightly clayey SAND

Depth Top [m]: 5.30
Depth Base [m]: 6.00
Sample Type: B

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
13	21	13	8	93



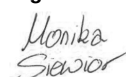
Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

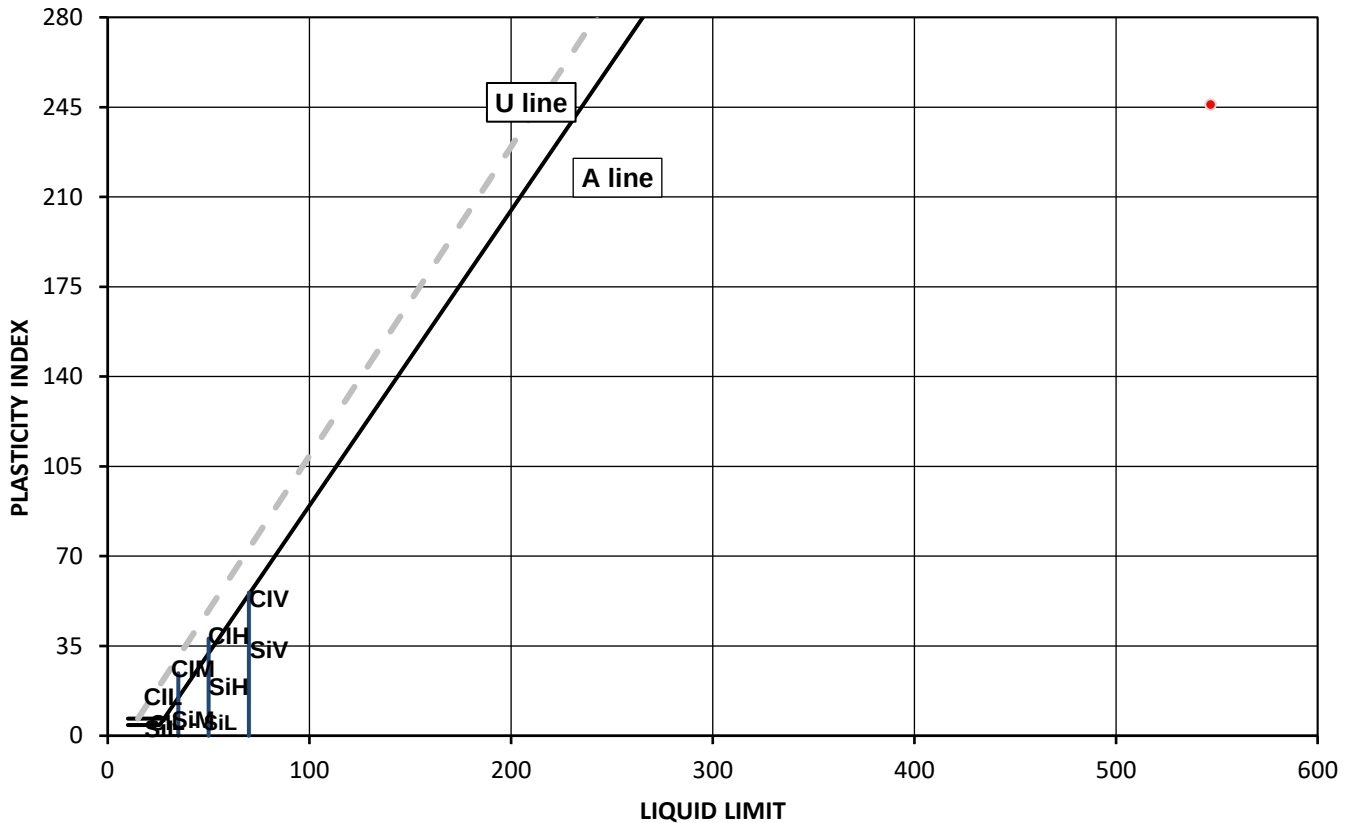
Test Results:

Laboratory Reference: 2487774
Hole No.: TP02
Sample Reference: Not Given
Sample Description: Dark brown PEAT

Depth Top [m]: 2.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested in natural condition

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
395	547	301	246	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Clay	Plasticity	Liquid Limit
Cl	Clay	L Low	below 35
Si	Silt	M Medium	35 to 50
		H High	50 to 70
		V Very high	exceeding 70
		O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

4041

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

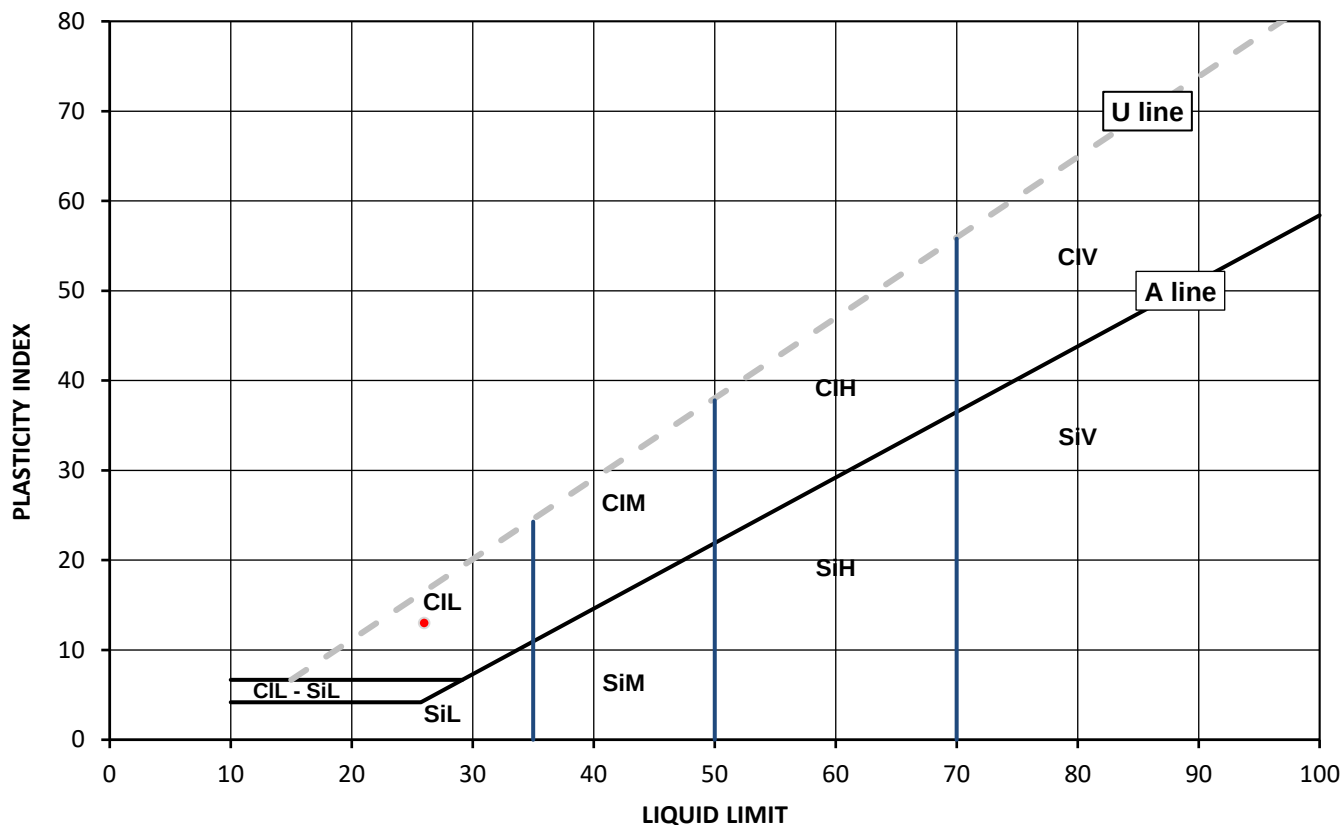
Test Results:

Laboratory Reference: 2487775
Hole No.: TP13A
Sample Reference: Not Given
Sample Description: Brownish grey slightly gravelly very sandy CLAY

Depth Top [m]: 1.70
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
21	26	13	13	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

4041

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

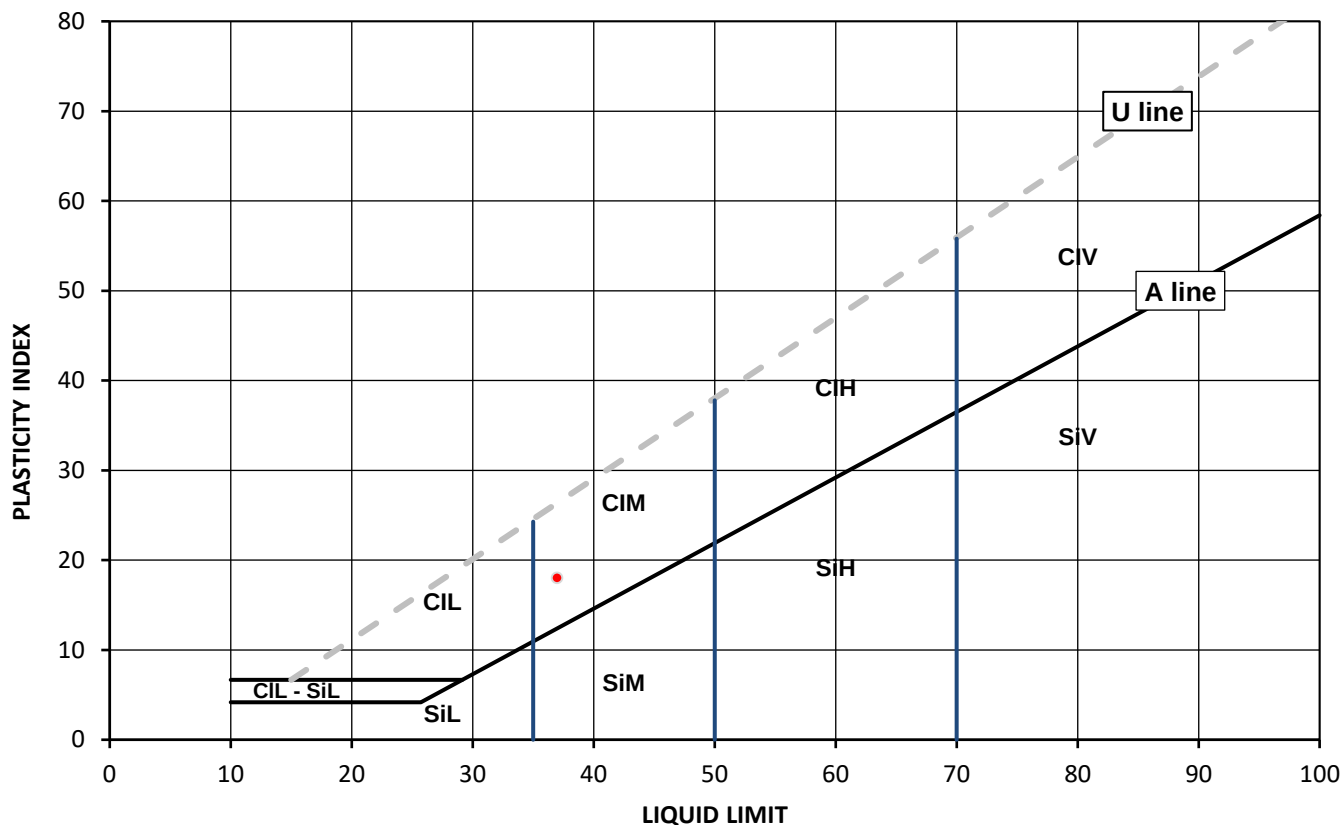
Test Results:

Laboratory Reference: 2487778
Hole No.: TP14
Sample Reference: Not Given
Sample Description: Brown slightly gravelly sandy CLAY

Depth Top [m]: 1.50
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	37	19	18	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl Clay	L Low	below 35
Si Silt	M Medium	35 to 50
	H High	50 to 70
	V Very high	exceeding 70
	O Organic	append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with: BS 1377-2:1990: Clause 4.3 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

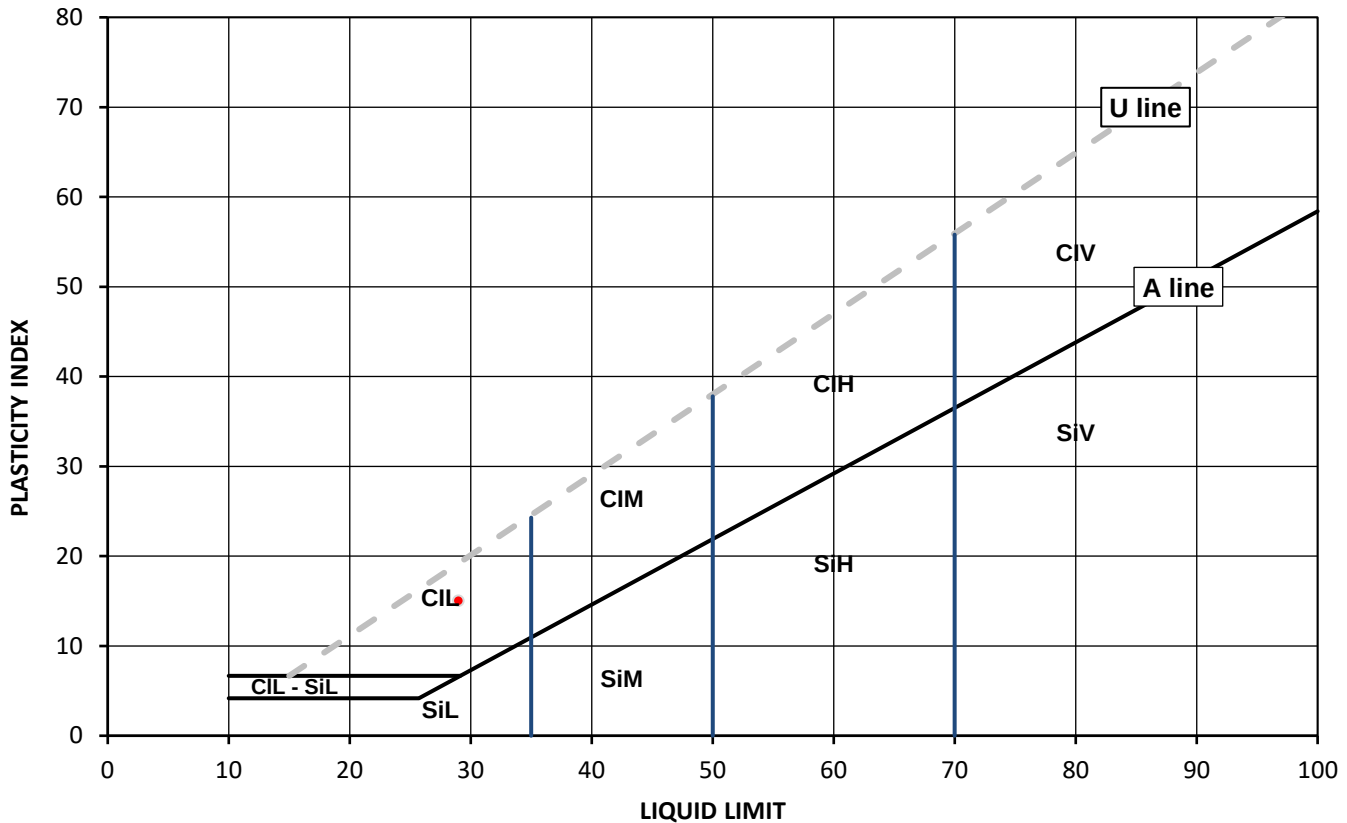
Test Results:

Laboratory Reference: 2487789
Hole No.: TP15
Sample Reference: Not Given
Sample Description: Brown slightly gravelly very sandy CLAY

Depth Top [m]: 2.00
Depth Base [m]: Not Given
Sample Type: D

Sample Preparation: Tested after >425um removed by hand

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	29	14	15	94



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

4041

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

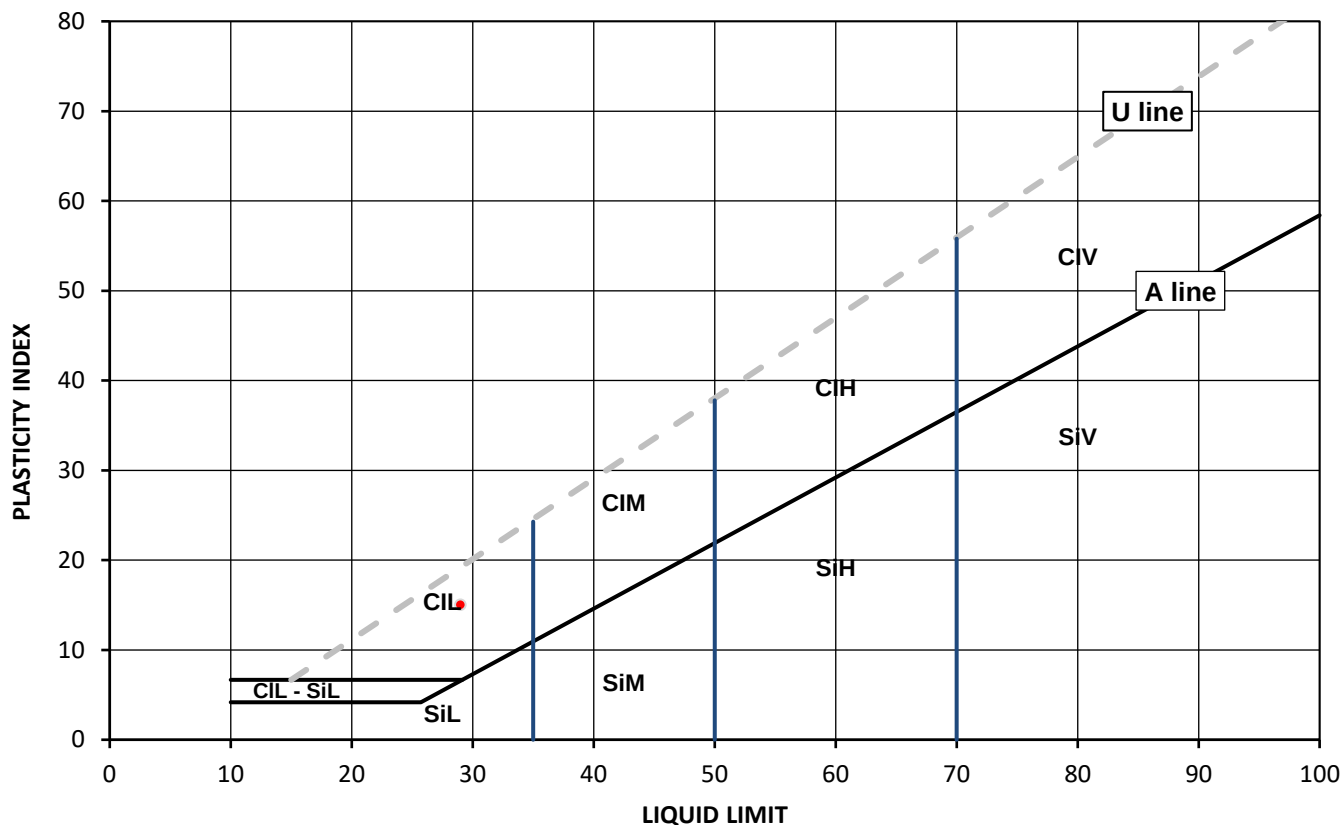
Test Results:

Laboratory Reference: 2487795
Hole No.: BH06
Sample Reference: Not Given
Sample Description: Brownish grey slightly gravelly very sandy CLAY

Depth Top [m]: 9.00
Depth Base [m]: 9.50
Sample Type: B

Sample Preparation: Tested after washing to remove >425um

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	29	14	15	87



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	below 35
Si	Silt	35 to 50
	L	Low
	M	Medium
	H	High
	V	Very high
	O	Organic
		append to classification for organic material (eg CIHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



4041

Client: BWB Consulting Limited
 Client Address: Westminster House, 11 Portland Street,
 Manchester, M1 3HU

Contact: Thomas Flame
 Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990:
 Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2:
 1990: Clause 8.2

i2 Analytical Ltd
 Unit 8 Harrowden Road
 Brackmills Industrial Estate
 Northampton NN4 7EB



Client Reference: 220960
 Job Number: 22-94642
 Date Sampled: Not Given
 Date Received: 26/10/2022
 Date Tested: 15/11/2022
 Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W] %	Water Content BS EN ISO 17892-2 [W] %	Atterberg				Density			Total Porosity# %		
		Reference	Depth Top m	Depth Base m	Type					% Passing 425um	WL %	Wp %	Ip %	bulk Mg/m3	dry Mg/m3	PD Mg/m3			
2487772	BH01	Not Given	5.30	6.00	B	Brownish grey slightly gravelly slightly clayey SAND	Atterberg 4 Point	13		93	21	13	8						
2487795	BH06	Not Given	9.00	9.50	B	Brownish grey slightly gravelly very sandy CLAY	Atterberg 4 Point	17		87	29	14	15						
2487774	TP02	Not Given	2.50	Not Given	D	Dark brown PEAT	Atterberg 4 Point	395		100	547	301	246						
2487773	TP03	Not Given	2.50	Not Given	D	Dark brown PEAT	Atterberg 4 Point	428		100	638	299	339						
2487775	TP13A	Not Given	1.70	Not Given	D	Brownish grey slightly gravelly very sandy CLAY	Atterberg 4 Point	21		99	26	13	13						
2487778	TP14	Not Given	1.50	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 4 Point	18		98	37	19	18						
2487789	TP15	Not Given	2.00	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 4 Point	16		94	29	14	15						

Note: # Non accredited; NP - Non plastic

Comments:

Signed:

Monika Siewior

Monika Siewior
 Reporting Specialist
 for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



4041

Client: BWB Consulting Limited

Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame

Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

SUMMARY REPORT**DETERMINATION OF WATER CONTENT**

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client Reference: 220960

Job Number: 22-94642

Date Sampled: Not Given

Date Received: 26/10/2022

Date Tested: 15/11/2022

Sampled By: Not Given

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type							
2487772	BH01	Not Given	5.30	6.00	B	Brownish grey slightly gravelly slightly clayey SAND		13	Sample was quartered, oven dried at 106.4 °C			
2487795	BH06	Not Given	9.00	9.50	B	Brownish grey slightly gravelly very sandy CLAY		17	Sample was quartered, oven dried at 106.4 °C			
2487774	TP02	Not Given	2.50	Not Given	D	Dark brown PEAT		395	Sample was quartered, oven dried at 106.4 °C			
2487773	TP03	Not Given	2.50	Not Given	D	Dark brown PEAT		428	Sample was quartered, oven dried at 106.4 °C			
2487775	TP13A	Not Given	1.70	Not Given	D	Brownish grey slightly gravelly very sandy CLAY		21	Sample was quartered, oven dried at 106.4 °C			
2487778	TP14	Not Given	1.50	Not Given	D	Brown slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 106.4 °C			
2487789	TP15	Not Given	2.00	Not Given	D	Brown slightly gravelly very sandy CLAY		16	Sample was quartered, oven dried at 106.4 °C			

Comments:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

*Monika Siewior*Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

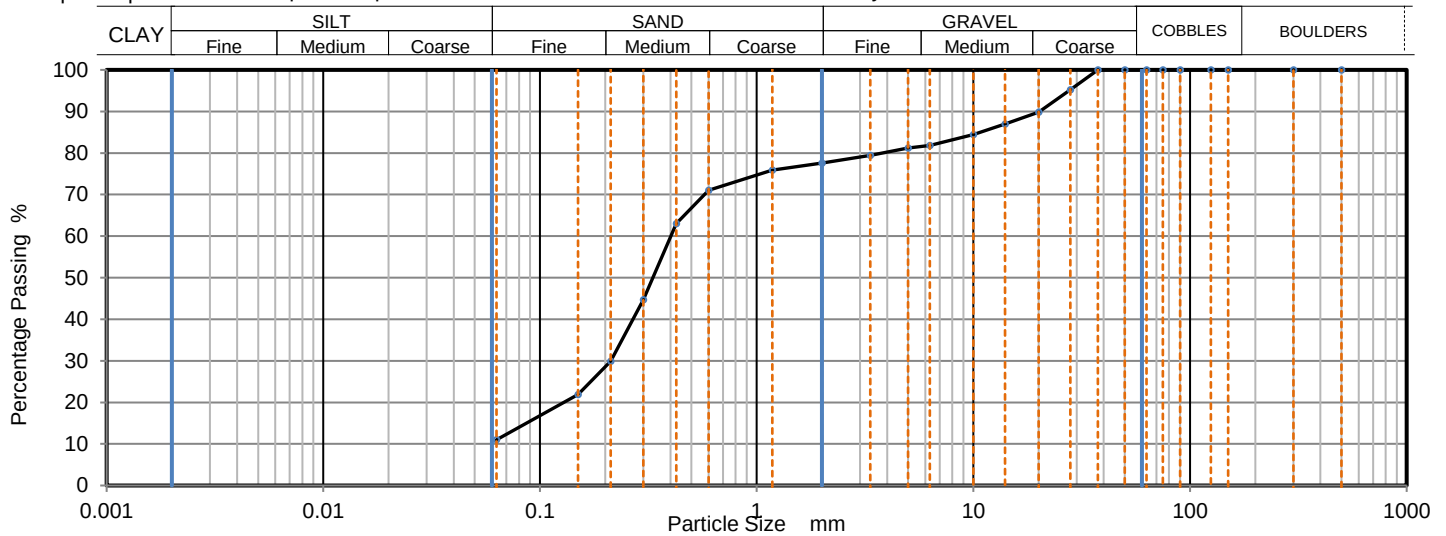
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487777
Hole No.: TP07
Sample Reference: Not Given
Sample Description: Brownish grey gravelly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 3.00
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	95		
20	90		
14	87		
10	84		
6.3	82		
5	81		
3.35	79		
2	78		
1.18	76		
0.6	71		
0.425	63		
0.3	45		
0.212	30		
0.15	22		
0.063	12		

Sample Proportions	% dry mass
Very coarse	0
Gravel	22
Sand	66
Fines <0.063mm	12

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 6.4
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

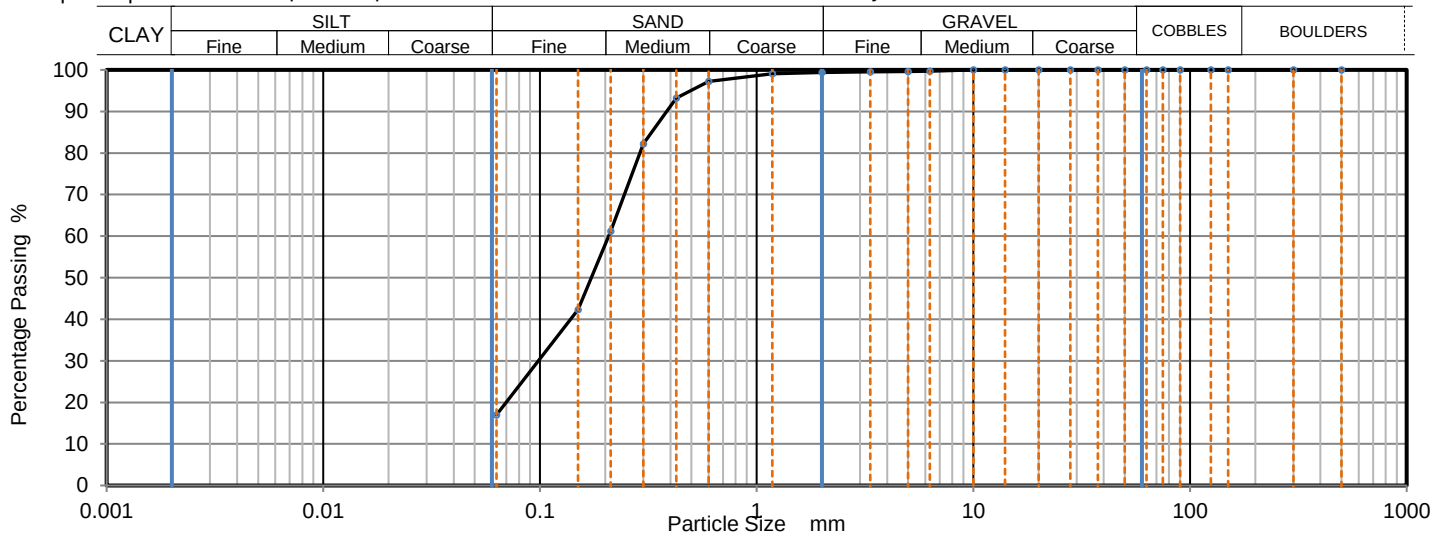
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487779
Hole No.: BH02
Sample Reference: Not Given
Sample Description: Brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 8.50
Depth Base [m]: 9.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	97		
0.425	93		
0.3	82		
0.212	61		
0.15	42		
0.063	17		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	82
Fines <0.063mm	17

Grading Analysis	
D100	mm 10
D60	mm 0.208
D30	mm 0.0977
D10	mm
Uniformity Coefficient	> 3.3
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

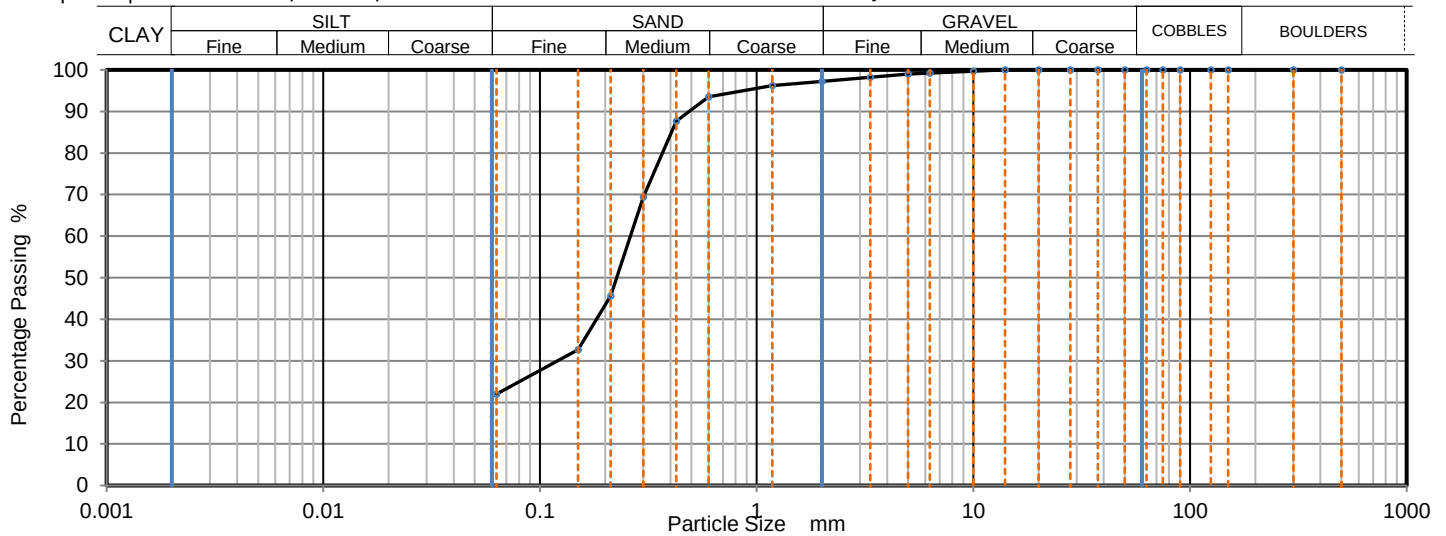
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487780
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Brownish grey slightly gravelly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 3.50
Depth Base [m]: 4.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	97		
1.18	96		
0.6	94		
0.425	88		
0.3	69		
0.212	46		
0.15	33		
0.063	23		

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	75
Fines <0.063mm	22

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 4.1
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

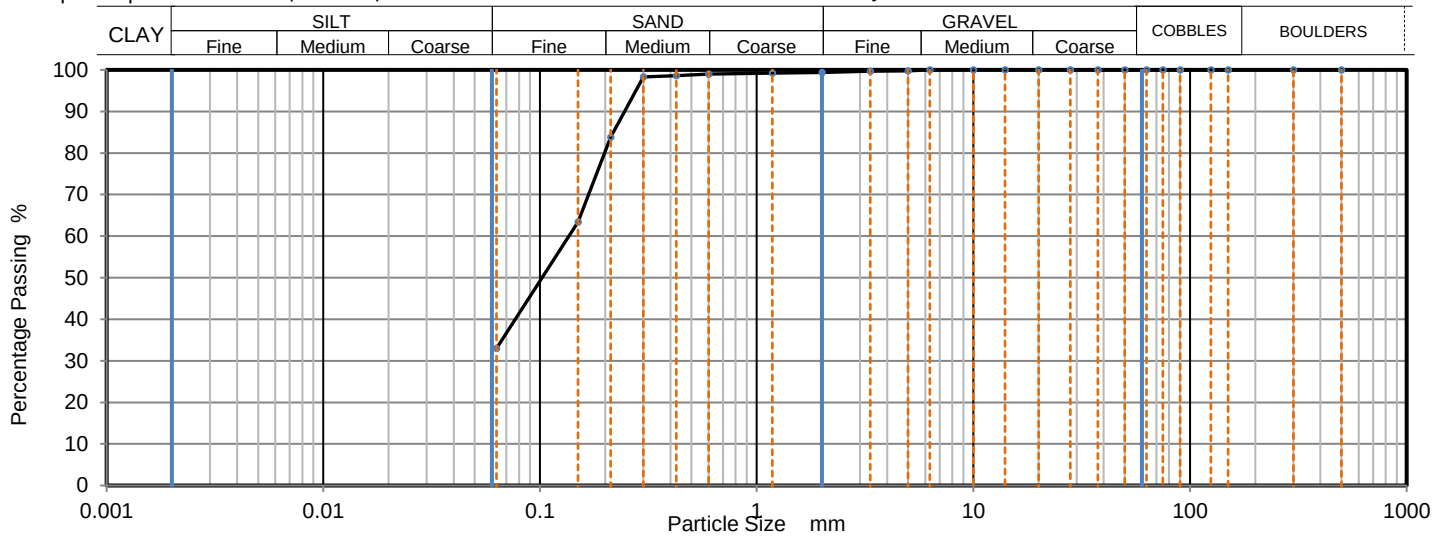
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487781
Hole No.: BH03
Sample Reference: Not Given
Sample Description: Brown very clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 7.50
Depth Base [m]: 8.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	84		
0.15	63		
0.063	34		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	66
Fines <0.063mm	34

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2.2
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

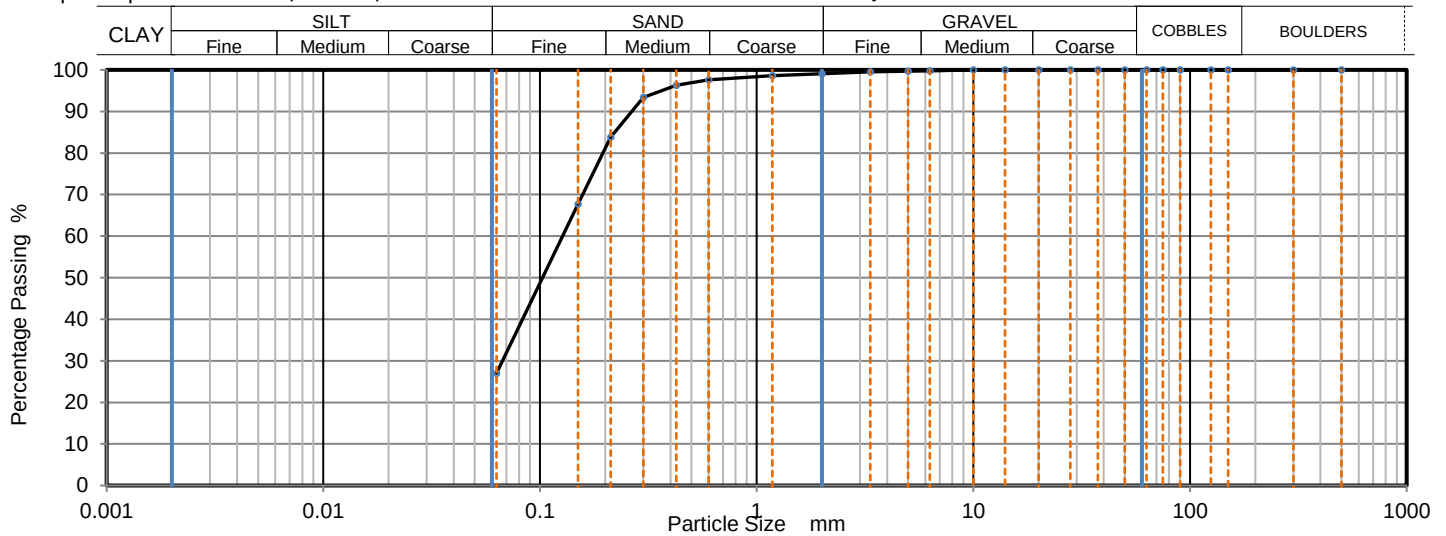
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487782
Hole No.: BH04
Sample Reference: Not Given
Sample Description: Brownish grey clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 6.00
Depth Base [m]: 6.50
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	98		
0.425	96		
0.3	93		
0.212	84		
0.15	68		
0.063	27		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	72
Fines <0.063mm	27

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

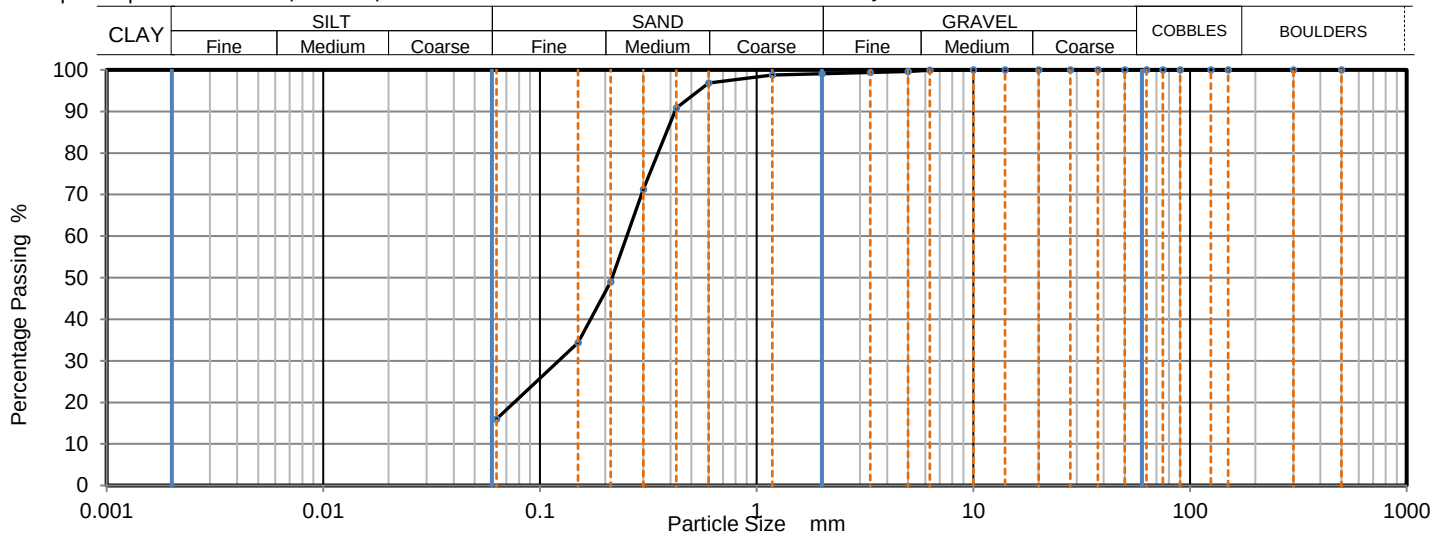
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487783
Hole No.: BH04
Sample Reference: Not Given
Sample Description: Brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 13.50
Depth Base [m]: 14.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	97		
0.425	91		
0.3	71		
0.212	49		
0.15	34		
0.063	17		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	82
Fines <0.063mm	17

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 4
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

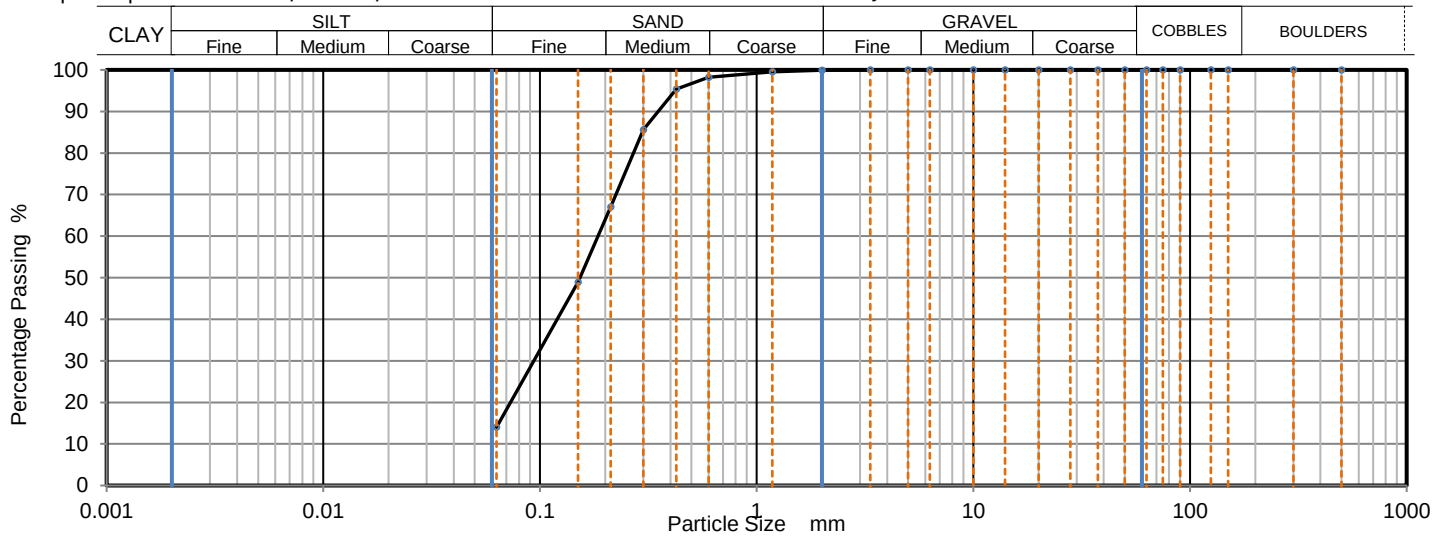
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487784
Hole No.: BH05
Sample Reference: Not Given
Sample Description: Orangish brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 4.00
Depth Base [m]: 4.50
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	98		
0.425	95		
0.3	86		
0.212	67		
0.15	49		
0.063	14		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	86
Fines <0.063mm	14

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2.9
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

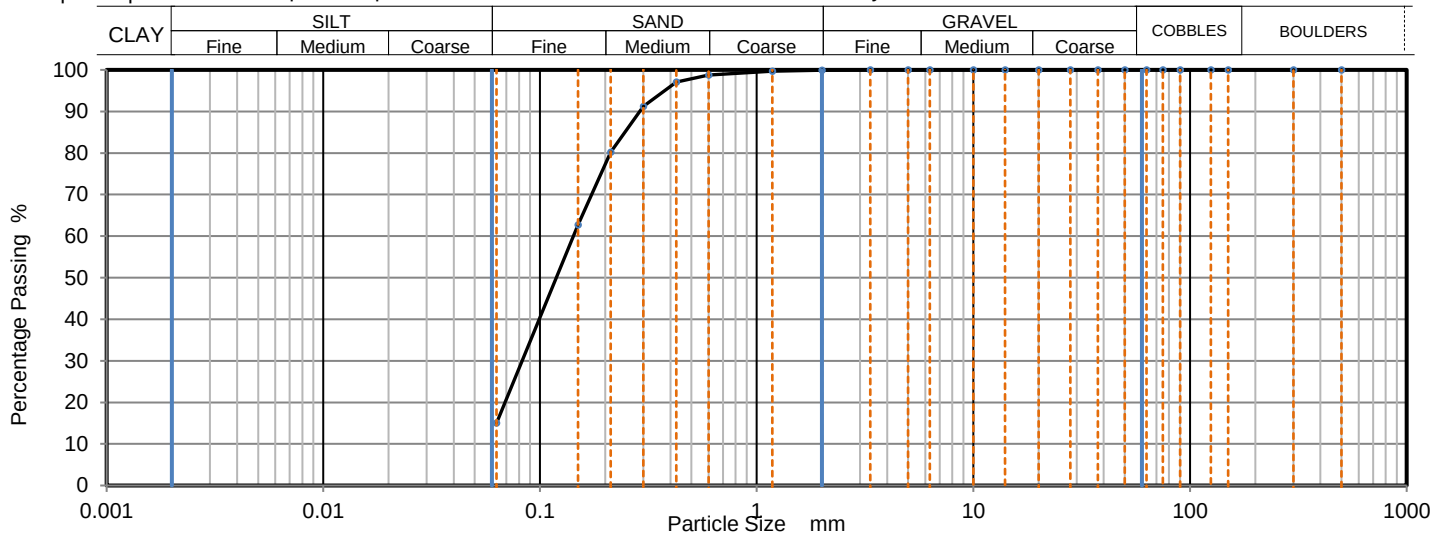
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487788
Hole No.: TP12
Sample Reference: Not Given
Sample Description: Orangish brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 2.80
Depth Base [m]: Not Given
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99		
0.425	97		
0.3	91		
0.212	80		
0.15	63		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	84
Fines <0.063mm	15

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2.3
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

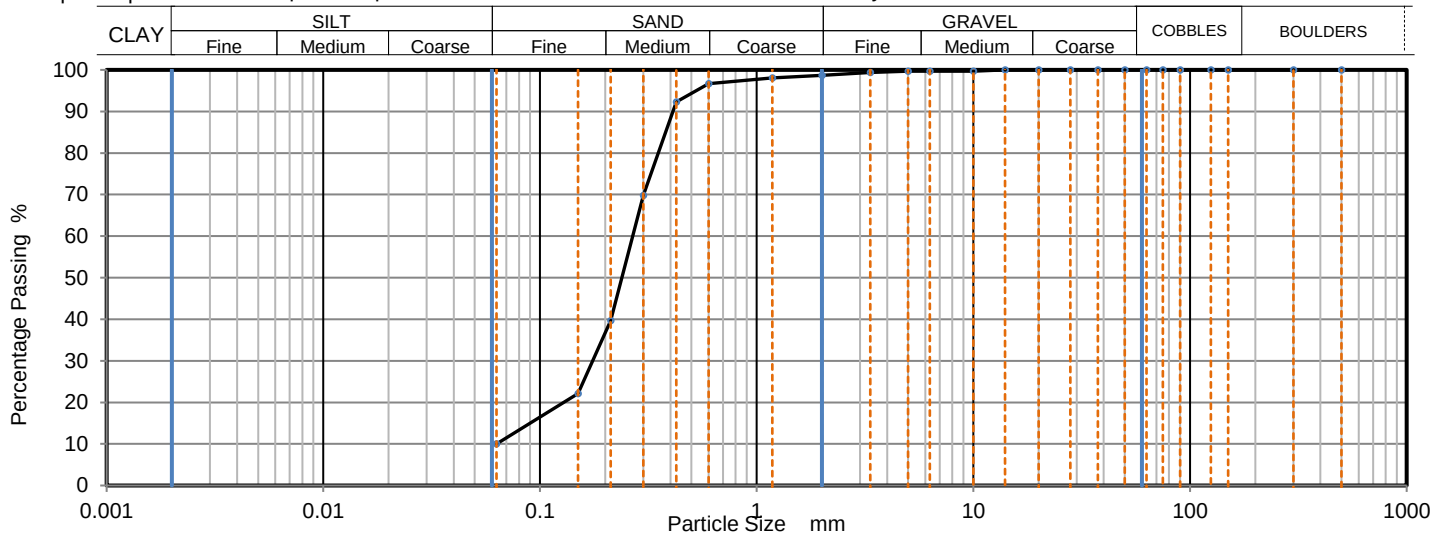
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487791
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Brownish grey clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 8.50
Depth Base [m]: 9.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	98		
0.6	97		
0.425	92		
0.3	70		
0.212	40		
0.15	22		
0.063	10		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	89
Fines <0.063mm	10

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

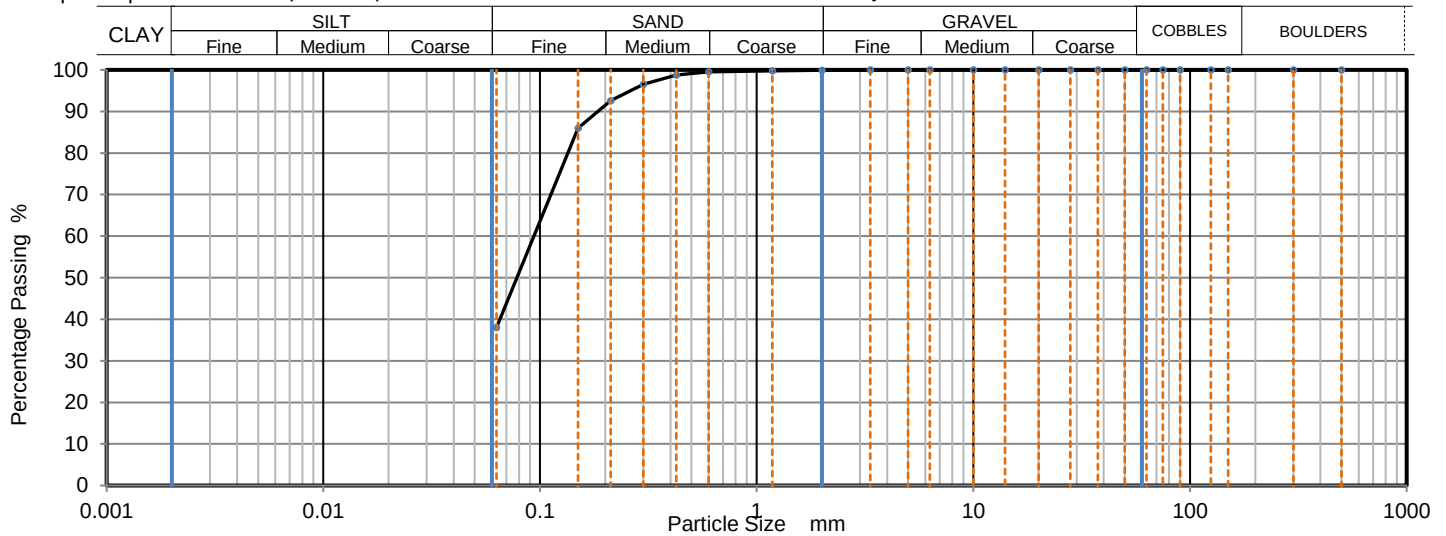
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487792
Hole No.: BH01
Sample Reference: Not Given
Sample Description: Orangish brown very clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 14.50
Depth Base [m]: 15.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	99		
0.3	97		
0.212	93		
0.15	86		
0.063	39		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	61
Fines <0.063mm	39

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 1.5
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

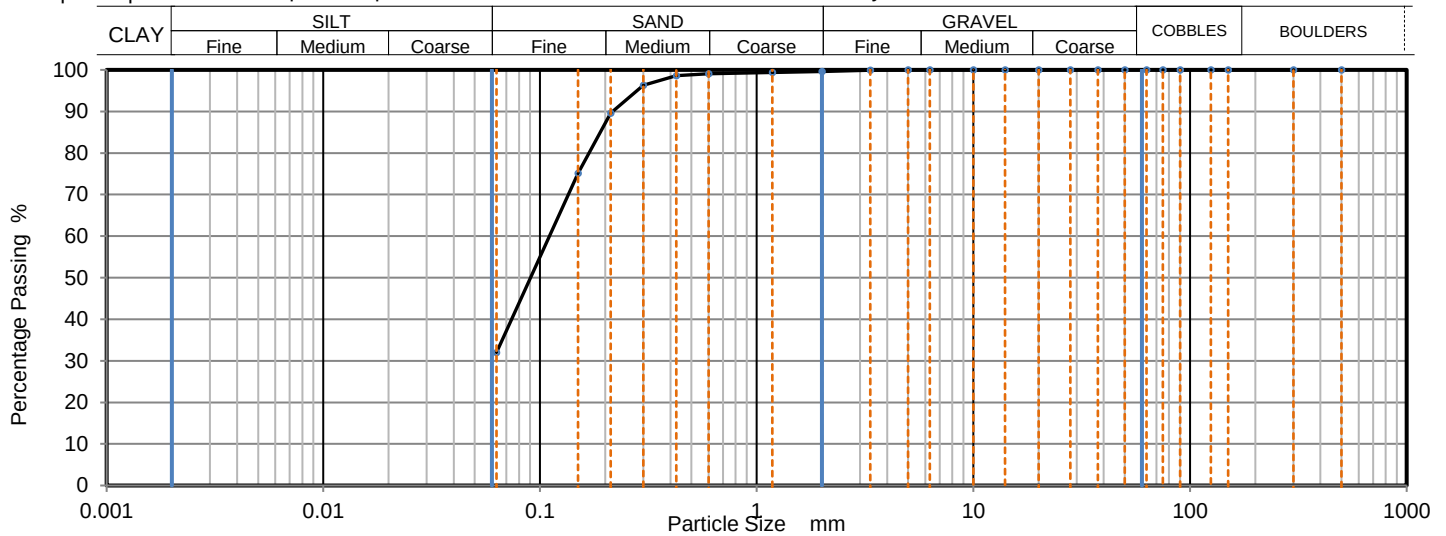
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 15/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487793
Hole No.: BH02
Sample Reference: Not Given
Sample Description: Brown clayey SAND
Sample Preparation: Sample was quartered, oven dried at 109.0 °C and broken down by hand.

Depth Top [m]: 13.50
Depth Base [m]: Not Given
Sample Type: D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	99		
0.425	99		
0.3	96		
0.212	90		
0.15	75		
0.063	33		

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	67
Fines <0.063mm	33

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 1.7
Curvature Coefficient	

Uniformity Coefficient calculated in accordance with BS EN ISO 14688-2:2018

Note: Tested in Accordance with BS1377:Part 2:1990, clause 9.2

Remarks:

Signed:

Monika Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 2.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

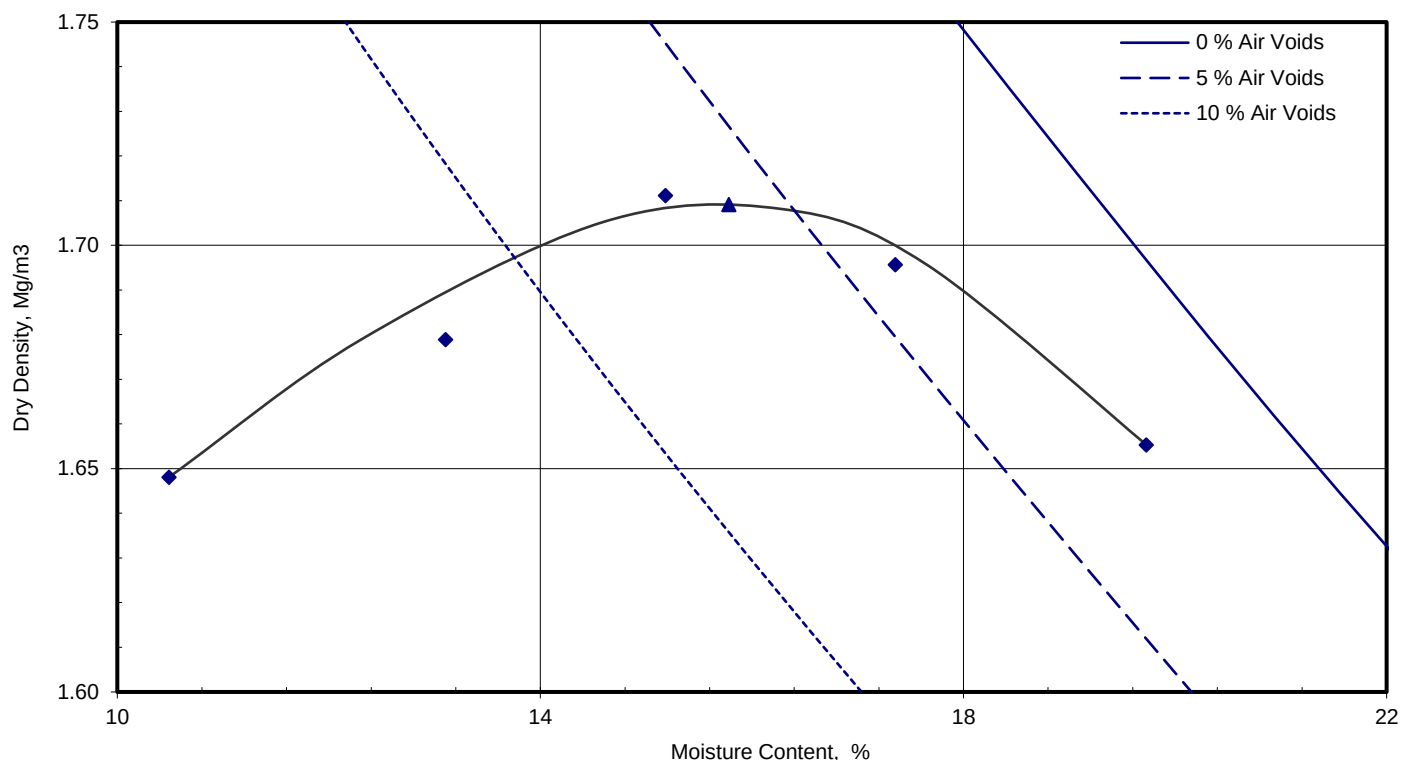
Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 17/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487786
Hole No.: TP09A
Sample Reference: Not Given
Sample Description: Yellowish brown slightly clayey SAND
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 1.60
Depth Base [m]: Not Given
Sample Type: B


Compaction Point No.	1	2	3	4	5
Moisture Content	10	13	15	17	20
Dry Density	1.65	1.68	1.71	1.70	1.66

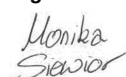
Mould Type	1 Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Assumed	2.55
As received Moisture Content	13
Maximum Dry Density	1.71

Optimum Moisture Content	16
--------------------------	----

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.3 using 2.5kg [light] Rammer

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

TEST CERTIFICATE

DETERMINATION OF DRY DENSITY/MOISTURE CONTENT RELATIONSHIP METHOD USING 4.5 KG RAMMER

Tested in Accordance with: BS 1377-4: 1990

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Client: BWB Consulting Limited
Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

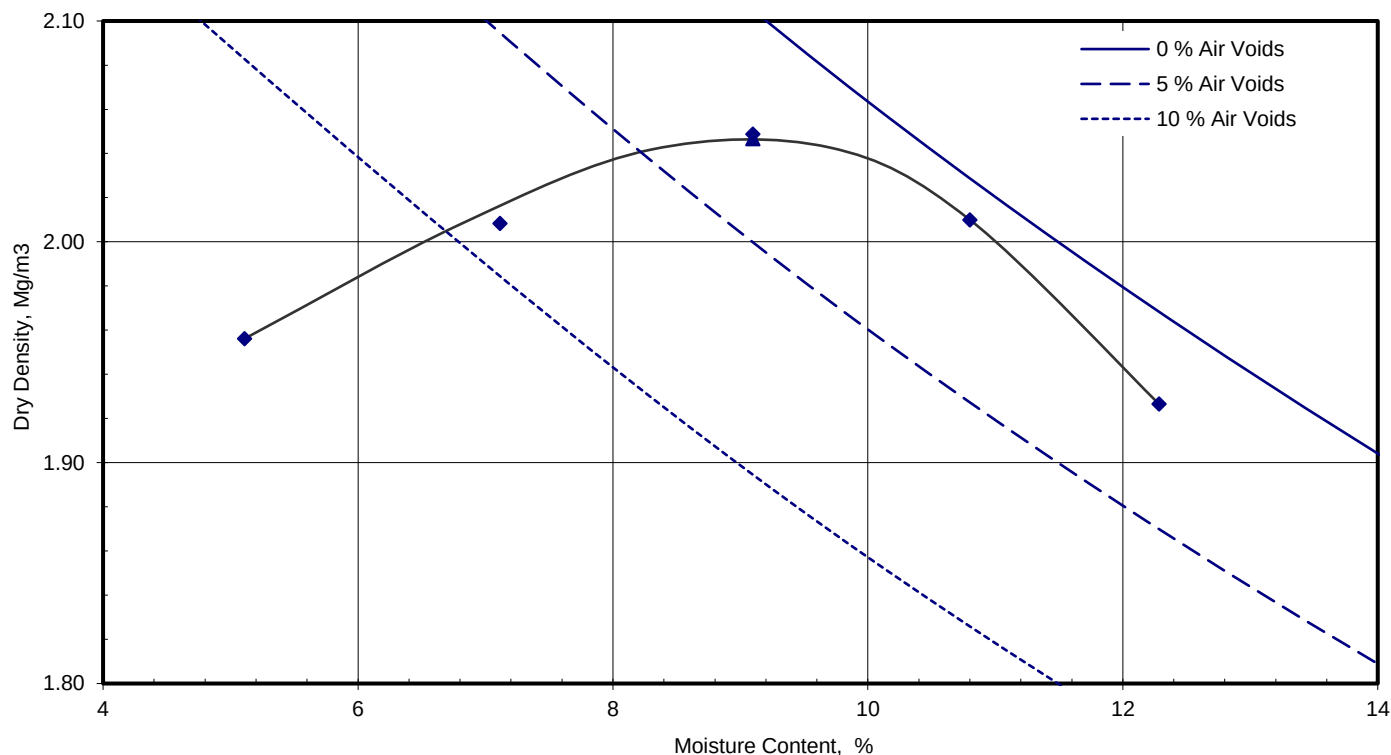
Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 17/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487787
Hole No.: TP12
Sample Reference: Not Given
Sample Description: Brown slightly gravelly sandy CLAY
Sample Preparation: Sample was quartered and broken down by hand. Material used was natural.

Depth Top [m]: 1.80
Depth Base [m]: Not Given
Sample Type: B


Compaction Point No.	1	2	3	4	5	
Moisture Content	%	5.1	7.1	9.1	11	12
Dry Density	Mg/m³	1.96	2.01	2.05	2.01	1.93

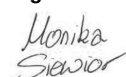
Mould Type		1 Litre
Samples Used		Single sample tested
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	2
Particle Density - Assumed	Mg/m³	2.60
As received Moisture Content	%	12
Maximum Dry Density	Mg/m³	2.05

Optimum Moisture Content	%	9.1
--------------------------	---	-----

Note: Tested in Accordance with BS 1377-4: 1990: Clause 3.5 using 4.5kg [heavy] Rammer

Remarks:

Signed:



Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

Tested in Accordance with: BS 1377-5:1990: Clause 3

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client: BWB Consulting Limited

Client Address: Westminster House, 11 Portland Street,
Manchester, M1 3HU

Contact: Thomas Flame
Site Address: Plot U2, Kingsway Bus, Park

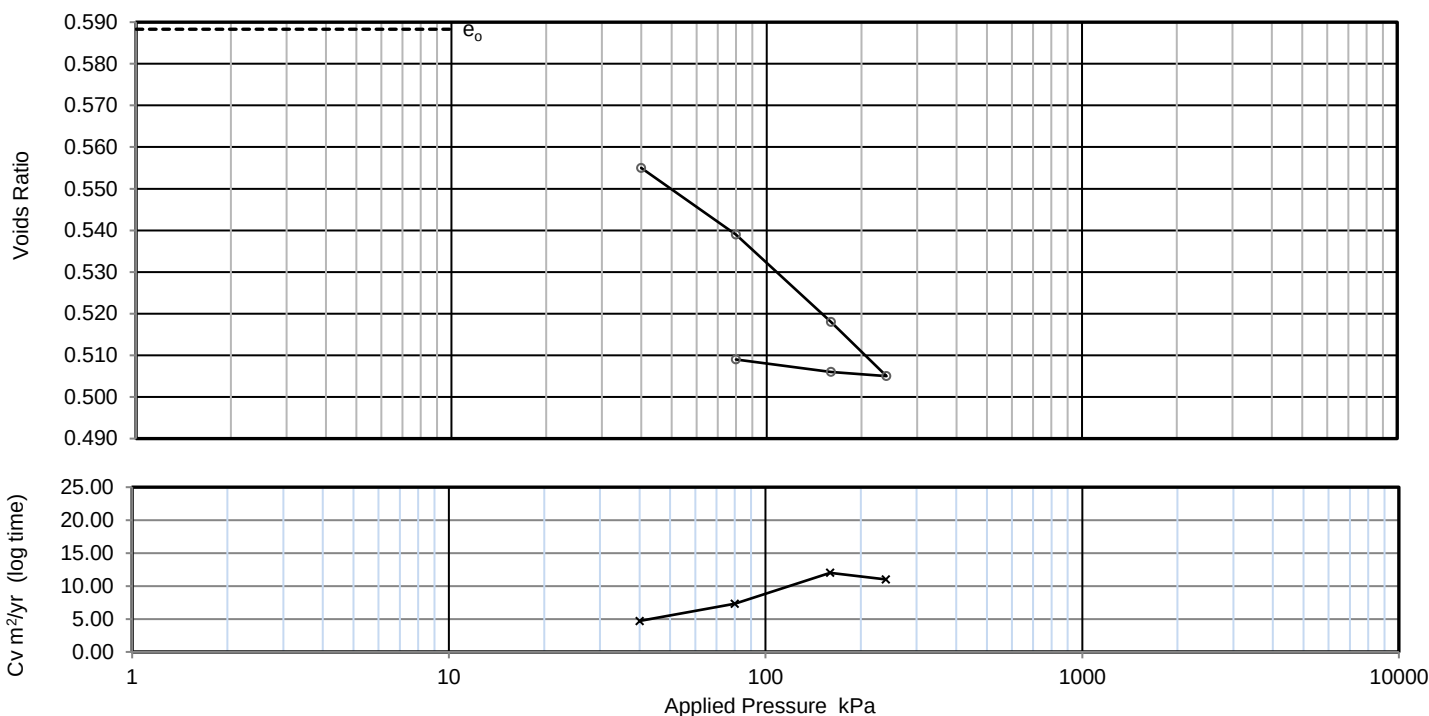
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 21/11/2022
Sampled By: Not Given

Test Results:

Laboratory Reference: 2487785
Hole No.: BH05
Sample Reference: Not Given
Sample Description: Brown slightly sandy CLAY

Depth Top [m]: 7.50
Depth Base [m]: 8.00
Sample Type: U

[illegible]

Preparation

Carried out on top of U100

Index tests

Orientation of the sample

Particle density

Liquid limit

Plastic limit

Specimen details

Diameter

Height

Moisture Content

Bulk density

Dry density

Voids Ratio

Saturation

Avg. temperature for test

Swelling Pressure

Settlement on saturation

Total test time

Vertical		
assumed	2.65	Mg/m3
N/A		%
N/A		%

Initial	Final	
50.17	-	mm
20.03	19.03	mm
24	22	%
2.07	2.14	Mg/m ³
1.67	1.76	Mg/m ³
0.588	0.509	
109	115	%
22.0		°C
Not measured		kPa
		%
6		days

Note: C_v corrected to 20°C

Remarks:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

Signed:

Monika
Siewior

Monika Siewior
Reporting Specialist
for and on behalf of i2 Analytical Ltd

Page 1 of 1

Date Reported: 30/11/2022

GF 172.16



DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 16/11/2022
Sampled By: Not Given

Depth Top [m]: 6.00
Depth Base [m]: Not Given
Sample Type: U



Initial	Final	
50.07	-	mm
20.03	18.47	mm
22	20	%
2.05	2.19	Mg/m3
1.68	1.82	Mg/m3
0.577	0.454	
102	118	%
22.0		°C
Not measured		kPa
		%
6		days

GF 172.16



DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Client Reference: 220960
Job Number: 22-94642
Date Sampled: Not Given
Date Received: 26/10/2022
Date Tested: 16/11/2022
Sampled By: Not Given

Depth Top [m]: 6.00
Depth Base [m]: Not Given
Sample Type: U



Initial	Final	
50.06	-	mm
20.07	18.83	mm
19	17	%
2.10	2.19	Mg/m3
1.76	1.87	Mg/m3
0.509	0.415	
102	110	%
22.0		°C
Not measured		kPa
		%
6		days

GF 172.16

Appendix 7: CLEA Screening Sheets

STATISTICAL APPROACH FOR ASSESSING RISK TO HUMAN HEALTH FROM CONTAMINATED LAND 2008

CIEH/CLAIRE Guidance on Comparing Soil Contamination Data with a Critical Concentration May 2008

STAGE 1 QA CHECK

Are data of acceptable quality
Lab sampling errors / erroneous results
Are data sufficient to characterise area
of interest

No

Review CSM, update
sampling and
analytical strategy

STAGE 2 DATA SCREENING

Compare all data against GSAC
Do any values exceed GSAC?

No

True mean is less than
critical concentration
No action required

STAGE 3 ZONING AND OUTLIER CHECK

Plot data on bubble chart
Plot histogram
Identify and deal with non

Outliers

Assess Outliers
directly against
GSAC

Non detects to DL or DL/2
Remove outliers

STAGE 4 UPPER CONFIDENCE LIMIT

With outliers removed
do any values exceed GSAC ?

No

True mean is less than
critical concentration
No action required

Yes

With outliers removed are data normally Distributed
Histogram
Shapiro Wilkes test, q-q plot

Normal

Non-
normal

Normal Distributed data
UCL from
Students t-test

Non-normal Distributed data
UCL from
Chebychev theorem

Compare UCL to GSAC
Does UCL exceed GSAC?

No

True mean is less than
critical concentration
No action required

Yes

true mean is greater than
critical concentration
Further action required

Human Health Generic QRA Worksheet

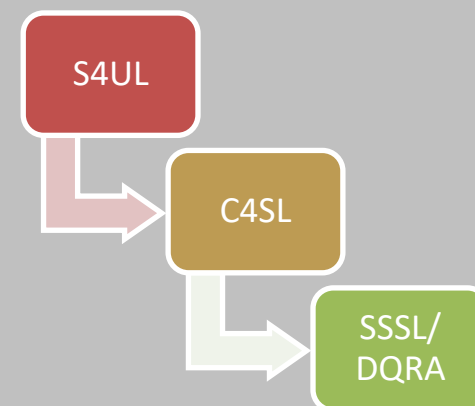


Plot U2 Kingsway	220960
All Data	

GSAC Hierarchy

Define CSM – Is site represented by a standard land use?

Residential with / without homegrown produce
 Commercial / Industrial
 Public Open Space - Residential (S4UL/C4SL only)
 Public Open Space - Park (S4UL/C4SL only)



GSAC Type (BWB, LQM S4UL, C4SL, Bespoke)	LQM_CIEH_S4UL
Key Receptor/CSM (Residential/Commercial/POS)	S4UL Commercial
Organic Matter % (If unknown use 1%)	1

Copyright Land Quality Management Limited reproduced with permission;
 Publication Number S4UL3271

V7, December 2018

Generic Assessment Criteria



Plot U2 Kingsway
220960

S4UL Commercial

	mg/kg	Source
Arsenic	6.40E+02	LQM_CIEH_S4UL
Barium	2.21E+04	LQM_CIEH_S4UL
Beryllium	1.20E+01	LQM_CIEH_S4UL
Boron	2.40E+05	LQM_CIEH_S4UL
Cadmium	1.90E+02	LQM_CIEH_S4UL
Chromium VI	3.30E+01	LQM_CIEH_S4UL
Chromium III	8.60E+03	LQM_CIEH_S4UL
Copper	6.80E+04	LQM_CIEH_S4UL
Lead*	2.33E+03	DEFRA_C4SL
Inorganic Mercury	1.10E+03	LQM_CIEH_S4UL
Nickel	9.80E+02	LQM_CIEH_S4UL
Selenium	1.20E+04	LQM_CIEH_S4UL
Vanadium	9.00E+03	LQM_CIEH_S4UL
Zinc	7.30E+05	LQM_CIEH_S4UL
Cyanide (Free)	4.30E+01	BWB
Cyanide (Complex)	2.13E+02	BWB
Phenols (Total)	4.40E+02	LQM_CIEH_S4UL
Benzene	2.70E+01	LQM_CIEH_S4UL
Toluene	5.60E+04	LQM_CIEH_S4UL
Ethyl benzene	5.70E+03	LQM_CIEH_S4UL
Total Xylene	5.90E+03	LQM_CIEH_S4UL
TPH (EC5-6) aliphatic	3.20E+03	LQM_CIEH_S4UL
TPH (>EC6-8) aliphatic	7.80E+03	LQM_CIEH_S4UL
TPH (>EC8-10) aliphatic	2.00E+03	LQM_CIEH_S4UL
TPH (>EC10-12) aliphatic	9.70E+03	LQM_CIEH_S4UL
TPH (>EC12-16) aliphatic	5.90E+04	LQM_CIEH_S4UL
TPH (>EC16-21) aliphatic	1.60E+06	LQM_CIEH_S4UL
TPH (>EC21-35) aliphatic	1.60E+06	LQM_CIEH_S4UL
TPH (>EC35-44) aliphatic	1.60E+06	LQM_CIEH_S4UL
TPH (>EC6-7) aromatic (benzene)	2.60E+04	LQM_CIEH_S4UL
TPH (>EC7-8) aromatic (toluene)	5.60E+04	LQM_CIEH_S4UL
TPH (>EC8-10) aromatic	3.50E+03	LQM_CIEH_S4UL
TPH (>EC10-12) aromatic	1.60E+04	LQM_CIEH_S4UL
TPH (>EC12-16) aromatic	3.60E+04	LQM_CIEH_S4UL
TPH (>EC16-21) aromatic	2.80E+04	LQM_CIEH_S4UL
TPH (>EC21-35) aromatic	2.80E+04	LQM_CIEH_S4UL
TPH (>EC35-44) aromatic	2.80E+04	LQM_CIEH_S4UL
Total TPH	5.00E+02	LQM_CIEH_S4UL
Naphthalene	1.90E+02	LQM_CIEH_S4UL
Acenaphthylene	8.30E+04	LQM_CIEH_S4UL
Acenaphthene	8.40E+04	LQM_CIEH_S4UL
Fluorene	6.30E+04	LQM_CIEH_S4UL
Phenanthrene	2.20E+04	LQM_CIEH_S4UL
Anthracene	5.20E+05	LQM_CIEH_S4UL
Fluoranthene	2.30E+04	LQM_CIEH_S4UL
Pyrene	5.40E+04	LQM_CIEH_S4UL
Benzo(a)anthracene	1.70E+02	LQM_CIEH_S4UL
Chrysene	3.50E+02	LQM_CIEH_S4UL
Benzo(b)fluoranthene	4.40E+01	LQM_CIEH_S4UL
Benzo(k)fluoranthene	1.20E+03	LQM_CIEH_S4UL
Benzo(a)pyrene	3.50E+01	LQM_CIEH_S4UL

Generic Assessment Criteria



Plot U2 Kingsway
220960

S4UL Commercial

	mg/kg	Source
Indeno(1,2,3-c,d)pyrene	5.00E+02	LQM_CIEH_S4UL
Dibenzo(a,h)anthracene	3.50E+00	LQM_CIEH_S4UL
Benzo(g,hi)perylene	3.90E+03	LQM_CIEH_S4UL
Coal Tar (B(a)P as surrogate marker	1.50E+01	LQM_CIEH_S4UL
Tetrachloroethene (PCE)	1.90E+01	LQM_CIEH_S4UL
Trichloroethene (TCE)	1.20E+00	LQM_CIEH_S4UL
cis -1,2-Dichloroethene	1.40E+01	LQM_CIEH_S4UL
Vinyl Chloride (VC)	5.90E-02	LQM_CIEH_S4UL
1,1,2,2-Tetrachloroethane (PCA)	2.70E+02	LQM_CIEH_S4UL
1,1,1-Trichloroethane (TCA)	6.60E+02	LQM_CIEH_S4UL
1,2-Dichloroethane	6.70E-01	LQM_CIEH_S4UL
Carbon Tetrachloride	2.90E+00	LQM_CIEH_S4UL
Carbon disulphide	1.10E+01	LQM_CIEH_S4UL

	Location	Sample depth	Easting	Northing	Strata Type	Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium VI	Chromium III	Copper	Lead	Inorganic Mercury	Nickel	Selenium	Vanadium	Zinc	Cyanide (Free)	Cyanide (Complex)	Phenols (Total)
Detection Limit						6.40E+02	2.21E+04	1.20E+01	2.40E+05	1.90E+02	3.30E+01	8.60E+03	6.80E+04	2.33E+03	1.10E+03	9.80E+02	1.20E+04	9.00E+03	7.30E+05	4.30E+01	2.13E+02	4.40E+02
GSAC																						
TP01	0.40					8.1	170	0.93	0.4	0.2	1.8	28	45	35	0.3	32	1	25	140	1	1	1
TP01	2.40					2	44	0.07	3.4	0.2	1.8	15	4.5	40	0.3	13	1	1.8	24	1	1	1
TP01	3.25					2.9	25	0.34	0.3	0.2	1.8	21	10	12	0.3	12	1	19	21	1	1	1
TP02	0.70					28	320	1.2	0.7	0.2	1.8	73	300	230	0.3	170	1	48	870	1	1	1
TP03	0.20					6.5	90	0.79	0.6	0.2	1.8	26	25	31	0.3	18	1	27	70	1	1	1
TP03	0.40																					
TP03	0.70																					
TP04	1.20																					
TP04	2.00					16	92	0.9	2.1	0.2	1.8	14	68	390	0.4	21	1	24	100	1	1	1
TP05	1.20					14	79	0.52	0.4	7.6	1.8	24	530	81	0.3	50	1	27	11000	1	1	1
TP06	0.40					7.1	120	0.92	0.5	0.2	1.8	22	30	31	0.3	14	1	29	88	1	1	1
TP07	2.00					14	54	0.46	12	0.2	1.8	9.6	21	83	0.3	9.8	1	14	31	1	1	1
TP08	0.70																					
TP09	0.40					11	110	0.79	1.6	0.2	1.8	18	31	69	0.3	16	1	25	81	1	1	1
TP09A	0.30																					
TP12	0.20					6.1	110	0.56	0.8	0.4	1.8	15	38	48	0.3	14	1	16	230	1	1	1
TP12	0.90																					
TP13	0.10					10	120	0.77	0.5	0.9	1.8	19	50	64	0.3	18	1	24	210	1	1	1
TP13A	0.70					5.2	77	0.73	0.4	0.2	1.8	20	19	23	0.3	19	1	23	50	1	1	1
TP13A	1.20					2	30	0.36	0.3	0.2	1.8	12	8.8	11	0.3	10	1	13	25	1	1	1
TP14	0.10					6.5	180	0.59	0.6	0.5		17	31	47	0.3	17	1	19	1000	1	1	1
TP14	0.90					4	73	1	0.2	0.2	1.8	24	21	15	0.3	22	1	25	46	1	1	1
TP15	0.30					7.9	95	0.8	0.3	0.2	1.8	18	31	46	0.3	19	1	23	75	1	1	1
TP15	0.80					18	440	2.5	0.3	1.5	1.8	140	280	160	0.3	49	1	75	390	1	3.2	1

location	Sample depth	Benzene	Toluene	Ethyl benzene	Total Xylene	TPH (EC5-6) aliphatic	TPH (>EC6-8) aliphatic	TPH (>EC8-10) aliphatic	TPH (>EC10-12) aliphatic	TPH (>EC12-16) aliphatic	TPH (>EC16-21) aliphatic	TPH (>EC21-35) aliphatic	TPH (>EC6-7) aromatic (benzene)	TPH (>EC7-8) aromatic (toluene)	TPH (>EC8-10) aromatic	TPH (>EC10-12) aromatic	TPH (>EC12-16) aromatic	TPH (>EC16-21) aromatic	TPH (>EC21-35) aromatic
Detection Limit																			
GSAC	0.40	2.70E+01	5.60E+04	5.70E+03	5.90E+03	3.20E+03	7.80E+03	2.00E+03	9.70E+03	5.90E+04	1.60E+06	1.60E+06	2.60E+04	5.60E+04	3.50E+03	1.60E+04	3.60E+04	2.80E+04	2.80E+04
TP01	2.40																		
TP01	3.25																		
TP02	0.70																		
TP03	0.20																		
TP03	0.40																		
TP03	0.70																		
TP04	1.20																		
TP04	2.00																		
TP05	1.20																		
TP06	0.40																		
TP07	2.00																		
TP08	0.70																		
TP09	0.40																		
TP09A	0.30																		
TP12	0.20																		
TP12	0.90	0.001	0.001	0.001	0.002	0.001	0.001	0.001	1	2	8	54	0.001		0.001	1		10	72
TP13	0.10																		
TP13A	0.70																		
TP13A	1.20																		
TP14	0.10																		
TP14	0.90																		
TP15	0.30																		
TP15	0.80																		

location	Sample depth	TPH (>EC35-44) aromatic	Total TPH	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Indeno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Tetrachloroethene (PCE)	Trichloroethene (TCE)	cis-1,2-Dichloroethene	Vinyl Chloride (VC)	1,1,2,2-Tetrachloroethane (PCA)	1,1,1-Trichloroethane (TCA)	1,2-Dichloroethane
Detection Limit																										
GSAC		2.80E+04	5.00E+02	1.90E+02	8.30E+04	8.40E+04	6.30E+04	2.20E+04	5.20E+05	2.30E+04	5.40E+04	1.70E+02	3.50E+02	4.40E+01	1.20E+03	3.50E+01	5.00E+02	3.50E+00	3.90E+03	1.90E+01	1.20E+00	1.40E+01	5.90E-02	2.70E+02	6.60E+02	6.70E-01
TP01	0.40		58	0.08	0.05	0.05	0.05	0.21	0.05	0.2	0.21	0.15	0.16	0.2	0.06	0.15	0.1	0.05	0.14							
TP01	2.40		320	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	0.05							
TP01	3.25		35	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	0.05							
TP02	0.70		110	0.78	0.09	0.48	0.35	2.9	0.49	3.1	2.7	1.3	1.8	1.3	1	1.3	0.65	0.17	0.84							
TP03	0.20		15	0.05	0.05	0.05	0.05	0.1	0.05	0.28	0.28	0.13	0.13	0.19	0.07	0.19	0.1	0.05	0.12							
TP03	0.40																									
TP03	0.70																									
TP04	1.20																									
TP04	2.00		94	0.13	0.05	0.19	0.16	1	0.21	2	1.9	1	1.1	0.95	0.55	0.8	0.45	0.08	0.47							
TP05	1.20		10	0.05	0.05	0.05	0.05	0.16	0.05	0.2	0.16	0.1	0.17	0.14	0.07	0.05	0.05	0.05	0.05							
TP06	0.40		110	0.06	0.05	0.13	0.12	0.92	0.31	1.7	1.6	0.77	0.79	0.67	0.68	0.8	0.4	0.08	0.52							
TP07	2.00		120	0.05	0.05	0.05	0.05	0.12	0.05	0.19	0.17	0.11	0.15	0.23	0.08	0.05	0.05	0.05	0.05							
TP08	0.70																									
TP09	0.40		69	0.07	0.05	0.08	0.07	0.6	0.17	1.1	0.98	0.47	0.52	0.42	0.47	0.45	0.24	0.05	0.28							
TP09A	0.30																									
TP12	0.20		72	0.07	0.05	0.18	0.16	1.2	0.28	1.1	0.97	0.56	0.51	0.51	0.24	0.5	0.18	0.05	0.23							
TP12	0.90																			0.001	0.001	0.001	0.001	0.001	0.001	0.001
TP13	0.10		80	0.05	0.05	0.05	0.05	0.3	0.09	0.59	0.59	0.31	0.37	0.28	0.35	0.35	0.18	0.05	0.23							
TP13A	0.70		380	0.05	0.05	0.05	0.05	0.44	0.11	0.77	0.71	0.38	0.41	0.3	0.22	0.26	0.16	0.05	0.19							
TP13A	1.20		12	0.05	0.05	0.05	0.05	0.14	0.05	0.2	0.21	0.09	0.08	0.08	0.07	0.08	0.05	0.05	0.05							
TP14	0.10		10	0.05	0.05	0.05	0.05	0.55	0.16	0.98	0.92	0.36	0.44	0.32	0.39	0.38	0.2	0.05	0.24							
TP14	0.90		10	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	0.05							
TP15	0.30		55	0.94	0.05	0.58	0.42	2.4	0.38	1.8	1.9	0.98	0.97	0.9	0.32	0.73	0.38	0.08	0.42							
TP15	0.80		130	0.05	0.05	0.28	0.2	2.1	0.69	3.5	3.2	1.6	1.3	1.5	0.76	1.6	0.68	0.14	0.79							

Appendix 8: Leachate Screening Sheets

*EQS Standard: Phenol and Benzene annual average of 300µg/l; Toluene 500µg/l for Freshwater, 400µg/l for Saltwater; 1,1,1-TCA 1,000µg/l.

Project Name:	Kingsway Plot U2
Project Number:	220960
Assessment for:	Soil Leachate Assessment
Laboratory:	I2
Receptor:	Drinking Water
Receptor Water Hardness:	>200



100 = Assessment Criteria Exceedance)
50 = M-BAT Bioavailability Assessment Required

[illegible]

Project Name:	Kingsway Plot U2
Project Number:	220960
Assessment for:	Soil Leachate Assessment
Laboratory:	i2
Receptor:	Freshwater
Receptor Water Hardness:	>200



100 = Assessment Criteria Exceedance)
50 = M-BAT Bioavailability Assessment Required

[illegible]

Appendix 9 : Hazwaste Online Waste Assessment Report

Waste Classification Report

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

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



S5PUL-1E08V-X7OJQ

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

Job name

Plot U2, Kingsway business park

Description/Comments

Project

Plot U2, Kingsway business park

Site

Plot U2, Kingsway business park

Classified by

Name: **Richard Robinson**
Date: **07 Dec 2022 15:29 GMT**
Telephone: **0115 924 1100**
Company: **BWB Consulting Ltd**
Waterfront House, Station Street
Nottingham
NG2 3DQ

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

HazWasteOnline™ Certification:

Course
Hazardous Waste Classification
3 year Refresher overdue

Date
08 Dec 2016

Purpose of classification

2 - Material Characterisation

Address of the waste

Plot U2, Kingsway business park

Post Code **OL16 4PS**

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Soils

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

Construction

Description of the waste

Soils

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01	0.40	Non Hazardous		3
2	TP01[2]	2.40	Non Hazardous		6
3	TP01[3]	3.25	Non Hazardous		9
4	TP02	0.70	Hazardous	HP 14	12
5	TP03	0.20	Non Hazardous		15
6	TP04	2.00	Non Hazardous		18
7	TP05	1.20	Hazardous	HP 14	21
8	TP06	0.40	Non Hazardous		23
9	TP07	2.00	Non Hazardous		26
10	TP09	0.40	Non Hazardous		29
11	TP12	0.20	Non Hazardous		32
12	TP12[2]	0.90	Non Hazardous		35
13	TP13	0.10	Non Hazardous		37
14	TP13A	0.70	Non Hazardous		40
15	TP13A[2]	1.20	Non Hazardous		43
16	TP14	0.10	Hazardous	HP 14	46
17	TP14[2]	0.90	Non Hazardous		48
18	TP15	0.30	Non Hazardous		50
19	TP15[2]	0.80	Non Hazardous		53

Related documents

#	Name	Description
1	BWB Contaminated Land Suite WM3	waste stream template used to create this Job

Report

Created by: Richard Robinson

Created date: 07 Dec 2022 15:29 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	56
Appendix B: Rationale for selection of metal species	57
Appendix C: Version	58

Classification of sample: TP01

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

Sample details

Sample name:	LoW Code:
TP01	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
5.8%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 5.8% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				8.1 mg/kg	1.32	10.695 mg/kg	0.00107 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.93 mg/kg	2.775	2.581 mg/kg	0.000258 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.4 mg/kg	13.43	5.372 mg/kg	0.000537 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				28 mg/kg	1.462	40.924 mg/kg	0.00409 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				45 mg/kg	1.126	50.665 mg/kg	0.00507 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	35 mg/kg	1.56	54.594 mg/kg	0.0035 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				32 mg/kg	1.579	50.544 mg/kg	0.00505 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				140 mg/kg	4.398	615.71 mg/kg	0.0616 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				8.2 pH		8.2 pH	8.2 pH			
			pH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				58 mg/kg		58 mg/kg	0.0058 %		
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.15 mg/kg		0.15 mg/kg	0.000015 %		
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.15 mg/kg		0.15 mg/kg	0.000015 %		
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.14 mg/kg		0.14 mg/kg	0.000014 %		
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.06 mg/kg		0.06 mg/kg	0.000006 %		
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.16 mg/kg		0.16 mg/kg	0.000016 %		
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.1 mg/kg		0.1 mg/kg	0.00001 %		
		205-893-2	193-39-5							
29	naphthalene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.21 mg/kg		0.21 mg/kg	0.000021 %		
		201-581-5	85-01-8							
31	pyrene				0.21 mg/kg		0.21 mg/kg	0.000021 %		
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0876 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0058%)

Classification of sample: TP01[2]



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

Sample details

Sample name:	LoW Code:
TP01[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
79%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 79% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				2 mg/kg	1.32	2.641	mg/kg	0.000264 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.07 mg/kg	2.775	0.194	mg/kg	0.0000194 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				3.4 mg/kg	13.43	45.662	mg/kg	0.00457 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				15 mg/kg	1.462	21.923	mg/kg	0.00219 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				4.5 mg/kg	1.126	5.066	mg/kg	0.000507 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	40 mg/kg	1.56	62.393	mg/kg	0.004 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				13 mg/kg	1.579	20.533	mg/kg	0.00205 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				24 mg/kg	4.398	105.55	mg/kg	0.0106 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,				<1 mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<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									
14	TPH (C6 to C40) petroleum group				320 mg/kg		320 mg/kg	0.032 %		
			TPH							
15	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
17	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
18	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
19	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
20	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
21	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
22	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
23	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
24	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
25	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
26	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
27	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
28	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
29	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
30	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
31	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0567 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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



CONSULTANCY | ENVIRONMENT
INFRASTRUCTURE | BUILDINGS

HazWasteOnline™

Report created by Richard Robinson on 07 Dec 2022

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.032%)

Classification of sample: TP01[3]

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

Sample details

Sample name:	LoW Code:
TP01[3]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
3.25 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
24%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 24% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				2.9 mg/kg	1.32	3.829 mg/kg		0.000383 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.34 mg/kg	2.775	0.944 mg/kg		0.0000944 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.3 mg/kg	13.43	4.029 mg/kg		0.000403 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				21 mg/kg	1.462	30.693 mg/kg		0.00307 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				10 mg/kg	1.126	11.259 mg/kg		0.00113 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	12 mg/kg	1.56	18.718 mg/kg		0.0012 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg		<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				12 mg/kg	1.579	18.954 mg/kg		0.0019 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				21 mg/kg	4.398	92.356 mg/kg		0.00924 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				4.8 pH		4.8 pH		4.8 pH		
			pH								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value		MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number										
14		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD	
		006-007-00-5												
15		TPH (C6 to C40) petroleum group				35	mg/kg		35	mg/kg	0.0035 %			
				TPH										
16		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			201-469-6	83-32-9										
17		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-917-1	208-96-8										
18		anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			204-371-1	120-12-7										
19		benzo[a]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-033-00-9	200-280-6	56-55-3										
20		benzo[a]pyrene; benzo[def]chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-032-00-3	200-028-5	50-32-8										
21		benzo[b]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-034-00-4	205-911-9	205-99-2										
22		benzo[ghi]perylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-883-8	191-24-2										
23		benzo[k]fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-036-00-5	205-916-6	207-08-9										
24		chrysene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-048-00-0	205-923-4	218-01-9										
25		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-041-00-2	200-181-8	53-70-3										
26		fluoranthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-912-4	206-44-0										
27		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			201-695-5	86-73-7										
28		indeno[123-cd]pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-893-2	193-39-5										
29		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-052-00-2	202-049-5	91-20-3										
30		phenanthrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			201-581-5	85-01-8										
31		pyrene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			204-927-3	129-00-0										
32		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD	
		604-001-00-2	203-632-7	108-95-2										
Total:											0.0215 %			

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0035%)

Classification of sample: TP02

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

Sample details

Sample name:	LoW Code:
TP02	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.70 m	
Moisture content:	
16%	
(no correction)	

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.383%)

Determinands

Moisture content: **16%** No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				28 mg/kg	1.32	36.969 mg/kg		0.0037 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1.2 mg/kg	2.775	3.33 mg/kg		0.000333 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.7 mg/kg	13.43	9.401 mg/kg		0.00094 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				73 mg/kg	1.462	106.694 mg/kg		0.0107 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				300 mg/kg	1.126	337.766 mg/kg		0.0338 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	230 mg/kg	1.56	358.757 mg/kg		0.023 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg		<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				170 mg/kg	1.579	268.515 mg/kg		0.0269 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				870 mg/kg	4.398	3826.196	mg/kg	0.383 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				6.5 pH		6.5	pH	6.5 pH		
			PH								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				110 mg/kg		110	mg/kg	0.011 %		
			TPH								
16	acenaphthene				0.48 mg/kg		0.48	mg/kg	0.000048 %		
		201-469-6	83-32-9								
17	acenaphthylene				0.09 mg/kg		0.09	mg/kg	0.000009 %		
		205-917-1	208-96-8								
18	anthracene				0.49 mg/kg		0.49	mg/kg	0.000049 %		
		204-371-1	120-12-7								
19	benzo[a]anthracene				1.3 mg/kg		1.3	mg/kg	0.00013 %		
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				1.3 mg/kg		1.3	mg/kg	0.00013 %		
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				1.3 mg/kg		1.3	mg/kg	0.00013 %		
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				0.84 mg/kg		0.84	mg/kg	0.000084 %		
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				1 mg/kg		1	mg/kg	0.0001 %		
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				1.8 mg/kg		1.8	mg/kg	0.00018 %		
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				0.17 mg/kg		0.17	mg/kg	0.000017 %		
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				3.1 mg/kg		3.1	mg/kg	0.00031 %		
		205-912-4	206-44-0								
27	fluorene				0.35 mg/kg		0.35	mg/kg	0.000035 %		
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				0.65 mg/kg		0.65	mg/kg	0.000065 %		
		205-893-2	193-39-5								
29	naphthalene				0.78 mg/kg		0.78	mg/kg	0.000078 %		
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				2.9 mg/kg		2.9	mg/kg	0.00029 %		
		201-581-5	85-01-8								
31	pyrene				2.7 mg/kg		2.7	mg/kg	0.00027 %		
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1	mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.495 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.011%)

Classification of sample: TP03

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

Sample details

Sample name:	LoW Code:
TP03	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
18%	
(no correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				6.5 mg/kg	1.32	8.582 mg/kg	0.000858 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.79 mg/kg	2.775	2.193 mg/kg	0.000219 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.6 mg/kg	13.43	8.058 mg/kg	0.000806 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				26 mg/kg	1.462	38 mg/kg	0.0038 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				25 mg/kg	1.126	28.147 mg/kg	0.00281 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	31 mg/kg	1.56	48.354 mg/kg	0.0031 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				18 mg/kg	1.579	28.431 mg/kg	0.00284 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				70 mg/kg	4.398	307.855 mg/kg	0.0308 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.6 pH		7.6 pH	7.6 pH			
			pH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				15 mg/kg		15 mg/kg	0.0015 %		
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.13 mg/kg		0.13 mg/kg	0.000013 %		
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.19 mg/kg		0.19 mg/kg	0.000019 %		
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.19 mg/kg		0.19 mg/kg	0.000019 %		
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.12 mg/kg		0.12 mg/kg	0.000012 %		
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.07 mg/kg		0.07 mg/kg	0.000007 %		
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.13 mg/kg		0.13 mg/kg	0.000013 %		
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.28 mg/kg		0.28 mg/kg	0.000028 %		
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.1 mg/kg		0.1 mg/kg	0.00001 %		
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.1 mg/kg		0.1 mg/kg	0.00001 %		
		201-581-5	85-01-8							
31	pyrene				0.28 mg/kg		0.28 mg/kg	0.000028 %		
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0474 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0015%)

Classification of sample: TP04



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

Sample details

Sample name:	LoW Code:
TP04	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.00 m	
Moisture content:	
45%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 45% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				16 mg/kg	1.32	21.125 mg/kg	0.00211 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.9 mg/kg	2.775	2.498 mg/kg	0.00025 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				2.1 mg/kg	13.43	28.203 mg/kg	0.00282 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				14 mg/kg	1.462	20.462 mg/kg	0.00205 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				68 mg/kg	1.126	76.56 mg/kg	0.00766 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	390 mg/kg	1.56	608.328 mg/kg	0.039 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				0.4 mg/kg	1.353	0.541 mg/kg	0.0000541 %			
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				21 mg/kg	1.579	33.169 mg/kg	0.00332 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				100 mg/kg	4.398	439.793 mg/kg	0.044 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				6.2 pH		6.2 pH	6.2 pH			
			PH								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		EU CLP index number	EC Number	CAS Number										
14		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD	
		006-007-00-5												
15		TPH (C6 to C40) petroleum group				94	mg/kg		94	mg/kg	0.0094 %			
				TPH										
16		acenaphthene				0.19	mg/kg		0.19	mg/kg	0.000019 %			
			201-469-6	83-32-9										
17		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-917-1	208-96-8										
18		anthracene				0.21	mg/kg		0.21	mg/kg	0.000021 %			
			204-371-1	120-12-7										
19		benzo[a]anthracene				1	mg/kg		1	mg/kg	0.0001 %			
		601-033-00-9	200-280-6	56-55-3										
20		benzo[a]pyrene; benzo[def]chrysene				0.8	mg/kg		0.8	mg/kg	0.00008 %			
		601-032-00-3	200-028-5	50-32-8										
21		benzo[b]fluoranthene				0.95	mg/kg		0.95	mg/kg	0.000095 %			
		601-034-00-4	205-911-9	205-99-2										
22		benzo[ghi]perylene				0.47	mg/kg		0.47	mg/kg	0.000047 %			
			205-883-8	191-24-2										
23		benzo[k]fluoranthene				0.55	mg/kg		0.55	mg/kg	0.000055 %			
		601-036-00-5	205-916-6	207-08-9										
24		chrysene				1.1	mg/kg		1.1	mg/kg	0.00011 %			
		601-048-00-0	205-923-4	218-01-9										
25		dibenz[a,h]anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %			
		601-041-00-2	200-181-8	53-70-3										
26		fluoranthene				2	mg/kg		2	mg/kg	0.0002 %			
			205-912-4	206-44-0										
27		fluorene				0.16	mg/kg		0.16	mg/kg	0.000016 %			
			201-695-5	86-73-7										
28		indeno[123-cd]pyrene				0.45	mg/kg		0.45	mg/kg	0.000045 %			
			205-893-2	193-39-5										
29		naphthalene				0.13	mg/kg		0.13	mg/kg	0.000013 %			
		601-052-00-2	202-049-5	91-20-3										
30		phenanthrene				1	mg/kg		1	mg/kg	0.0001 %			
			201-581-5	85-01-8										
31		pyrene				1.9	mg/kg		1.9	mg/kg	0.00019 %			
			204-927-3	129-00-0										
32		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD	
		604-001-00-2	203-632-7	108-95-2										
Total:												0.112 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

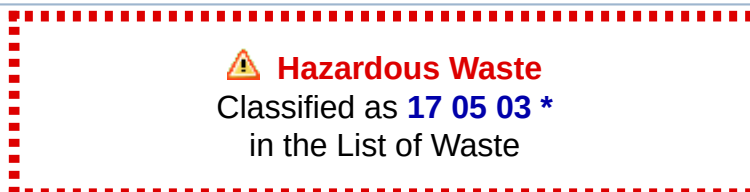
Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0094%)

Classification of sample: TP05



Sample details

Sample name:	LoW Code:
TP05	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.20 m	Entry:
Moisture content:	17 05 03 * (Soil and stones containing hazardous substances)
16%	
(no correction)	

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 4.838%)

Determinands

Moisture content: **16%** No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	confirm TPH has NOT arisen from diesel or petrol				☒					
2	arsenic { arsenic trioxide }				14 mg/kg	1.32	18.485 mg/kg	0.00185 %		
	033-003-00-0	215-481-4	1327-53-3							
3	beryllium { beryllium oxide }				0.52 mg/kg	2.775	1.443 mg/kg	0.000144 %		
	004-003-00-8	215-133-1	1304-56-9							
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.4 mg/kg	13.43	5.372 mg/kg	0.000537 %		
			10294-33-4, 10294-34-5, 7637-07-2							
5	cadmium { cadmium sulfide }			1	7.6 mg/kg	1.285	9.768 mg/kg	0.00076 %		
	048-010-00-4	215-147-8	1306-23-6							
6	chromium { chromium(III) oxide (worst case) }				24 mg/kg	1.462	35.077 mg/kg	0.00351 %		
		215-160-9	1308-38-9							
7	copper { dicopper oxide; copper (I) oxide }				530 mg/kg	1.126	596.721 mg/kg	0.0597 %		
	029-002-00-X	215-270-7	1317-39-1							
8	lead { lead chromate }			1	81 mg/kg	1.56	126.345 mg/kg	0.0081 %		
	082-004-00-2	231-846-0	7758-97-6							
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
10	nickel { nickel dihydroxide }				50 mg/kg	1.579	78.975 mg/kg	0.0079 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]							
11	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %		<LOD
	034-002-00-8									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				11000 mg/kg	4.398	48377.186 mg/kg		4.838 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.8 pH		7.8 pH		7.8 pH		
			PH								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg		<0.000188 %		<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg		<0.001 %		<LOD
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-917-1	208-96-8								
18	anthracene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		204-371-1	120-12-7								
19	benzo[a]anthracene				0.1 mg/kg		0.1 mg/kg		0.00001 %		
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				0.05 mg/kg		0.05 mg/kg		0.000005 %		
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				0.14 mg/kg		0.14 mg/kg		0.000014 %		
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				0.07 mg/kg		0.07 mg/kg		0.000007 %		
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				0.17 mg/kg		0.17 mg/kg		0.000017 %		
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				0.2 mg/kg		0.2 mg/kg		0.00002 %		
		205-912-4	206-44-0								
27	fluorene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg		<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				0.16 mg/kg		0.16 mg/kg		0.000016 %		
		201-581-5	85-01-8								
31	pyrene				0.16 mg/kg		0.16 mg/kg		0.000016 %		
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg		<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									4.922 %		

Key

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

Classification of sample: TP06

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

Sample details

Sample name:	LoW Code:
TP06	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.1%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.1% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				7.1 mg/kg	1.32	9.374 mg/kg		0.000937 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.92 mg/kg	2.775	2.553 mg/kg		0.000255 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	6.715 mg/kg		0.000672 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				22 mg/kg	1.462	32.154 mg/kg		0.00322 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				30 mg/kg	1.126	33.777 mg/kg		0.00338 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	31 mg/kg	1.56	48.354 mg/kg		0.0031 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg		<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				14 mg/kg	1.579	22.113 mg/kg		0.00221 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				88 mg/kg	4.398	387.017 mg/kg		0.0387 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.6 pH		7.6 pH		7.6 pH		
			pH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				110 mg/kg		110 mg/kg	0.011 %		
			TPH							
16	acenaphthene				0.13 mg/kg		0.13 mg/kg	0.000013 %		
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				0.31 mg/kg		0.31 mg/kg	0.000031 %		
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.77 mg/kg		0.77 mg/kg	0.000077 %		
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.8 mg/kg		0.8 mg/kg	0.00008 %		
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.67 mg/kg		0.67 mg/kg	0.000067 %		
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.52 mg/kg		0.52 mg/kg	0.000052 %		
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.68 mg/kg		0.68 mg/kg	0.000068 %		
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.79 mg/kg		0.79 mg/kg	0.000079 %		
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				1.7 mg/kg		1.7 mg/kg	0.00017 %		
		205-912-4	206-44-0							
27	fluorene				0.12 mg/kg		0.12 mg/kg	0.000012 %		
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.4 mg/kg		0.4 mg/kg	0.00004 %		
		205-893-2	193-39-5							
29	naphthalene				0.06 mg/kg		0.06 mg/kg	0.000006 %		
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.92 mg/kg		0.92 mg/kg	0.000092 %		
		201-581-5	85-01-8							
31	pyrene				1.6 mg/kg		1.6 mg/kg	0.00016 %		
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.0649 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.011%)

Classification of sample: TP07



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

Sample details

Sample name:	LoW Code:
TP07	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.00 m	
Moisture content:	
53%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 53% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				14 mg/kg	1.32	18.485 mg/kg	0.00185 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.46 mg/kg	2.775	1.277 mg/kg	0.000128 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				12 mg/kg	13.43	161.16 mg/kg	0.0161 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				9.6 mg/kg	1.462	14.031 mg/kg	0.0014 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				21 mg/kg	1.126	23.644 mg/kg	0.00236 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	83 mg/kg	1.56	129.465 mg/kg	0.0083 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				9.8 mg/kg	1.579	15.479 mg/kg	0.00155 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				31 mg/kg	4.398	136.336 mg/kg	0.0136 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				6.1 pH		6.1 pH	6.1 pH			
			PH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				120 mg/kg		120 mg/kg	0.012 %			
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
19	benzo[a]anthracene				0.11 mg/kg		0.11 mg/kg	0.000011 %			
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				0.23 mg/kg		0.23 mg/kg	0.000023 %			
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				0.08 mg/kg		0.08 mg/kg	0.000008 %			
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				0.15 mg/kg		0.15 mg/kg	0.000015 %			
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				0.19 mg/kg		0.19 mg/kg	0.000019 %			
		205-912-4	206-44-0								
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				0.12 mg/kg		0.12 mg/kg	0.000012 %			
		201-581-5	85-01-8								
31	pyrene				0.17 mg/kg		0.17 mg/kg	0.000017 %			
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.058 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.012%)

Classification of sample: TP09

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

Sample details

Sample name:	LoW Code:
TP09	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.40 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 23% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				11 mg/kg	1.32	14.524 mg/kg	0.00145 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.79 mg/kg	2.775	2.193 mg/kg	0.000219 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				1.6 mg/kg	13.43	21.488 mg/kg	0.00215 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				18 mg/kg	1.462	26.308 mg/kg	0.00263 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				31 mg/kg	1.126	34.903 mg/kg	0.00349 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	69 mg/kg	1.56	107.627 mg/kg	0.0069 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				16 mg/kg	1.579	25.272 mg/kg	0.00253 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				81 mg/kg	4.398	356.232 mg/kg	0.0356 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.5 pH		7.5 pH	7.5 pH			
			pH								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value		MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number										
14		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD	
		006-007-00-5												
15		TPH (C6 to C40) petroleum group				69	mg/kg		69	mg/kg	0.0069 %			
				TPH										
16		acenaphthene				0.08	mg/kg		0.08	mg/kg	0.000008 %			
			201-469-6	83-32-9										
17		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
			205-917-1	208-96-8										
18		anthracene				0.17	mg/kg		0.17	mg/kg	0.000017 %			
			204-371-1	120-12-7										
19		benzo[a]anthracene				0.47	mg/kg		0.47	mg/kg	0.000047 %			
		601-033-00-9	200-280-6	56-55-3										
20		benzo[a]pyrene; benzo[def]chrysene				0.45	mg/kg		0.45	mg/kg	0.000045 %			
		601-032-00-3	200-028-5	50-32-8										
21		benzo[b]fluoranthene				0.42	mg/kg		0.42	mg/kg	0.000042 %			
		601-034-00-4	205-911-9	205-99-2										
22		benzo[ghi]perylene				0.28	mg/kg		0.28	mg/kg	0.000028 %			
			205-883-8	191-24-2										
23		benzo[k]fluoranthene				0.47	mg/kg		0.47	mg/kg	0.000047 %			
		601-036-00-5	205-916-6	207-08-9										
24		chrysene				0.52	mg/kg		0.52	mg/kg	0.000052 %			
		601-048-00-0	205-923-4	218-01-9										
25		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD	
		601-041-00-2	200-181-8	53-70-3										
26		fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %			
			205-912-4	206-44-0										
27		fluorene				0.07	mg/kg		0.07	mg/kg	0.000007 %			
			201-695-5	86-73-7										
28		indeno[123-cd]pyrene				0.24	mg/kg		0.24	mg/kg	0.000024 %			
			205-893-2	193-39-5										
29		naphthalene				0.07	mg/kg		0.07	mg/kg	0.000007 %			
		601-052-00-2	202-049-5	91-20-3										
30		phenanthrene				0.6	mg/kg		0.6	mg/kg	0.00006 %			
			201-581-5	85-01-8										
31		pyrene				0.98	mg/kg		0.98	mg/kg	0.000098 %			
			204-927-3	129-00-0										
32		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD	
		604-001-00-2	203-632-7	108-95-2										
Total:												0.063 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0069%)

Classification of sample: TP12



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

Sample details

Sample name:	LoW Code:
TP12	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.20 m	
Moisture content:	
19%	
(no correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				6.1 mg/kg	1.32	8.054 mg/kg	0.000805 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.56 mg/kg	2.775	1.554 mg/kg	0.000155 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.8 mg/kg	13.43	10.744 mg/kg	0.00107 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.4 mg/kg	1.285	0.514 mg/kg	0.00004 %			
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				15 mg/kg	1.462	21.923 mg/kg	0.00219 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				38 mg/kg	1.126	42.784 mg/kg	0.00428 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	48 mg/kg	1.56	74.871 mg/kg	0.0048 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				14 mg/kg	1.579	22.113 mg/kg	0.00221 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				230 mg/kg	4.398	1011.523 mg/kg	0.101 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.7 pH		7.7 pH	7.7 pH			
			PH								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
15		TPH (C6 to C40) petroleum group				72	mg/kg		72	mg/kg	0.0072 %		
				TPH									
16		acenaphthene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			201-469-6	83-32-9									
17		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-917-1	208-96-8									
18		anthracene				0.28	mg/kg		0.28	mg/kg	0.000028 %		
			204-371-1	120-12-7									
19		benzo[a]anthracene				0.56	mg/kg		0.56	mg/kg	0.000056 %		
		601-033-00-9	200-280-6	56-55-3									
20		benzo[a]pyrene; benzo[def]chrysene				0.5	mg/kg		0.5	mg/kg	0.00005 %		
		601-032-00-3	200-028-5	50-32-8									
21		benzo[b]fluoranthene				0.51	mg/kg		0.51	mg/kg	0.000051 %		
		601-034-00-4	205-911-9	205-99-2									
22		benzo[ghi]perylene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
			205-883-8	191-24-2									
23		benzo[k]fluoranthene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-036-00-5	205-916-6	207-08-9									
24		chrysene				0.51	mg/kg		0.51	mg/kg	0.000051 %		
		601-048-00-0	205-923-4	218-01-9									
25		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
26		fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			205-912-4	206-44-0									
27		fluorene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
			201-695-5	86-73-7									
28		indeno[123-cd]pyrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			205-893-2	193-39-5									
29		naphthalene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-052-00-2	202-049-5	91-20-3									
30		phenanthrene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
			201-581-5	85-01-8									
31		pyrene				0.97	mg/kg		0.97	mg/kg	0.000097 %		
			204-927-3	129-00-0									
32		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
Total:												0.125 %	

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0072%)

Classification of sample: TP12[2]

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

Sample details

Sample name:	LoW Code:
TP12[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.90 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.3%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.3% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	TPH (C6 to C40) petroleum group				267 mg/kg		267 mg/kg	0.0267 %			
			TPH								
3	benzene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
4	ethylbenzene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
5	toluene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
6	xylene				<1 mg/kg		<1 mg/kg	<0.0001 %			<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]								
7	dichloroethane { 1,1-dichloroethane and 1,2-dichloroethane (combined) }				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
8	tetrachloroethylene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
9	carbon tetrachloride; tetrachloromethane				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
10	trichloroethylene; trichloroethene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	602-027-00-9	201-167-4	79-01-6								
11	vinyl chloride; chloroethylene				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
Total:									0.0276 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0267%)

Classification of sample: TP13

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

Sample details

Sample name:	LoW Code:
TP13	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.10 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
23%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 23% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				10 mg/kg	1.32	13.203 mg/kg		0.00132 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.77 mg/kg	2.775	2.137 mg/kg		0.000214 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.5 mg/kg	13.43	6.715 mg/kg		0.000672 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.9 mg/kg	1.285	1.157 mg/kg		0.00009 %		
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				19 mg/kg	1.462	27.77 mg/kg		0.00278 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				50 mg/kg	1.126	56.294 mg/kg		0.00563 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	64 mg/kg	1.56	99.828 mg/kg		0.0064 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg		<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				18 mg/kg	1.579	28.431 mg/kg		0.00284 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				210 mg/kg	4.398	923.564 mg/kg		0.0924 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.5 pH		7.5 pH		7.5 pH		
			pH								

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		cyanides {  salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
		006-007-00-5											
15		TPH (C6 to C40) petroleum group				80	mg/kg		80	mg/kg	0.008 %		
				TPH									
16		acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-469-6	83-32-9									
17		acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			205-917-1	208-96-8									
18		anthracene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			204-371-1	120-12-7									
19		benzo[a]anthracene				0.31	mg/kg		0.31	mg/kg	0.000031 %		
		601-033-00-9	200-280-6	56-55-3									
20		benzo[a]pyrene; benzo[def]chrysene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		601-032-00-3	200-028-5	50-32-8									
21		benzo[b]fluoranthene				0.28	mg/kg		0.28	mg/kg	0.000028 %		
		601-034-00-4	205-911-9	205-99-2									
22		benzo[ghi]perylene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
			205-883-8	191-24-2									
23		benzo[k]fluoranthene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		601-036-00-5	205-916-6	207-08-9									
24		chrysene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
		601-048-00-0	205-923-4	218-01-9									
25		dibenz[a,h]anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
26		fluoranthene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			205-912-4	206-44-0									
27		fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
			201-695-5	86-73-7									
28		indeno[123-cd]pyrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			205-893-2	193-39-5									
29		naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
30		phenanthrene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			201-581-5	85-01-8									
31		pyrene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			204-927-3	129-00-0									
32		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
Total:												0.121 %	

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.008%)

Classification of sample: TP13A



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

Sample details

Sample name:	LoW Code:
TP13A	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.70 m	
Moisture content:	
9.3%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.3% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				5.2 mg/kg	1.32	6.866	mg/kg	0.000687 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.73 mg/kg	2.775	2.026	mg/kg	0.000203 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.4 mg/kg	13.43	5.372	mg/kg	0.000537 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257	mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				20 mg/kg	1.462	29.231	mg/kg	0.00292 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				19 mg/kg	1.126	21.392	mg/kg	0.00214 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	23 mg/kg	1.56	35.876	mg/kg	0.0023 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				19 mg/kg	1.579	30.01	mg/kg	0.003 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405	mg/kg	<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				50 mg/kg	4.398	219.896	mg/kg	0.022 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.3 pH		7.3	pH	7.3 pH		
			PH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				380 mg/kg		380 mg/kg	0.038 %			
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
18	anthracene				0.11 mg/kg		0.11 mg/kg	0.000011 %			
		204-371-1	120-12-7								
19	benzo[a]anthracene				0.38 mg/kg		0.38 mg/kg	0.000038 %			
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				0.26 mg/kg		0.26 mg/kg	0.000026 %			
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				0.3 mg/kg		0.3 mg/kg	0.00003 %			
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				0.19 mg/kg		0.19 mg/kg	0.000019 %			
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				0.22 mg/kg		0.22 mg/kg	0.000022 %			
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				0.41 mg/kg		0.41 mg/kg	0.000041 %			
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				0.77 mg/kg		0.77 mg/kg	0.000077 %			
		205-912-4	206-44-0								
27	fluorene				0.05 mg/kg		0.05 mg/kg	0.000005 %			
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				0.16 mg/kg		0.16 mg/kg	0.000016 %			
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				0.44 mg/kg		0.44 mg/kg	0.000044 %			
		201-581-5	85-01-8								
31	pyrene				0.71 mg/kg		0.71 mg/kg	0.000071 %			
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0727 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.038%)

Classification of sample: TP13A[2]

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

Sample details

Sample name:	LoW Code:
TP13A[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.20 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
12%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: **12% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				2 mg/kg	1.32	2.641 mg/kg		0.000264 %		
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.36 mg/kg	2.775	0.999 mg/kg		0.0000999 %		
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.3 mg/kg	13.43	4.029 mg/kg		0.000403 %		
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg		<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				12 mg/kg	1.462	17.539 mg/kg		0.00175 %		
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				8.8 mg/kg	1.126	9.908 mg/kg		0.000991 %		
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	11 mg/kg	1.56	17.158 mg/kg		0.0011 %		
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg		<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				10 mg/kg	1.579	15.795 mg/kg		0.00158 %		
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg		<0.000141 %		<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				25 mg/kg	4.398	109.948 mg/kg		0.011 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				6.4 pH		6.4 pH		6.4 pH		
			pH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				12 mg/kg		12 mg/kg	0.0012 %		
			TPH							
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
19	benzo[a]anthracene				0.09 mg/kg		0.09 mg/kg	0.000009 %		
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.07 mg/kg		0.07 mg/kg	0.000007 %		
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				0.08 mg/kg		0.08 mg/kg	0.000008 %		
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
		205-912-4	206-44-0							
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				0.14 mg/kg		0.14 mg/kg	0.000014 %		
		201-581-5	85-01-8							
31	pyrene				0.21 mg/kg		0.21 mg/kg	0.000021 %		
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.019 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0012%)

Classification of sample: TP14

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

Sample details

Sample name:	LoW Code:
TP14	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
0.10 m	
Moisture content:	
19%	
(no correction)	

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]: (compound conc.: 0.44%)

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				6.5 mg/kg	1.32	8.582 mg/kg	0.000858 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.59 mg/kg	2.775	1.637 mg/kg	0.000164 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.6 mg/kg	13.43	8.058 mg/kg	0.000806 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	0.5 mg/kg	1.285	0.643 mg/kg	0.00005 %			
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				17 mg/kg	1.462	24.846 mg/kg	0.00248 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				31 mg/kg	1.126	34.903 mg/kg	0.00349 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	47 mg/kg	1.56	73.311 mg/kg	0.0047 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				17 mg/kg	1.579	26.851 mg/kg	0.00269 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium selenosulfide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				1000 mg/kg	4.398	4397.926	mg/kg	0.44 %		
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				7.4 pH		7.4	pH	7.4 pH		
			PH								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8								
18	anthracene				0.16 mg/kg		0.16	mg/kg	0.000016 %		
		204-371-1	120-12-7								
19	benzo[a]anthracene				0.36 mg/kg		0.36	mg/kg	0.000036 %		
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				0.38 mg/kg		0.38	mg/kg	0.000038 %		
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				0.32 mg/kg		0.32	mg/kg	0.000032 %		
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				0.24 mg/kg		0.24	mg/kg	0.000024 %		
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				0.39 mg/kg		0.39	mg/kg	0.000039 %		
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				0.44 mg/kg		0.44	mg/kg	0.000044 %		
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				0.98 mg/kg		0.98	mg/kg	0.000098 %		
		205-912-4	206-44-0								
27	fluorene				0.05 mg/kg		0.05	mg/kg	0.000005 %		
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				0.2 mg/kg		0.2	mg/kg	0.00002 %		
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				0.55 mg/kg		0.55	mg/kg	0.000055 %		
		201-581-5	85-01-8								
31	pyrene				0.92 mg/kg		0.92	mg/kg	0.000092 %		
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1	mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.457 %		

Key

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

Classification of sample: TP14[2]



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

Sample details

Sample name:	LoW Code:
TP14[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.90 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: **11% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				4 mg/kg	1.32	5.281 mg/kg	0.000528 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				1 mg/kg	2.775	2.775 mg/kg	0.000278 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				<0.2 mg/kg	13.43	<2.686 mg/kg	<0.000269 %			<LOD
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				24 mg/kg	1.462	35.077 mg/kg	0.00351 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				21 mg/kg	1.126	23.644 mg/kg	0.00236 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	15 mg/kg	1.56	23.397 mg/kg	0.0015 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				22 mg/kg	1.579	34.749 mg/kg	0.00347 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				46 mg/kg	4.398	202.305 mg/kg	0.0202 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				5.7 pH		5.7 pH	5.7 pH			
			PH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %			<LOD
			TPH								
16	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
18	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
19	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
27	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
31	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0337 %		

Key

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

Classification of sample: TP15



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

Sample details

Sample name:	LoW Code:
TP15	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.30 m	
Moisture content:	
13%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: **13% No Moisture Correction applied (MC)**

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				7.9 mg/kg	1.32	10.431 mg/kg	0.00104 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				0.8 mg/kg	2.775	2.22 mg/kg	0.000222 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.3 mg/kg	13.43	4.029 mg/kg	0.000403 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %			<LOD
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				18 mg/kg	1.462	26.308 mg/kg	0.00263 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				31 mg/kg	1.126	34.903 mg/kg	0.00349 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	46 mg/kg	1.56	71.751 mg/kg	0.0046 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				19 mg/kg	1.579	30.01 mg/kg	0.003 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				75 mg/kg	4.398	329.844 mg/kg	0.033 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				8.4 pH		8.4 pH	8.4 pH			
			PH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
14	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
15	TPH (C6 to C40) petroleum group				55 mg/kg		55 mg/kg	0.0055 %			
			TPH								
16	acenaphthene				0.58 mg/kg		0.58 mg/kg	0.000058 %			
		201-469-6	83-32-9								
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
18	anthracene				0.38 mg/kg		0.38 mg/kg	0.000038 %			
		204-371-1	120-12-7								
19	benzo[a]anthracene				0.98 mg/kg		0.98 mg/kg	0.000098 %			
	601-033-00-9	200-280-6	56-55-3								
20	benzo[a]pyrene; benzo[def]chrysene				0.73 mg/kg		0.73 mg/kg	0.000073 %			
	601-032-00-3	200-028-5	50-32-8								
21	benzo[b]fluoranthene				0.9 mg/kg		0.9 mg/kg	0.00009 %			
	601-034-00-4	205-911-9	205-99-2								
22	benzo[ghi]perylene				0.42 mg/kg		0.42 mg/kg	0.000042 %			
		205-883-8	191-24-2								
23	benzo[k]fluoranthene				0.32 mg/kg		0.32 mg/kg	0.000032 %			
	601-036-00-5	205-916-6	207-08-9								
24	chrysene				0.97 mg/kg		0.97 mg/kg	0.000097 %			
	601-048-00-0	205-923-4	218-01-9								
25	dibenz[a,h]anthracene				0.08 mg/kg		0.08 mg/kg	0.000008 %			
	601-041-00-2	200-181-8	53-70-3								
26	fluoranthene				1.8 mg/kg		1.8 mg/kg	0.00018 %			
		205-912-4	206-44-0								
27	fluorene				0.42 mg/kg		0.42 mg/kg	0.000042 %			
		201-695-5	86-73-7								
28	indeno[123-cd]pyrene				0.38 mg/kg		0.38 mg/kg	0.000038 %			
		205-893-2	193-39-5								
29	naphthalene				0.94 mg/kg		0.94 mg/kg	0.000094 %			
	601-052-00-2	202-049-5	91-20-3								
30	phenanthrene				2.4 mg/kg		2.4 mg/kg	0.00024 %			
		201-581-5	85-01-8								
31	pyrene				1.9 mg/kg		1.9 mg/kg	0.00019 %			
		204-927-3	129-00-0								
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
Total:									0.0557 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0055%)

Classification of sample: TP15[2]

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

Sample details

Sample name:	LoW Code:
TP15[2]	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.80 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
7.5%	
(no correction)	

Hazard properties

None identified

Determinands

Moisture content: 7.5% No Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
1	confirm TPH has NOT arisen from diesel or petrol				☒						
2	arsenic { arsenic trioxide }				18 mg/kg	1.32	23.766 mg/kg	0.00238 %			
	033-003-00-0	215-481-4	1327-53-3								
3	beryllium { beryllium oxide }				2.5 mg/kg	2.775	6.938 mg/kg	0.000694 %			
	004-003-00-8	215-133-1	1304-56-9								
4	boron { boron tribromide/trichloride/trifluoride (combined) }				0.3 mg/kg	13.43	4.029 mg/kg	0.000403 %			
			10294-33-4, 10294-34-5, 7637-07-2								
5	cadmium { cadmium sulfide }			1	1.5 mg/kg	1.285	1.928 mg/kg	0.00015 %			
	048-010-00-4	215-147-8	1306-23-6								
6	chromium { chromium(III) oxide (worst case) }				140 mg/kg	1.462	204.618 mg/kg	0.0205 %			
		215-160-9	1308-38-9								
7	copper { dicopper oxide; copper (I) oxide }				280 mg/kg	1.126	315.249 mg/kg	0.0315 %			
	029-002-00-X	215-270-7	1317-39-1								
8	lead { lead chromate }			1	160 mg/kg	1.56	249.57 mg/kg	0.016 %			
	082-004-00-2	231-846-0	7758-97-6								
9	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
10	nickel { nickel dihydroxide }				49 mg/kg	1.579	77.395 mg/kg	0.00774 %			
	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]								
11	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
12	zinc { zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2] }				390 mg/kg	4.398	1715.191 mg/kg	0.172 %			
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
13	pH				8.1 pH		8.1 pH	8.1 pH			
			pH								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
14	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 }				3.2 mg/kg	1.884	6.029 mg/kg	0.000603 %		
	006-007-00-5									
15	TPH (C6 to C40) petroleum group				130 mg/kg		130 mg/kg	0.013 %		
			TPH							
16	acenaphthene				0.28 mg/kg		0.28 mg/kg	0.000028 %		
		201-469-6	83-32-9							
17	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
18	anthracene				0.69 mg/kg		0.69 mg/kg	0.000069 %		
		204-371-1	120-12-7							
19	benzo[a]anthracene				1.6 mg/kg		1.6 mg/kg	0.00016 %		
	601-033-00-9	200-280-6	56-55-3							
20	benzo[a]pyrene; benzo[def]chrysene				1.6 mg/kg		1.6 mg/kg	0.00016 %		
	601-032-00-3	200-028-5	50-32-8							
21	benzo[b]fluoranthene				1.5 mg/kg		1.5 mg/kg	0.00015 %		
	601-034-00-4	205-911-9	205-99-2							
22	benzo[ghi]perylene				0.79 mg/kg		0.79 mg/kg	0.000079 %		
		205-883-8	191-24-2							
23	benzo[k]fluoranthene				0.76 mg/kg		0.76 mg/kg	0.000076 %		
	601-036-00-5	205-916-6	207-08-9							
24	chrysene				1.3 mg/kg		1.3 mg/kg	0.00013 %		
	601-048-00-0	205-923-4	218-01-9							
25	dibenz[a,h]anthracene				0.14 mg/kg		0.14 mg/kg	0.000014 %		
	601-041-00-2	200-181-8	53-70-3							
26	fluoranthene				3.5 mg/kg		3.5 mg/kg	0.00035 %		
		205-912-4	206-44-0							
27	fluorene				0.2 mg/kg		0.2 mg/kg	0.00002 %		
		201-695-5	86-73-7							
28	indeno[123-cd]pyrene				0.68 mg/kg		0.68 mg/kg	0.000068 %		
		205-893-2	193-39-5							
29	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
30	phenanthrene				2.1 mg/kg		2.1 mg/kg	0.00021 %		
		201-581-5	85-01-8							
31	pyrene				3.2 mg/kg		3.2 mg/kg	0.00032 %		
		204-927-3	129-00-0							
32	phenol				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	604-001-00-2	203-632-7	108-95-2							
Total:								0.267 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous property to non hazardous because No significant volatile contamination or calorific materials identified.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.013%)

Appendix A: Classifier defined and non GB MCL determinands

confirm TPH has NOT arisen from diesel or petrol

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

boron tribromide/trichloride/trifluoride (combined) (CAS Number: 10294-33-4, 10294-34-5, 7637-07-2)

Description/Comments: Combines the hazard statements and the average of the conversion factors for boron tribromide, boron trichloride and boron trifluoride
Data source: N/A
Data source date: 06 Aug 2015
Hazard Statements: EUH014 , Acute Tox. 2; H330 , Acute Tox. 2; H300 , Skin Corr. 1A; H314 , Skin Corr. 1B; H314

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

pH (CAS Number: PH)

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

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

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

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

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

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

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

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

▪ **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

▪ **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

▪ **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

▪ **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

▪ **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

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

beryllium {beryllium oxide}

Worst case species based on risk phrases

boron {boron tribromide/trichloride/trifluoride (combined)}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

chromium {chromium(III) oxide (worst case)}

All chromium VI concentrations below the lab LoD.

copper {dicopper oxide; copper (I) oxide}

Most likely common species

lead {lead chromate}

Worst case species based on risk phrases

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

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

Worst case species based on risk phrases

zinc {zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate); [1] zinc sulphate (anhydrous) [2]}

All chromium VI concentrations below the lab LoD.

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

Worst case species

dichloroethane {1,1-dichloroethane and 1,2-dichloroethane (combined)}

Worst case species based on risk phrases

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2022.325.5408.10064 (21 Nov 2022)

HazWasteOnline Database: 2022.325.5408.10064 (21 Nov 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

