GEOENVIRONMENTAL GROUND INVESTIGATION

Land off Whaley Road
Barugh Green
Barnsley

Reference	6709-JPG-XX-XX-RP-G-0604-S2-P01
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JPG (Leeds) Limited. Exploratory Hole Location Plan. Whaley Road, Barugh Green, Barnsley. Drawing No. 6709-JPG-ZZ-ZZ-DR-G-1100 S2 P05, dated 2 October 2026.

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CONFIDENTIALITY STATEMENT

This report is addressed to and may be relied upon by the following:

Wordsworth Property Partnership
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This report has been prepared for the sole use and reliance of the above named party. This report shall not be relied upon or transferred to any other parties without the express written authorisation of JPG (Leeds) Limited. No responsibility will be accepted where this report is used, either in its entirety or in part, by any other party.

DOCUMENT HISTORY

Revision	Date	Revision Details	Status	Author(s)	Approved
P01	08.10.2026	NA	Final	EJS	RJM

EXECUTIVE SUMMARY

Site Address	Land off Whaley Road, Barugh Green, Barnsley
Current Site Use	Land use typically comprises storage, car parking and service yards with a number of temporary buildings and storage units. The site is traversed by several roads and tracks providing access across the site. An electricity pylon is located in the south of the site in the centre of a car park. The pylon has a gabion retaining wall at its base which will required to be maintained as part of any future development. Overhead electricity cables extend east to west, spanning the southern part of the site.
Proposals	It is proposed to re-develop the site with a vehicle maintenance unit in the west of the site, with fuel tanks and truck/plant wash in the east of the site. The remainder of the site comprises hardstanding, mostly shown to be used for parking.
Previous Report	Previous reports for the site by Byrne Looby have been provided for review. JPG have provided a coal mining risk assessment and phase 1 geoenvironmental desk study report for the site.
Fieldwork	Fieldwork comprised four dynamic sample boreholes with rotary openhole follow-on to a maximum depth of 19.50m bgl, twelve window sample boreholes to a maximum depth of 5.45m bgl and ten trial pits to a maximum depth of 3.60m. Soil and water samples were obtained and submitted for chemical analysis and geotechnical testing. Ground gas monitoring of wells installed in boreholes has been carried out on six occasions.
Ground and Groundwater Conditions	Made ground was encountered across the site. Bitmac was encountered in the south and east of the site, in the areas occupied by the existing Wordsworth Construction yard and car park. Across the remainder of the site (occupied by tenants), the shallow made ground typically comprised compacted hardstanding/sub-base. The underlying made ground comprised, dark grey and black slightly sandy gravelly clay and dark reddish brown and orangish brown slightly sandy occasionally silty gravelly clay. In TP101, from 1.45m to 2.30m bgl, boulders of concrete and metal >1m in length were encountered. The base of the made ground was proven to depths of between 0.83m and 4.70m. It was not proven in RO101 at 2.05m, and no further penetration was possible in TP103 at 2.87m, TP105 at 3.60m, TP106 at 2.90m and WS112 at 5.45m. The thickness of the made ground typically increased toward the east of the site, with the shallowest encountered in the south and west. Hydrocarbon contaminated groundwater and odours were encountered in the made ground in RO101 from 1.60m to 1.80m bgl and hydrocarbon odours were encountered in RO101 from 1.32m to 2.45m bgl. No odours were encountered in the underlying natural ground. The underlying natural strata typically comprised firm, medium strength to high strength, light grey slightly sandy gravelly clay. Representative of weathered Coal Measures bedrock. Competent bedrock was proven in the four rotary boreholes at depths of between 4.20m and 7.30m bgl. This comprised dark grey mudstone which was proven to a maximum depth of 19.50m bgl. During the investigation, perched groundwater was encountered in TP101, TP108, WS107 and WS112 at depths of between 1.70m and 4.80m bgl. Groundwater was encountered within the made ground and natural cohesive strata.
Shallow Coal Mining	The investigation was designed to target the Dunsil coal seam (recorded to be 0.81m thick) and an unnamed Coal seam (thickness unrecorded). These were recorded to outcrop beyond the site to the west and through the western part of the site respectively; dipping towards the east. In RO101A, RO102 and RO103, located in the west of the site, a coal seam assumed to be the Dunsil was recorded at depths of 4.40m bgl, 5.50m bgl and 3.38m bgl respectively. With seam thicknesses of 1.10m, 0.90m and 0.82m (with a 0.40m mudstone parting) recorded respectively. RO104, located to the east of the conjectured outcrop of the unnamed coal seam recorded a 0.40m thick coal seam at 6.90m bgl and a 0.10m thick coal seam at 12.90m bgl. It was anticipated that the Dunsil coal seam would have been encountered beneath the unnamed coal seam. The borehole was extended to 19.50m, no further coal seams were encountered. No evidence of shallow underground coal workings, such as broken ground or loss of flush, was recorded in any of the boreholes. All coal seams were proven to be intact. On this basis, the risk to the surface instability due to shallow coal mining is considered to be negligible.
Geotechnical and Engineering Assessment	Coal Mining – The risk of surface instability due to shallow coal mining is considered to be negligible. Foundations and Ground Floor Slab – The foundation solution will be governed by the thickness and composition of the made ground and the strength and settlement characteristics of the underlying natural strata. The made ground in its current condition is unsuitable for the support of structural loads due to variations in material properties. The depth to the base of the made ground beneath the proposed building footprint ranged between 1.20m and 2.70m bgl. Prior to works commencing on site, it is proposed to excavate and remove any hydrocarbon impacted materials within and immediately adjacent to the footprint of the proposed unit and dispose of off-site to a suitably licenced landfill facility. Where the underlying natural ground comprises stiff high strength cohesive deposits an allowable

	bearing capacity of 150kN/m² will be available for settlements of less than 25mm. If higher allowable bearing pressures are required, the foundation should be deepened into the underlying granular soils or bedrock strata. In order to support the ground bearing floor slab it is recommended that the made ground beneath, and up to 3m beyond the footprint of the proposed unit is excavated to expose natural ground. The formation level should be proof-rolled and inspected. Any soft, loose or oversized material should be removed and replaced with suitably compacted granular material. This material should then be replaced with engineered fill, placed and compacted in accordance with an earthworks specification, designed to achieve the specified allowable bearing capacity and the limits on settlement for a ground-bearing floor slab. Earthworks – Across most of the site, minimal earthworks will be required in order to create a level platform for the proposed development. As stated above, beneath and up to 3m beyond the building footprint, a reduced dig is proposed to the base of the made ground. Unsuitable soils/materials will be removed, and oversize will be processed as required. Subject to suitability, this material could then be replaced beneath the building footprint, placed and compacted in accordance with a suitable earthworks specification. Any earthworks should be carried out in accordance with the National Highways Manual of Contract Documents for Highway Works, Geotechnics Construction, CC 601 Earthworks (formerly Series 600), Version E/1.0.0. Excavations - It is considered likely that if excavations were left unsupported then over time, some collapse would occur. The requirement for temporary support of excavations should be assessed on an individual basis. A competent person must inspect excavation sides at the start of the working shift and at other specified times in accordance with HSE guidance. No works shall take place until the excavation is safe. Obstructions – Based on the findings of the ground investigation and known site history, it is likely that significant obstructions and services are present on the site. It is recommended that an allowance is made for the removal of hardstanding and obstructions where necessary. Chemical Attack on Buried Concrete – Foundations will come into contact with made ground and natural strata. Based on results of the laboratory testing, Design Sulphate (DS) Class DS-3 and Aggressive Chemical Environment for Concrete (ACEC) Class AC-5 will be appropriate for buried concrete.
Environmental Risk Assessment	The preliminary conceptual site model (CSM) has been updated following completion of this ground investigation and assessment of the results of the chemical analysis and hazardous ground gas monitoring. The following potential sources of contamination are considered to be present on the site. • Asbestos fibres/cement in the made ground. • Elevated concentrations of hazardous ground gases (carbon dioxide) and potential hydrocarbon vapours. Based on the above sources and available pathways and receptors, the following linkage assessments have been considered. This assessment is based on current site conditions (unless stated). Development Workers and Future Maintenance Workers - There is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials. There is also the potential for exposure to hazardous ground gases and soil vapours. Adjacent Site Users - There is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials. Site End-Users - It is unlikely that future site end users will come into contact with the site in its current condition. However, based on current site conditions there is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials. There is also the potential for exposure to hazardous ground gases and soil vapours. In order to mitigate the risks posed by the potential contaminants which have been identified on the site, consideration should be given to the following mitigation measures. Development Workers, Future Maintenance Workers and Adjacent Site Users To protect against the inhalation of asbestos fibres during the site preparation works, the contractor should provide a soils risk assessment. Employees should also receive asbestos awareness training in order to avoid exposure. Any probable asbestos containing material/fibres encountered on site should assessed by a suitably qualified specialist. Site workers involved in groundworks should take the necessary measures to ensure that all works in excavations and confined spaces are carried out in accordance with best practice in order to prevent exposure to potentially hazardous gases and hydrocarbon vapours.

	Site End-Users Future site end users will not come into contact with the site in its current condition. Construction/remedial works will be carried out prior to occupation which will mitigate any risks to human health. This will include the installation of gas protection measures in accordance with the requirements of CS 2 as described within BS8485:2015+A1:2019. Due to the former use of the site, it is recommended that the protection measures should include resistance to soil vapours. It is recommended that 600mm of clean cover soils (topsoil and subsoil) is placed in future landscaped areas. Any imported topsoil and/or subsoil will need to be tested to confirm its suitability for use. In addition, any topsoil and subsoil which is to be used on site in future landscaping should not contain any manmade debris, e.g. brick, concrete or metal. The clean cover system shall include a 200mm thick basal no dig layer or geotextile warning membrane.
HazWaste Online Classification	In total 13 samples of made ground from across the site were assessed using HazWasteOnlinetm in order to determine the classification of the materials for disposal off-site. All of the samples have been classified as non-hazardous.

This sheet is intended as a summary only of the assessment of the site in relation to ground condition. It does not provide a definitive engineering analysis.

1.0 INTRODUCTION

1.1 Instruction

JPG (Leeds) Limited (JPG) has been instructed by Wordsworth Property Partnership to carry out a geoenvironmental ground investigation for a proposed commercial development on land off Whaley Road, Barugh Green, Barnsley.

1.2 Objectives

The main objective of this geoenvironmental ground investigation is to provide a geotechnical and environmental assessment and identify any potential constraints to the proposed re-development of the site.

1.3 Scope of Works

This Geoenvironmental Ground Investigation Report comprises the following.

- A description of the ground investigation works carried out, i.e. factual reporting.

A geotechnical and engineering assessment to include the following:

- An assessment of potential contaminants.
- A Tier 2 generic quantitative risk assessment (GQRA) specific to the proposed end-use using source-pathway-receptor linkages, including a hazardous ground gas risk assessment.
- An assessment of the classification of materials for disposal off-site (not including WAC testing).
- Comments on the likely requirements for remedial measures on the site to address potential engineering, contamination or hazardous ground gas issues.
- An update to the coal mining risk assessment.
- Engineering assessment to include recommendations with respect to foundations, ground floor and pavement design; and
- Presentation of the findings in a tabular non-technical summary.

1.4 Location

The site is located off Whaley Road in Barugh Green, approximately 4km to the northwest of Barnsley town centre. The approximate centre of the site is located at NGR 432136, 408281.

A site location plan is provided as Figure 1 in Appendix A.

1.5 Site Description

The site is irregular in shape and covers an area of approximately 2.22 hectares.

The landowner (Wordsworth Property Partnership) occupies the land in the north, east and south of the site. Two tenants occupy the land in the centre and west of the site.

Land use typically comprises storage, car parking and service yards with a number of temporary buildings and storage units.

The land occupied by the tenant in the western part of the site can be accessed from the southwest; the remainder of the site can be accessed from the south.

The site is traversed by several roads and tracks providing access across the site.

An electricity pylon is located in the south of the site in the centre of a car park used by Wordsworth Construction. The pylon has a gabion retaining wall at its base which will required to be maintained as part of any future development. Overhead electricity cables extend east to west, spanning the southern part of the site.

The land to the north, south and west comprises industrial land use. A railway track is located immediately to the northeast of the site with agricultural land beyond.

An aerial photograph of the site is provided as Figure 2 in Appendix A.

1.6 Development Proposals

A proposed site plan for the development has been provided. This is referenced below and a copy is provided in Appendix A.

- AJA Architects. Proposed VMU & External Works, Whaley Road, Barnsley. Proposed Site Plan. Drawing No. 7628-010 E, dated 26.06.2026.

This shows the proposed Vehicle Maintenance Unit building in the west of the site, with fuel tanks and truck/plant wash in the east of the site. The remainder of the site comprises hardstanding, mostly shown to be used for parking.

1.7 Previous Reports

The reports referenced below have been provided for review.

- Byrne Looby. Phase 1 Geo-Environmental Report. Whaley Road, Barugh Green, Barnsley. Report No. 14-K0030-000-ST-R001, dated 6 August 2021.
- Byrne Looby. Phase 2 Site Investigation Report. Whaley Road, Barugh Green, Barnsley. Report No. K0030-BLP-ENV-R-003, Dated 18 March 2022.

JPG have completed a Desk Study Report and coal mining risk assessment for the site. These are referenced below.

- JPG (Leeds) Limited. Land off Whaley Road, Barugh Green, Barnsley. Geoenvironmental Desk Study Report. Report Ref, 6709-JPG-XX-XX-RP-G-0601-S2-P02, dated 29 May 2026.
- JPG (Leeds) Limited. Land off Whaley Road, Barugh Green, Barnsley. Coal Mining Risk Assessment. Report Ref, 6709-JPG-XX-XX-RP-G-0602-S2-P02, dated 29 May 2026.

The Desk Study Report includes a summary of the previous reports referenced above.

1.8 Limitations

The general limitations to the nature of the investigation are outlined in Appendix G.

2.0 FIELDWORK

The intrusive investigation was designed to provide information on the general ground, groundwater, coal mining risk and hazardous ground gas conditions across the site.

Window sample boreholes and rotary-open hole boreholes were positioned to target the footprint of the proposed building and to provide general coverage across the site.

2.1 Fieldwork

The fieldwork was carried between 5 and 8 June 2026 and 3 and 7 August 2026. The works undertaken are summarised in Table 2.1 below.

Table 2.1 – Summary of Ground Investigation Works

Investigation Method	No. of Positions	Maximum Depth (m bgl)	Monitoring Wells	Monitoring
Dynamic Sample with rotary open hole follow on (RO101 to RO104 and RO101A).	5	19.50	3	GG, GL
Trial Pits (TP101 to TP103 and TP105, TP106 and TP108 to TP111).	9	3.60	NA	NA
Window Sample Boreholes (WS101 to WS112).	12	5.45	4	GG, GL

bgl – below ground level
GG – ground gas monitoring (methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulphide, gas flow and atmospheric pressure using a portable gas meter)
GL- groundwater level

The ground investigation was undertaken in general accordance with the techniques outlined in BS5930: 2015 Code of Practice for Site Investigations.

Exploratory hole positions are shown on the exploratory hole location plan presented in Appendix A. The exploratory hole records are provided in Appendix B.

The investigation was carried out under the full-time supervision of and engineer from JPG.

2.2 Surveying

Exploratory locations were surveyed using Leica GPS equipment (accuracy +/- 10mm). The as-built positions were subsequently transferred onto the exploratory hole location plan.

3.0 LABORATORY TESTING

3.1 Chemical Analysis

The chemical analysis suite was designed to:

- Characterise near surface contamination levels to provide an assessment of the risks associated with direct contact with soils on site in its current state.
- Provide information on the general contamination concentrations in the various strata across the site; and
- Provide information on the solubility of contaminants and therefore the potential for impact on controlled waters.

Chemical analysis was carried out for the following determinands by i2 Analytical. Chemical analysis certificates are presented in Appendix C.

Selected samples of soil were tested for the following contaminants on a total concentration basis:

Arsenic	Mercury	Copper
Cadmium	Lead	Nickel
Chromium	Zinc	Selenium
Cyanide (free)	Phenol	
Speciated Poly Aromatic Hydrocarbons (PAH)		
Sulphate (water soluble) and pH		
Asbestos Screen		
Soil Organic Matter		

In addition, selected samples were submitted for the following analysis:

- Asbestos quantification.
- Total chloride, total sulphate, total sulphide and hexavalent chromium.
- Total Petroleum Hydrocarbons Criteria Working Group (TPHCWG).
- Volatile Organic Compounds (VOC).
- Semi-Volatile Organic Compounds (SVOC).
- Calorific value.

Samples of soil leachate were analysed for the following contaminants:

Arsenic	Mercury	Copper
Cadmium	Lead	Nickel
Chromium	Zinc	Selenium
Cyanide (free)	Phenol	
Speciated Poly Aromatic Hydrocarbons (PAH)		
Sulphate and pH		

3.2 Geotechnical Testing

In-situ standard penetration tests (SPT) were performed within the window sample and rotary open-hole boreholes. The results (uncorrected) are presented on the exploratory hole logs provided in Appendix B.

Laboratory geotechnical testing was carried out by Professional Soils Laboratory (PSL) in Doncaster, in order to determine the physical characteristics of the substrata and comprised the following.

- Moisture content and Atterberg Limit tests to classify materials.
- Particle size distribution/sedimentation to confirm the field descriptions of the soils encountered.
- Compaction testing (2.5kg and 4.5kg) and particle density testing to assess the suitability of the soils for re-use on site as engineered fill.
- California Bearing Ratio (CBR) test (2.5kg unsoaked) to determine the bearing characteristics of the material.
- pH and 2:1 water extract soluble sulphate to inform the concrete design.

The geotechnical testing was carried out in accordance with BS1377:1990, "*Methods of Test for Soils for Civil Engineering Purposes*". The results of the geotechnical testing are provided in Appendix D.

4.0 GROUND AND GROUNDWATER CONDITIONS

4.1 Ground Conditions

Made Ground

Made ground was encountered across the site. Bitmac was encountered in the south and east of the site, in the areas occupied by the existing Wordsworth Construction yard and car park. Bitmac thicknesses ranged between 0.07m and 0.10m, typically 0.08m.

Across the remainder of the site (occupied by tenants), the shallow made ground typically comprised compacted hardstanding/sub-base of dark yellowish brown and greyish brown, occasionally clayey sandy gravel of mostly sandstone and limestone, but also clinker, mudstone, brick and bitmac with rare wood and coal.

The underlying made ground also comprised, dark grey and black slightly sandy gravelly clay, the gravel comprising mudstone, coal and occasional ironstone; and dark reddish brown and orangish brown slightly sandy occasionally silty gravelly clay, gravel comprising coal, mudstone, shale and siltstone.

Of note, in TP101, from 1.45m to 2.30m bgl, boulders of concrete and metal >1m in length were encountered.

The base of the made ground was proven to depths of between 0.83m and 4.70m.

It was not proven in RO101 at 2.05m, and no further penetration was possible in TP103 at 2.87m, TP105 at 3.60m, TP106 at 2.90m and WS112 at 5.45m. The thickness of the made ground typically increased toward the east of the site, with the shallowest encountered in the south and west.

Hydrocarbon contaminated groundwater and odours were encountered in the made ground in RO101 from 1.60m to 1.80m bgl and hydrocarbon odours were encountered in RO101 from 1.32m to 2.45m bgl. No odours were encountered in the underlying natural ground.

Natural Ground

The underlying natural strata typically comprised firm, medium strength to high strength, light grey slightly sandy gravelly clay. Representative of weathered Coal Measures bedrock.

Competent bedrock was proven in the four rotary boreholes at depths of between 4.20m and 7.30m bgl. This comprised dark grey mudstone which was proven to a maximum depth of 19.50m bgl.

Shallow Coal Mining

The investigation was designed to target the Dunsil coal seam (recorded to be 0.81m thick) and an unnamed Coal seam (thickness unrecorded). These were recorded to outcrop beyond the site to the west and through the western part of the site respectively; dipping towards the east.

In RO101A, RO102 and RO103, located in the west of the site, a coal seam assumed to be the Dunsil was recorded at depths of 4.40m bgl, 5.50m bgl and 3.38m bgl respectively. With seam thicknesses of 1.10m, 0.90m and 0.82m (with a 0.40m mudstone parting) recorded respectively.

RO104, located to the east of the conjectured outcrop of the unnamed coal seam recorded a 0.40m thick coal seam at 6.90m bgl and a 0.10m thick coal seam at 12.90m bgl. It was anticipated that the Dunsil coal seam would have been encountered beneath the unnamed coal seam. The borehole was extended to 19.50m, no further coal seams were encountered.

No evidence of shallow underground coal workings, such as broken ground or loss of flush, was recorded in any of the boreholes. All coal seams were proven to be intact. On this basis, the risk to the surface instability due to shallow coal mining is considered to be negligible.

4.2 In-Situ Testing

The results of the Standard Penetration Tests (SPTs), which were carried out in the window sample and rotary open-hole boreholes, have been plotted against level (m AOD) for the made ground and natural ground soils.

The results have been corrected in accordance with the energy ratio of the testing equipment. Extrapolated N values of greater than 50 have been excluded from the plot.

The plot is presented as Figure 3 in Appendix A, and the SPT data (uncorrected) is included on the exploratory hole logs provided in Appendix B.

The results show a weak correlation of increasing strength/density with depth in the natural ground. No correlation is shown in the results for the made ground.

4.3 Geotechnical Laboratory Testing

Eleven samples, comprising six of natural ground and five of made ground were submitted for geotechnical testing. The testing suite was designed to classify the materials.

Moisture Content and Atterberg Limits

All eleven samples were submitted for moisture content testing. Seven samples were submitted for moisture content and Atterberg limit testing. The results are summarised in Table 4.3.1 below.

Table 4.3.1 – Summary of Moisture Content and Atterberg Limit Testing

Material	Moisture Content (%)		Atterberg Limits Modified Plasticity Index (%)	
	No of samples	Range	No of samples	Range
MADE GROUND - Granular	3	6.7 – 15	-	-
MADE GROUND - Cohesive	2	17.8 - 26	1	25.2
NATURAL - Granular	1	11.5	1	16.3*
NATURAL - Cohesive	5	14.8 – 32.5	5	22.3 - 38.5

*test carried out on cohesive portion.

The Plasticity Index reported has been modified based on the percentage of particles smaller than 425µm. The results indicate that the natural cohesive soils can be classified as being of high plasticity with medium volume change potential.

Particle Size Distribution

Particle size distribution/sedimentation testing has been carried out on five samples. Two of granular made ground, one of cohesive made ground and two of natural cohesive soils. The tests were carried out to confirm the field description of the materials and inform the earthworks classification. The results are summarised in Table 4.3.2.

Table 4.3.2– Summary of Particle Size Distribution/Sedimentation Testing

Location	Depth (m bgl)	Material	Cobbles (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
TP101	2.50-2.60	Sandy slightly gravelly CLAY.	0	11	5	46	38
TP103	0.40-0.50	MG: Sandy GRAVEL with low cobble content.	9	66	18	7	
TP108	1.30-1.40	MG: slightly sandy gravelly CLAY.	0	38	31	18	13
TP108	2.80	Slightly gravelly slightly sandy CLAY.	0	4	8	51	37
WS101	0.20-1.40	MG: Slightly clayey sandy GRAVEL.	6	67	16	6	5

Compaction Testing

Six soil samples, comprising two of natural cohesive and four of made ground were submitted for dry density/moisture content relationship testing. The tests were carried out using a 2.5kg and a 4.5kg rammer. The results are summarised in Table 4.3.3.

4.3.3- Summary of Compaction Test Results

Exp. Hole	Depth (m bgl)	Material	Compaction Hammer	Particle Density (Mg/m³)	Natural Moisture Content (NMC)	Max. Dry Density (Mg/m3)	Optimum Moisture Content (OMC)	Suitability for Compaction and Range of Acceptable Moisture Contents*
TP101	2.50-2.60	Sandy slightly gravelly CLAY	2.5	2.70	14.8	1.76	18	17-22.5 Too dry
			4.5			1.87	15	14-19 Suitable
TP103	0.40-0.50	MG: Sandy GRAVEL with low cobble content	2.5	2.57	11.4	1.83	13	13-16.5 Too dry
			4.5			1.92	11	10.5-15.5 Suitable
TP105	1.50-1.80	MG: Slightly clayey sandy GRAVEL.	2.5	2.50	15.0	1.65	18	17.5-22.5 Too dry
			4.5			1.73	15	15-20 Suitable
TP108	1.30-1.40	MG: slightly sandy gravelly CLAY.	2.5	2.38	17.8	1.59	18	17.5-23.5 Suitable
			4.5			1.69	15	14-19 Suitable
TP108	2.80	Slightly gravelly slightly sandy CLAY.	2.5	2.64	32.5	1.43	29	29-35 Suitable
			4.5			1.51	26	25.5-31.5 Too wet
WS101	0.2-1.4	MG: Slightly clayey sandy GRAVEL.	2.5	2.43	6.7	1.89	9	9-13.5 Too dry
			4.5			2.02	7	6-10.5 Suitable

* To achieve >95% of Maximum Dry Density and <5% Air Voids.

Based on the results of the compaction testing the suitability for re-use of the natural cohesive material as engineered fill is variable. Two samples were submitted for testing, TP101 at 2.50m to 2.60m bgl was too dry under light compaction and the sample from TP108 at 2.80m was too wet under heavy compaction.

The granular made ground is shown to be suitable for re-use under heavy compaction, but too dry under light compaction.

Finally, the cohesive made ground is shown to be suitable for re-use under both light and heavy compaction.

California Bearing Ratio (CBR) Testing

California Bearing Ratio (CBR) testing has been carried out on five samples. Three of granular made ground, one of cohesive made ground and one of cohesive natural ground. Samples were compacted using a 2.5kg rammer. The results are summarised in Table 4.3.4 below.

4.3.4 - Summary of CBR Testing

Location	Depth (m bgl)	Material	CBR Value Top (%)	CBR Value Base (%)	Report CBR Average (%) *
TP103	0.40-0.50	MG: Sandy GRAVEL with low cobble content.	26.4	29.9	28.15
TP105	1.50-1.80	MG: Slightly clayey sandy GRAVEL.	23.5	21.3	22.4
TP108	1.30-1.40	MG: slightly sandy gravelly CLAY.	6.7	6.6	6.65
TP108	2.80	Slightly gravelly slightly sandy CLAY.	3.6	3.7	3.65
WS101	0.20-1.40	MG: Slightly clayey sandy GRAVEL.	14.3	15.3	14.8

* To report a CBR average, the results from each end of the sample must be within +/- 10% of the mean value.

4.4 Groundwater

During the investigation, perched groundwater was encountered in TP101, TP108, WS107 and WS112 at depths of between 1.70m and 4.80m bgl. Groundwater was encountered within the made ground and natural cohesive strata.

Monitoring wells were installed in four window sample boreholes and three rotary boreholes. The response zones in all of the wells spanned the made ground and shallow natural ground. A summary of the monitored groundwater levels is provided in Table 4.4. WS102 is excluded as this could not be relocated, assumed to be damaged. Similarly, RO102 could not be relocated after the second visit.

Table 4.4 – Summary of Monitored Groundwater Levels

Location (Depth to base m bgl)	Water level during monitoring (m bgl)					
	11/08/26	18/08/26	27/08/26	04/09/26	09/09/26	16/09/26
WS101 (2.00m)	1.64	1.75	1.80	0.60	1.06	1.25
WS105 (5.00m)	Dry	Dry	Dry	Dry	Dry	Dry
WS106 (5.00m)	4.52	4.42	4.32	3.30	4.20	4.21
RO101 (3.00m)	2.51	2.55	2.60	2.10	2.34	2.41
RO102 (4.00m)	2.53	2.55	NR	NR	NR	NR
RO103 (2.50m)	1.53	Dry	Dry	Flooded	Dry	Dry

*NR – Not Recorded

Groundwater levels generally remained relatively consistent in all boreholes throughout the monitoring period. However, on the fourth visit, the well installed in RO103 was flooded, this was dry again on the following visit.

It should be noted that the groundwater conditions recorded are based on observations made at the time of the monitoring visit. Groundwater levels will vary owing to seasonal and weather-related effects.

4.5 Ground Gas

Gas monitoring has been undertaken on six occasions. The works were carried out using a portable gas meter in accordance with the standard JPG methodology and included measurements of methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulphide, gas flows and atmospheric pressure. The results of the gas monitoring are provided in Appendix E and discussed in Section 6.5 of this report.

5.0 GEOTECHNICAL AND ENGINEERING ASSESSMENT

5.1 Development Proposals

A proposed site plan for the development has been provided. This is referenced below and a copy is provided in Appendix A.

- AJA Architects. Proposed VMU & External Works, Whaley Road, Barnsley. Proposed Site Plan. Drawing No. 7628-010 E, dated 26.06.2026.

This shows the proposed Vehicle Maintenance Unit building in the west of the site, with fuel tanks and truck/plant wash in the east of the site. The remainder of the site comprises hardstanding, mostly shown to be used for parking.

5.2 Coal Mining

JPG have carried out a Coal Mining Risk Assessment for the site, this report is referenced in Section 1.8 of this report.

The assessment concluded that the site is at risk of ground instability due to the potential presence of shallow mine workings in the Dunsil seam and an unnamed seam. The Dunsil seam is recorded to outcrop immediately west of the site and the unnamed seam is recorded to outcrops through the approximate centre of the site. Both are oriented southwest to northeast and dip towards the southeast.

The investigation was designed to target the Dunsil coal seam (recorded to be 0.81m thick) and an unnamed Coal seam (thickness unrecorded).

In RO101A, RO102 and RO103, located in the west of the site, a coal seam assumed to be the Dunsil was recorded at depths of 4.40m bgl, 5.50m bgl and 3.38m bgl respectively. With seam thicknesses of 1.10m, 0.90m and 0.82m (with a 0.40m mudstone parting) recorded respectively.

RO104, located to the east of the conjectured outcrop of the unnamed coal seam recorded a 0.40m thick coal seam at 6.90m bgl and a 0.10m thick coal seam at 12.90m bgl. It was anticipated that the Dunsil coal seam would have been encountered beneath the unnamed coal seam. The borehole was extended to 19.50m, no further coal seams were encountered.

No evidence of shallow underground coal workings, such as broken ground or loss of flush, was recorded in any of the boreholes. All coal seams were proven to be intact.

On this basis, the risk to the surface instability due to shallow coal mining is considered to be negligible.

No mine entries are recorded within 20m of the site. The presence of unrecorded mine entries is considered very low. Vigilance should be maintained during any earthworks or excavations. Should a possible mine entry be encountered, advice should be sought from a suitably qualified engineer.

Based on the thickness of the made ground and anticipated minimal cut and fill. It is considered highly unlikely that any coal outcrops will be encountered during the development.

5.3 Foundations and Ground Floor Slab

The foundation solution will be governed by the thickness and composition of the made ground and the strength and settlement characteristics of the underlying natural strata.

The depth to the base of the made ground beneath the proposed building footprint ranged between 1.20m and 2.70m bgl.

Hydrocarbon contaminated groundwater and odours were encountered in the made ground in RO101 from 1.60m to 1.80m bgl and hydrocarbon odours were encountered in RO101 from 1.32m to 2.45m bgl. No odours were encountered in the underlying natural ground.

Prior to works commencing on site, it is proposed to excavate and remove any hydrocarbon impacted materials within and immediately adjacent to the footprint of the proposed unit and dispose of off-site to a suitably licenced landfill facility.

The underlying natural strata typically comprises firm and stiff gravelly clay, this was confirmed to depths of between 3.00m and 5.00m bgl, This was in turn underlain by slightly sandy clayey gravel and bedrock comprising interbedded coal seams and mudstone.

The made ground in its current condition is unsuitable for the support of structural loads due to variations in material properties.

Where the underlying natural ground comprises stiff high strength cohesive deposits an allowable bearing capacity of 150kN/m^2 will be available for settlements of less than 25mm.

If higher allowable bearing pressures are required, the foundation should be deepened into the underlying granular soils or bedrock strata.

The allowable bearing capacity is a function of the foundation configuration, depth, and the ability of the structure to tolerate such movements and should, therefore, be validated during detailed design.

In order to support the ground bearing floor slab it is recommended that the made ground beneath, and up to 3m beyond the footprint of the proposed unit is excavated to expose natural ground.

The formation level should be proof-rolled and inspected. Any soft, loose or oversized material should be removed and replaced with suitably compacted granular material.

This material should then be replaced with engineered fill, placed and compacted in accordance with an earthworks specification, designed to achieve the specified allowable bearing capacity and the limits on settlement for a ground-bearing floor slab.

Consideration could be given to the re-use of arisings. This will require the materials to be processed, i.e. screened and crushed, prior to re-use, with unsuitable materials removed.

Compaction testing has been carried out on this material (WS101, 0.20m to 1.40m bgl). Based on the results using the heavier rammer, the material submitted for testing is considered to be suitable for re-use.

Samples of the processed material will be required to be submitted for testing to confirm suitability.

5.4 Earthworks

Across most of the site, minimal earthworks will be required in order to create a level platform for the proposed development. It is anticipated that groundworks will include the breaking out of any existing hardstanding, removal of any unsuitable soils from below the footprint and the reuse of on-site materials for engineered fill as required.

As stated in Section 5.3, beneath and up to 3m beyond the building footprint, a reduced dig is proposed to the base of the made ground. Unsuitable soils/materials will be removed, and oversize will be processed as required. Subject to suitability, this material could then be replaced beneath the building footprint, placed and compacted in accordance with a suitable earthworks specification.

Unsuitable soils/materials will be removed, and oversize will be processed as required, before being re-used as engineered fill.

The results of laboratory compaction testing indicate the cohesive and granular made ground on site is generally suitable for compaction using the 4.5kg rammer. However, the results indicate that the granular made ground may be too dry under light compaction (2.5kg rammer).

Proper selection and control will be required as part of the earthworks. The materials should not be allowed to deteriorate during excavation and compaction and must be sufficiently protected from traffic after placement.

Any earthworks should be carried out in accordance with the National Highways Manual of Contract Documents for Highway Works, Geotechnics Construction, CC 601 Earthworks (formerly Series 600), Version E/1.0.0.

5.5 Excavations

It is considered likely that if excavations were left unsupported then over time, some collapse would occur.

Good working practice with respect to drainage of excavations and formations will be required to protect materials. Any excavation for structural foundations must be covered without delay with blinding concrete to prevent softening by water.

The requirement for temporary support of excavations should be assessed on an individual basis. A competent person must inspect excavation sides at the start of the working shift and at other specified times in accordance with HSE guidance. No works shall take place until the excavation is safe.

5.6 Obstructions & Existing Services

Based on the findings of the ground investigation and known site history, it is likely that significant obstructions and services are present on the site.

It is recommended that an allowance is made for the removal of hardstanding and obstructions where necessary.

Existing services recorded on site will require locating, protecting or re-routing during site works.

5.7 Chemical Attack on Buried Concrete

Laboratory testing has been undertaken on samples of the made ground and natural ground to determine the water-soluble sulphate content and acidity and hence the concrete class required for buried concrete.

The results have been assessed in accordance with the requirements for a brownfield site and mobile groundwater conditions.

In total, 16 samples of made ground were tested. Laboratory testing recorded water-soluble sulphate contents ranging between 17.1mg/l and 2,960mg/l and pH values of between 6.5 and 10.6.

Three samples of natural ground were tested. Laboratory testing reported water-soluble sulphate contents of 720mg/l, 1,200mg/l and 2,580mg/l and pH values of 4.3, 5.1 and 8.9.

Foundations will come into contact with the made ground and natural strata.

Based on results of the laboratory testing, Design Sulphate (DS) Class DS-3 and Aggressive Chemical Environment for Concrete (ACEC) Class AC-5 will be appropriate for buried concrete.

This assessment has been made in accordance with BRE Special Digest 1:2005, entitled '*Concrete in Aggressive Ground*'.

6.0 ENVIRONMENTAL RISK ASSESSMENT

6.1 Introduction

The statutory definition of contaminated land is given in the Environmental Protection Act, Part IIA, Section 78, 1990, which was introduced by the Environment Act, Section 57, Department of Environment, 1995 and is defined as:

Land, which appears to the Local Authority in whose area it is situated, to be in such a condition, by reason of substances in, on or under the land that:

- Significant harm is being caused or there is a significant possibility of such harm being caused (where harm is defined as harm to health of living organisms or other interference with the ecological systems of which they form a part and, in the case of man, includes harm to his property); and/or
- Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused (by the land).

The presence of contaminated materials on a site is generally only of concern if an actual or potentially unacceptable risk exists. The potential for harm to occur requires three conditions to be satisfied:

- Sources – The presence of substances (potential contaminants/pollutants), in or under the ground, that may cause harm or pollution.
- Receptors - The presence of a receptor which may be harmed, e.g. the water environment or humans, buildings, fauna and flora; and
- Pathway - The existence of a linkage between the Source and the Receptor.

In summary, the presence of measurable concentrations of contaminants within the ground and subsurface environment does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and an unacceptable risk of harm to available receptors.

The nature and importance of both pathways and receptors, which are relevant to a particular site, will vary according to the sensitivity of the intended end use of the site and the sites characteristics and environmental setting.

Legislation and guidance on the assessment of contaminated sites acknowledges the need for a tiered risk-based approach. This is set out in the Environment Agency's manual *Land contamination: risk management* (published in June 2019) and comprises the following stages of risk assessment:

Tier 1: Preliminary risk assessment (PRA)	As part of this assessment, the overall site objectives are defined. Current and historical information about the site and the potential contaminants expected to be present are assessed and an outline conceptual model (CM) is developed. The risks are assessed qualitatively, and the findings reported in the PRA (or desk study). The report recommends what further works would be required in order to assess whether the site is suitable for its proposed use.
Tier 2: Generic quantitative risk assessment (GQRA)	The GQRA uses Generic Assessment Criteria and a standard set of generic assumptions based on specific end uses in order to assess the risks to receptors. It includes the collection of more detailed information including laboratory analysis of soil and water samples in order to inform and assess the risks.
Tier 3: Detailed quantitative risk assessment (DQRA)	If pollutant linkages are confirmed as part of the GQRA, these are known as relevant pollutant linkages (RPLs) and further detailed assessment is required. At this tier, detailed site-specific information is collected to estimate the risk or to develop site-specific assessment criteria (SSAC). This may include collecting information about the receptor.

A Tier 1 Assessment has been prepared for the site by Terra Firma and reported as Geotechnical, Geoenvironmental & Coal Mining Risk Assessment Report reference CA-24-350, dated September 2024.

This environmental risk assessment constitutes a Tier 2 Generic Quantitative Risk Assessment (GQRA) and has been carried out in accordance with the Environment Agency's '*Land Contamination: Risk Management*'.

6.2 Assessment Approach

The results of the chemical analysis for each determinand will be assessed against their respective GAC.

These include the LQM/CIEH Suitable 4 Use Levels (S4UL) and Category 4 Screening Levels (C4SL), which were developed using the UK Contaminated Land Exposure Assessment (CLEA) Framework Documents and Software.

The CLEA model uses generic assumptions about the fate and transport of chemicals in the environment and a generic conceptual model (referred to as generic land use scenarios) for site conditions and human behaviour, to estimate child and adult exposures to soil contaminants for those living, working and/or playing on contaminated sites over long time periods.

The S4UL and C4SL screening levels have been derived for a variety of land uses including residential, allotments, commercial and public open space.

In the absence of S4UL and C4SL for potential contaminants, appropriate alternative GAC will be used.

Controlled Waters

Based on the environmental setting of the site, the soil leachate chemical testing results have been compared against Generic Assessment Criteria (GAC) threshold values based on the Water Supply (Water Quality) Regulations (Drinking Water Standards) and the Water Framework Directive threshold values.

An exceedance of a threshold value does not directly imply there is an unacceptable risk, however, it indicates that the exceedance should be further assessed via the qualitative source-pathway-receptor approach.

6.3 Evaluation of Soils Analysis

Initially, the results of the chemical analysis for each potential contaminant will be compared directly with their respective GAC. Based on the current development proposals for the site, the results of the chemical analysis for the soil samples have been assessed against GAC for a commercial end use.

If any significant exceedances of the GAC are noted, then the results will be subject to statistical analysis, if appropriate. An outline of the methodology of the statistical analysis is presented in Appendix C.

A summary of the results of the chemical analysis is provided below.

Human Health

Twelve samples of made ground and one sample of natural ground were submitted for chemical analysis for a standard suite of determinands.

The results have been compared directly with their respective GAC and are summarised in Table 6.3.

Table 6.3 – Summary of Chemical Analysis Results

Determinand	GAC for Commercial End Use (mg/kg)	Sample Mean (mg/kg)	Range of Results (mg/kg)	Do any samples exceed GAC?
Metals and Metalloids				
Arsenic	640(1)	54.28	8.1 - 140	No
Cadmium	190(1)	2.85	<0.2 – 13	No
Chromium	8600(1)	58.54	16 - 240	No
Copper	68,000(1)	56.38	22 - 80	No
Lead	2,330(2)	75.23	30 - 230	No
Mercury (Inorganic)	1,100 (1)	0.62	<0.3 – 1.2	No
Nickel	980(1)	25.92	18 – 35	No
Selenium	12,000(1)	2.60	<1.0 – 4	No
Zinc	730,000(1)	213.08	60 - 610	No
Phenols				
Total Phenols	440*(1)	All <1.0	All <1.0	No
PAHs				
Naphthalene	190*(1)	5.82	0.32 – 33	No
Acenaphthylene	83,000*(1)	0.46	<0.05 – 1.5	No
Acenaphthene	84,000*(1)	1.59	0.07 – 9.50	No
Fluorene	63,000*(1)	2.71	0.12 – 11	No
Phenanthrene	22,000*(1)	11.26	0.52 – 69	No
Anthracene	520,000*(1)	3.71	0.19 – 17	No
Fluoranthene	23,000*(1)	17.55	1 – 110	No
Pyrene	54,000*(1)	15.49	0.94 – 98	No
Benz(a)anthracene	170*(1)	7.85	0.45 – 39	No
Chrysene	350*(1)	7.27	0.44 – 36	No
Benzo(b)fluoranthene	44*(1)	9.52	0.52 – 48	No
Benzo(k)fluoranthene	1,200*(1)	4.01	0.27 – 20	No
Benzo(a)pyrene	35*(1)	8.01	0.40 – 39	No
Indeno(123-cd) pyrene	500*(1)	3.80	0.22 – 16	No
Dibenzo(ah)anthracene	3.5*(1)	0.87	0.08 – 4.6	No
Benzo(ghi)perylene	3,900*(1)	4.24	0.23 – 18	No
Others				
Cyanide (free)	20(2)	All <1.0	<1.0	No

(1) S4UL * BASED ON 1% SOM, (2) C4SL

All of the samples were submitted for an asbestos screen.

Asbestos fibres comprising amosite was identified in three samples, and chrysotile was identified in one of these samples. Asbestos cement containing chrysotile was identified in a single sample at concentration.

In order to more accurately assess the percentage of asbestos by mass, the samples were submitted for gravimetric analysis in order to calculate the total mass (%) of asbestos.

The Control of Asbestos Regulations (2012) state the following with respect to working with asbestos: '*worker exposure must be below the airborne exposure limit (control limit) of 0.1 fibres per cm³. A control limit is a maximum concentration of asbestos fibres in the air (averaged over any continuous four-hour period) that must not be exceeded*'. In addition, '*short term exposure must not exceed 0.6 fibres per cm³ over any continuous ten-minute period*'.

There is no UK GAC for asbestos in soils, therefore, a threshold concentration of 0.001% v/v has been adopted by JPG. Concentrations of asbestos fibres above this threshold are considered to have the potential to become airborne.

The total mass of asbestos fibres recorded was <0.001%. Based on this result, it is considered unlikely that there is the potential for the airborne exposure limit to be exceeded.

However, the concentration of asbestos fibres in the sample of asbestos cement was 0.217%. Although not identified in the sample, there is the possibility that loose fibres may be associated with this material.

Two samples were submitted for petroleum hydrocarbon analysis (TPHCWG). None of the aliphatic or aromatic hydrocarbon fractions were recorded at concentrations in excess of their respective threshold concentrations.

Selected samples were submitted for volatile and semi volatile organic compounds (VOC/SVOC). No significantly elevated concentrations of VOC or SVOC were recorded.

None of other determinands were recorded at concentrations in excess of their respective GAC.

6.4 Evaluation of Controlled Waters Analysis

Three samples of made ground were submitted for leachability analysis. The results for each determinand were compared directly with their respective GAC. The results are summarised in Table 6.4 below.

Table 6.4 – Summary of Leachability Analysis

Determinand	GAC (µg/l)	TP101 0.50m	TP103 0.20m	TP105 0.60m	TP108 0.80m	WS101 0.95m	WS105 0.30m
Metals and Metalloids							
Arsenic	10 (1)	2.9	2.5	1.2	6.4	3.4	1
Cadmium	5 (1)	< 0.08	< 0.08	0.15	< 0.08	< 0.08	< 0.08
Chromium	50 (1)	0.9	4	< 0.4	0.9	< 0.4	< 0.4
Copper	2000 (1)	17	15	< 0.7	11	1.6	1.7
Lead	10 (1)	< 1.0	3.2	< 1.0	< 1.0	< 1.0	1.9
Mercury	1 (1)	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Nickel	20 (1)	7.1	1.6	3.9	0.9	0.7	0.6
Selenium	10 (1)	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Zinc	5000 (1)*	140	12	4.2	2.1	4.3	11
Inorganics							
Cyanide Free	50 (1)	< 1	< 1	< 1	< 1	< 1	< 1
Sulphate as SO4	250,000(1)	228	19.8	984	37.5	543	761
pH	6.5-9.5(1)	7.4	9.6	6.5	7.6	7.4	7.1
Poly Aromatic Hydrocarbons							
Naphthalene	4.24 (2)	< 0.01	3.4	0.73	< 0.01	< 0.01	< 0.01
Anthracene	0.193 (2)	< 0.01	0.08	< 0.01	0.06	< 0.01	< 0.01
Fluoranthene	0.0122 (2)	0.28	0.17	< 0.01	0.45	0.02	< 0.01
Benzo (a) pyrene	0.01 (1)	< 0.01	< 0.01	< 0.01	0.35	< 0.01	< 0.01
Sum of: Benzo (b) fluoranthene, Benzo (k) fluoranthene, Indeno (1,2,3-c,d) pyrene, and; Benzo (ghi) perylene	0.1 (1)	< 0.04	< 0.04	< 0.04	0.97	< 0.04	< 0.04
Phenols							
Phenol	14.9 (2)	< 1.0	1.2	1.3	< 1.0	< 1.0	< 1.0

(1) Water Supply (Water Quality) Regulations *Historical 1989 Threshold Value.
Water Framework Directive 2015, Surface Water, Maximum Threshold Value.

Slightly elevated concentrations of potentially leachable PAH species were recorded four of the six samples submitted for chemical analysis. One of these samples also recorded a slightly elevated pH value.

None of other determinands were recorded at concentrations in excess of their respective GAC.

6.5 Evaluation of Hazardous Gases

Based on the desk study information, i.e. there is the potential for shallow coal workings below and adjacent to the site and made ground associated with historical land uses, it was considered that there was the potential for the presence of hazardous ground gases beneath the site.

In order to assess the potential risks posed to the proposed development from hazardous ground gases, monitoring wells were installed in three rotary boreholes and four window sample boreholes.

WS101, WS102, RO101A, RO102 and RO103 are located in the west of the site at the location of the proposed unit. WS105 and WS106 were located in the centre of the site at the location of a refuelling station.

Hazardous ground gas monitoring has been undertaken on six occasions. The works were carried out using a portable infra-red gas meter in accordance with the standard JPG methodology and included the measurement of methane, carbon dioxide, oxygen, carbon monoxide, hydrogen sulphide, gas flows and atmospheric pressure.

Prior to the first monitoring visit, WS102 was accidentally buried by a tenant on the site and could not be relocated. Following the second visit, RO102 was accidentally damaged by a vehicle, not further monitoring was possible at this location.

The results of the gas monitoring are presented on the site visit record sheets in Appendix E.

- Methane was recorded at a peak and steady concentration of 2% v/v in RO102 during the first visit. No other concentrations of methane were recorded.
- At the location of the proposed unit, a maximum steady concentration of carbon dioxide of 25.5% v/v was recorded in RO102. Steady concentrations in excess of 5% v/v were recorded in RO102 and RO103.
- At the location of the proposed refuelling station, steady concentration in excess of 5% v/v were recorded in both boreholes during all visits, concentrations ranged between 16% v/v and 22.5% v/v.
- Oxygen concentrations of <16% v/v were recorded in all of the boreholes during most visits.
- Peak and steady positive flows ranging between 0.1 l/h and 0.3 l/h have been recorded.

Barometric pressures during the monitoring period ranged between 997mB and 1016mB. Three of the visits were carried out when the regional atmospheric pressure was falling and one three occasions during periods of regionally falling and rising atmospheric pressures.

6.6 Requirements for Gas Protection Measures

The results of the hazardous ground gas monitoring have been assessed in accordance with '*BS8485:2015+A1:2019 - Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.*'

Based on the results of the monitoring, Gas Screening Values (GSV) of 0.006 l/hr and 0.0765 l/hr have been calculated for methane and carbon dioxide respectively.

Based on the calculated gas screening values, it is recommended that Characteristic Situation (CS) 2 is adopted for the site.

Gas protection measures in new buildings should be specified in accordance with BS8485:2015+A1:2019.

6.7 Radon Risks

A site-specific radon report has been obtained from the BGS based on the proposed building outline.

The proposed building footprint is in a radon affected area with between 1% and 3% of properties above the action level. In accordance with the Building Research Establishment (BRE) publication BR211, no radon protective measures are required for new properties constructed on the site.

A copy of the BGS Radon Report is provided in Appendix E.

6.8 Summary of Potential Sources, Pathways and Receptors

Potential Sources

Based on the results of the chemical analysis and hazardous ground gas monitoring, the following potential sources of contamination are considered to be present on the site.

- Asbestos fibres/cement in the made ground.
- Slightly elevated concentrations of leachable PAH species in the made ground.
- Elevated concentrations of hazardous ground gases (carbon dioxide) and potential hydrocarbon vapours.

Potential Pathways

- Inhalation of asbestos fibres and hazardous ground gases/potential hydrocarbon vapours.
- Leaching/migration of potential contaminants from soil into surface water (drain) on the site and the underlying Secondary A aquifer, via groundwater and surface water flow.

Based on the available information and proposed development of the site for a commercial end use, the following potential exposure pathways will require consideration, both during the development works and on completion of the construction:

Potential Receptors

The potential receptors are considered to be:

- Development workers and future maintenance workers involved in excavations, e.g. foundations or where services are being installed or repaired following development.
- Adjacent site users, e.g. employees.
- Site end users, e.g. employees.
- Controlled waters, i.e. surface water drain and the underlying Secondary A aquifer.
- Buildings and services.
- Landscaped areas.

6.9 Source – Pathway – Receptor Linkages

Based on the above sources, pathways and receptors, the following linkage assessments have been considered. This assessment is based on current site conditions (unless stated).

Development Workers and Future Maintenance Workers

Based on the potential sources of contamination which have been identified on the site, there is a risk to development workers and future maintenance workers involved in groundworks at the site.

There is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials. There is also the potential for exposure to hazardous ground gases and soil vapours.

Adjacent Site Users

Based on the potential sources of contamination which have been identified on the site, there is a risk to adjacent site users.

There is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials.

Site End-Users

It is unlikely that future site end users will come into contact with the site in its current condition. However, based on current site conditions there is the potential for exposure to made ground soils containing asbestos fibres and asbestos containing materials. There is also the potential for exposure to hazardous ground gases and soil vapours.

Controlled Waters

Based on the site in its current condition, there is potential for exposure to slightly elevated concentrations of leachable PAH species.

An assessment of risk to controlled waters should consider the environmental setting of the site, which is summarised below:

- The Water Supply (Water Quality) Regulations, from which the majority of the GAC for leachate have been derived is considered to be conservative when applied to an assessment of controlled waters. They are based on the concentrations of potential contaminants at the point of use, i.e. consumers' taps.
- It is proposed to re-develop the site for a commercial end-use with limited areas of soft landscaping. As such, most of the site will be impermeable. This will reduce infiltration and limit the potential for the generation of leachate and mobilisation of potential contaminants.
- The shallow natural ground typically comprises cohesive weathered coal measures strata. The impermeable nature of this material will limit the downward migration of potential contaminants into the underlying Secondary A Aquifer.
- The site does not lie within 500m of an Environment Agency Groundwater Source Protection Zone.

Based on the considerations outlined above, i.e. conservative threshold values, the presence of underlying shallow cohesive material and large areas of impermeable hardstanding. It is concluded that there are no plausible linkages to controlled waters receptors. Therefore, the risk to controlled waters is considered to be negligible.

Buildings and Services

Recommendations with respect to the chemical attack on buried concrete are given in Section 5.7.

Based on the concentrations of potential contaminants within the made ground, there may be a requirement for upgrading any proposed new water service pipes. However, confirmation should be sought from the utilities' provider.

Planting in Future Landscaped Areas

A suitable thickness of clean growing medium will be required in landscaped areas in order to promote plant growth.

6.10 Mitigation Measures

In order to mitigate the risks posed by the potential contaminants which have been identified on the site, consideration should be given to the following mitigation measures.

Development Workers, Future Maintenance Workers and Adjacent Site Users

All employers involved in works at the site should produce appropriate method statements and risk assessments (RAMS) for their activities, to which all employees should comply. Reference should also be made to the appropriate HSE and other guidance for working on contaminated and potentially contaminated sites.

The RAMS should comply with all relevant statutory guidance, non-statutory guidance and industry best practice for construction, waste management, environmental protection, welfare and for working on potentially contaminated sites.

As a minimum, it would be expected that site workers involved in groundworks would use appropriate PPE, i.e. overalls and gloves. Appropriate health and safety measures, e.g. washing hands prior to eating or drinking, should also be enforced.

To protect against the inhalation of asbestos fibres during the site preparation works, the contractor should provide a soils risk assessment. Employees should also receive asbestos awareness training in order to avoid exposure. Any probable asbestos containing material/fibres encountered on site should assessed by a suitably qualified specialist.

- In order to inform the soils risk assessment, air monitoring for asbestos fibres may be required.
- Any monitoring and analysis of asbestos in air should be carried out in accordance with the Control of Asbestos Regulations (CAR) 2012 and by a suitably accredited organisation (ISO/IEC 17025:2005).
- If air monitoring is to be carried out as the main source of air concentration data for exposure estimation, then some monitoring should be carried out during periods of dry weather, i.e. when dust is being generated.
- The risk assessment and recommendations for mitigation will need to be completed by a suitably qualified specialist.
- Site workers involved in groundworks should take the necessary measures to ensure that all works in excavations and confined spaces are carried out in accordance with best practice in order to prevent exposure to potentially hazardous gases and hydrocarbon vapours.

During development of the site, all workers should remain vigilant to the possible risk of encountering areas of potentially contaminated material. Should potentially contaminated material be encountered, site management should be informed. Further testing may then be required to assess the risk to health and safety of the site workers and the environment.

Site End-Users

Future site end users will not come into contact with the site in its current condition. Construction/remedial works will be carried out prior to occupation which will mitigate any risks to human health.

This will include the installation of gas protection measures in accordance with the requirements of CS 2 as described within BS8485:2015+A1:2019. Due to the former use of the site, it is recommended that the protection measures should include resistance to soil vapours.

It is recommended that 600mm of clean cover soils (topsoil and subsoil) is placed in future landscaped areas. Any imported topsoil and/or subsoil will need to be tested to confirm its suitability for use. In addition, any topsoil and subsoil which is to be used on site in future landscaping should not contain any manmade debris, e.g. brick, concrete or metal. The clean cover system shall include a 200mm thick basal no dig layer or geotextile warning membrane.

6.11 Conceptual Site Model & Risk Rating

The preliminary conceptual site model (CSM) has been updated following completion of this ground investigation and assessment of the results of the chemical analysis and hazardous ground gas monitoring.

The revised CSM has been developed for a future industrial end-use. This summarises the understanding of surface and sub-surface features, potential contaminant sources, transport pathways and receptors and attributes a risk rating and mitigation measures for each pollutant linkage identified.

The updated conceptual site model is summarised in Table 6.11 below.

Table 6.11 Updated Conceptual Model

Source	Pathway	Receptor	Risk Rating	Comments
Asbestos fibres/cement in the made ground.	Inhalation.	Development workers future maintenance workers. Adjacent Site Users.	Moderate	A soils risk assessment should be undertaken. As part of the assessment, air monitoring may be required. Any monitoring and analysis of asbestos in air should be carried out in accordance with the Control of Asbestos Regulations (CAR) 2012 and by a suitably accredited organisation (ISO/IEC 17025:2005). The risk assessment and recommendations for mitigation will need to be completed by a suitably qualified specialist.
		Site End-Users.	Low to Moderate	Clean cover system required in future landscaping.
Elevated concentrations of hazardous ground gases (carbon dioxide) and potential hydrocarbon vapours.	Inhalation.	Development Workers. Future Maintenance Workers. Future Site Users. e.g. Employees.	Low to Moderate	Appropriate health and safety procedures to be in place during the construction phase of the development. Based on the results of hazardous ground gas monitoring, gas protection measures will be required to be installed in new buildings in accordance with CS2 (as described in BS8485:2015+A1:2019). Any ground gas protection measures should also provide protection against the ingress of hydrocarbon vapours.

6.12 Risk Classification

Based on the updated conceptual site model, the site should be considered to be moderate risk with respect to soils and hazardous ground gases.

6.13 Classification of Materials for Disposal Off-Site

In total 13 samples of made ground from across the site were assessed using HazWasteOnline*tm* in order to determine the classification of the materials for disposal off-site.

All of the samples have been classified as non-hazardous.

Details of the classification generated by HazWasteOnline^{tm} is provided in Appendix C.

Appendix A Figures and Drawings

Figure 1 – Site Location Plan	
Site	Land off Whaley Road, Barugh Green, Barnsley
Client	Wordsworth Property Partnership
Job Number	6709
Scale	NTS

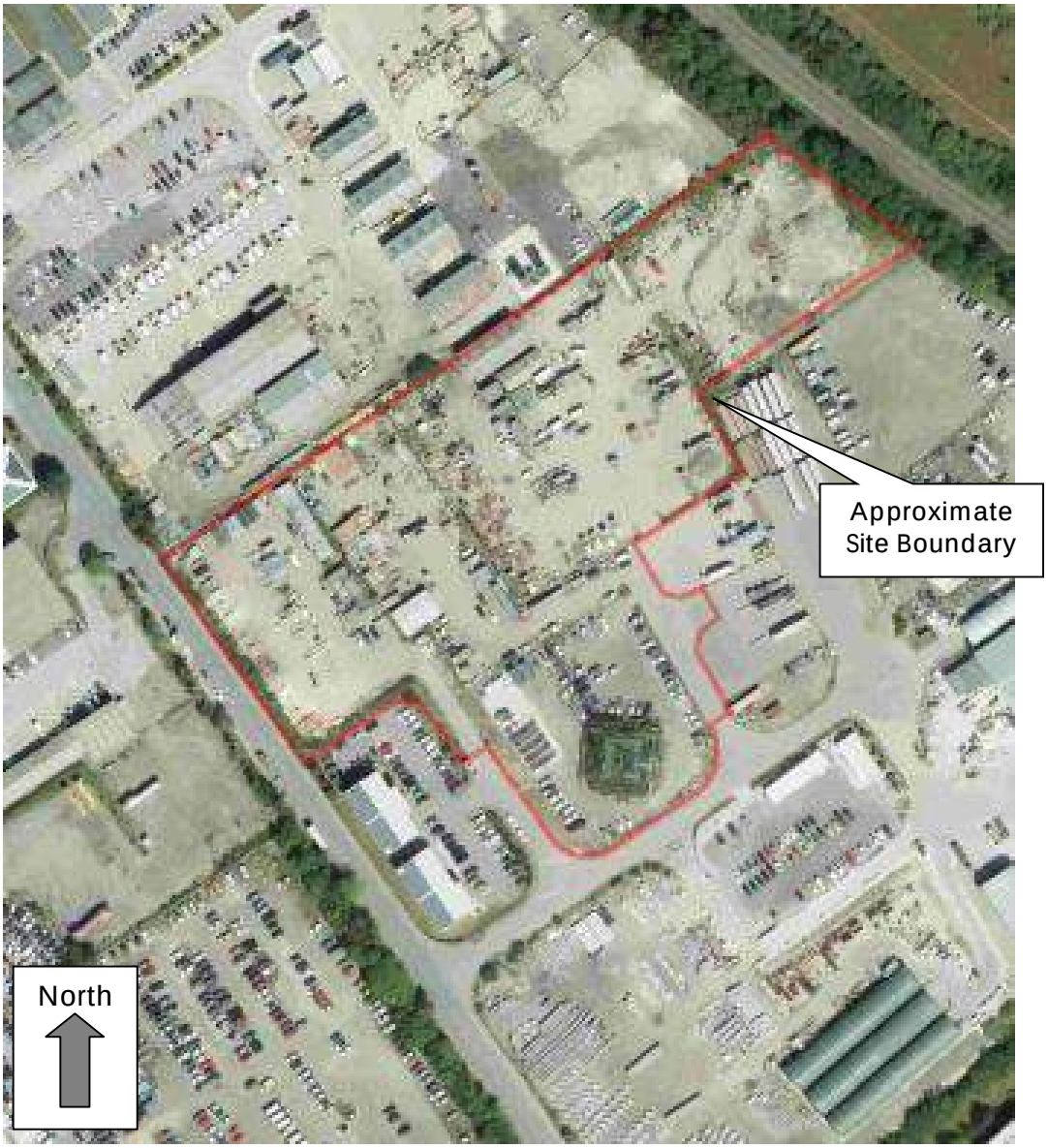
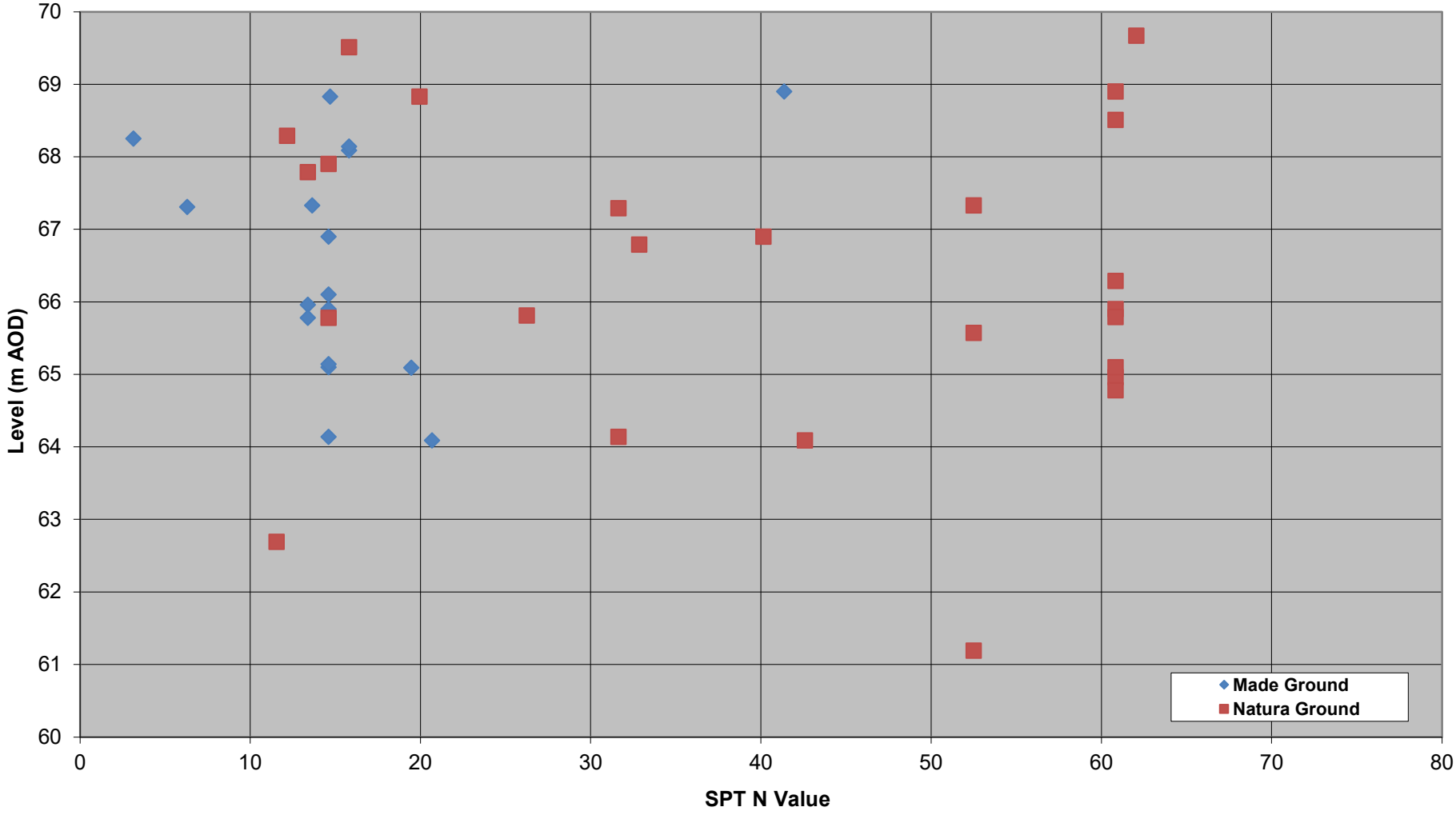


Figure 2 – Aerial Photograph	
Site	Land off Whaley Road, Barugh Green, Barnsley
Client	Wordsworth Property Partnership
Job Number	6709
Scale	NTS

Figure 3: SPT N Value vs Level (m AOD)



notes

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0m 25m 50m
Scale 1:500

Schedule of Areas
(GIA)

VMU	13,100 sq.ft.	1,217 sq.m.
Single Storey Offices	2,030 sq.ft.	189 sq.m.
(Area includes blockwork perimeter)		
Total	15,130 sq.ft.	1,406 sq.m.
Car Parking (inc. 2No. EV Spaces)	20 spaces	
Ancilliary Parking (Indicative only)	114 spaces	
Vehicle Parking (16x4m spaces) Total	50 spaces	
Planning Boundary	5.48 acres	2.22 ha.

no.	date	revision	by
E	16.09.26	Vehicle washes relocated and fuelling islands updated	Zi
D	30.07.26	Minor update	Zi
C	30.07.26	Minor update	Zi
B	27.07.26	Landscaping updated	Zi
A	30.06.26	Red line updated	Zi

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client

Wordsworth Property Ltd

project

Proposed VMU
& External Works
Whaley Road
Barnsley

drawing

Proposed Site Plan

scale	1:500 @ A1	drawn	Zi
checked	spp	date	26-06-2026

no

7628-010 E

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DO NOT SCALE (A1)

NOTES

JPG INVESTIGATION 2026

- RO — ROTARY OPEN HOLE BOREHOLE
- WS — WINDOW SAMPLE BOREHOLE
- TP — TRIAL PIT

BYRNE LOOBY INVESTIGATION 2021

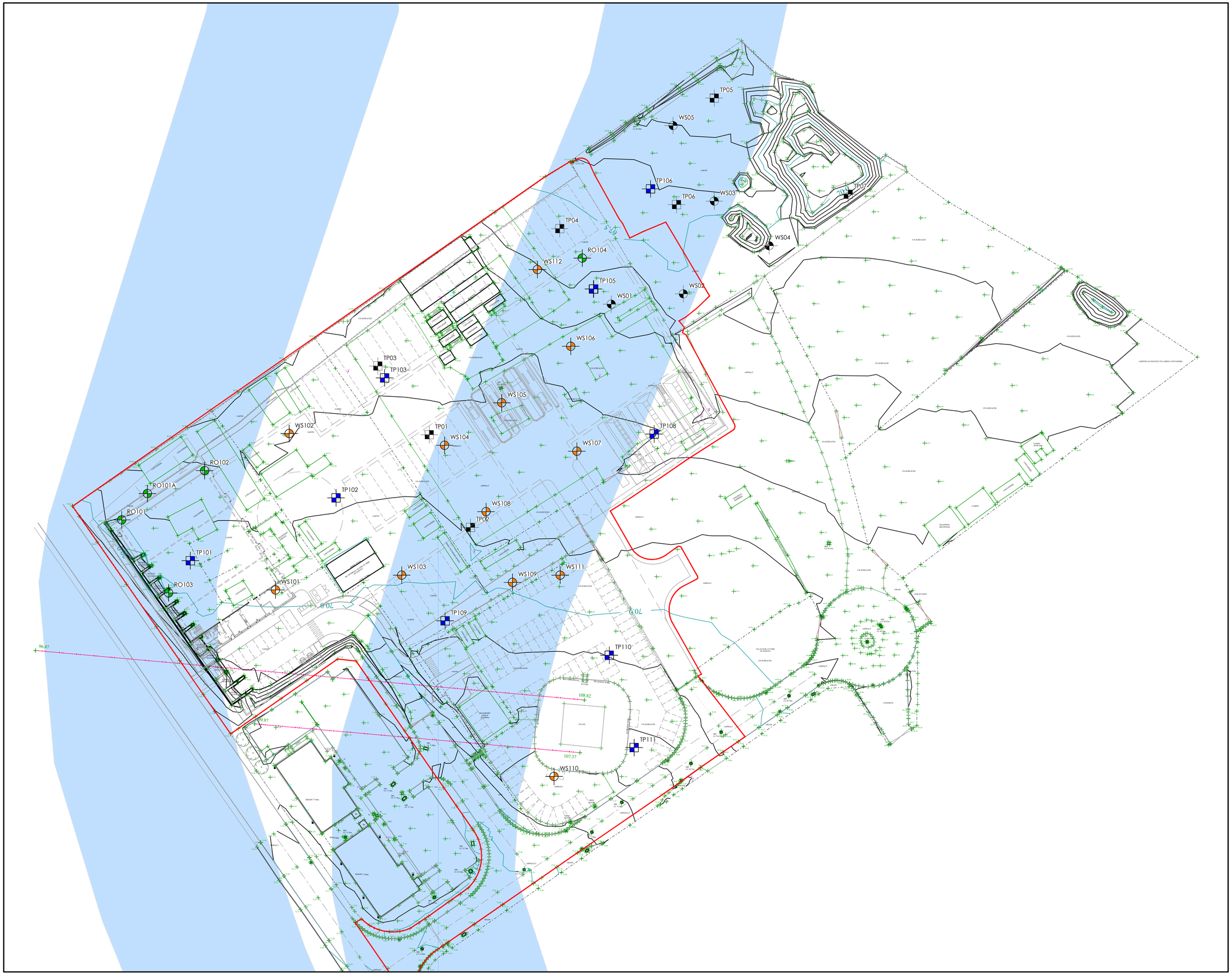
- WS — WINDOW SAMPLE BOREHOLE
- TP — TRIAL PIT

LEGEND

- APPROXIMATE EXTENT OF MINING REMEDIATION AUTHORITY HIGH RISK DEVELOPMENT AREA (ASSOCIATED WITH COAL SEAM OUTCROPS)

0m 6.25m 12.5m

SCALE 1:250



REV	DESCRIPTION	DATE	CHK	BY
P05	UPDATED LOCATIONS	06.10.26	RJM	EJS
P04	ROTARY AS BUILT	03.09.26	RJM	EJS
P03	ASBUILT SETTING OUT LOCATIONS	02.06.26	RJM	EJS
P02	UPDATED POSITIONS	22.05.26	RJM	EJS
P01	PRELIMINARY ISSUE	20.04.26	RJM	EJS

Project
WHALEY ROAD
BARUGH GREEN
BARNSLEY

Drawing Title
EXPLORATORY HOLE LOCATION PLAN

INFORMATION

JPG
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6709-JPG-ZZ-ZZ-DR-G-1100 | S2 | P05

Appendix B Exploratory Hole Logs

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 06/01/2026
Location: Barugh Green	Contractor:	Co-ords: E432029.41 N408263.18
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO101	RO	69.54m AoD	EJS	1:33	Sheet 1 of 1

Well	Water Strikes	In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Light grey sandy GRAVEL with low cobble content of concrete. Gravel is fine to coarse, subangular to angular of concrete, brick, bitmac, mudstone and sandstone.
					0.50	69.04		MADE GROUND: Dark brown slightly gravelly slightly clayey SAND. Gravel is subangular to subrounded of sandstone, brick, wood and coal. Between 0.80m to 0.85m, Lense of subrounded to rounded gravel of limestone.
		1.20	SPT	N=18 (1,2/1,2,8,7)				
					1.60	67.94		MADE GROUND: Dark grey and black sandy GRAVEL. Gravel is fine to coarse, subangular to angular of brick. Hydrocarbon odour and liquid encountered.
					1.80	67.74		
					2.05	67.49		MADE GROUND: Relict structure, Bricks.

End of Borehole at 2.05m

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
					0.00	2.05	90				

Remarks

No groundwater encountered. Hydrocarbon odour and liquid material encountered from 1.60m bgl. Borehole terminated due to refusal on brick obstruction.

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Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 07/08/2026
Location: Barugh Green	Contractor:	Co-ords: E432036.89 N408270.85
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO101A	RO	69.31m AoD	EJS	1:33	Sheet 1 of 2

Well	Water Strikes	In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.40	68.91		MADE GROUND: Light grey sandy GRAVEL with low cobble content of concrete. Gravel is fine to coarse, subangular to angular of concrete, brick, bitmac, mudstone and sandstone.
					0.95	68.36		MADE GROUND: Dark greyish brown slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of concrete, brick, sandstone and mudstone.
					1.07	68.24		MADE GROUND: Dark grey sandy GRAVEL. Gravel is fine to coarse, rounded to subangular of clinker, limestone and sandstone.
					1.32	67.99		MADE GROUND: Dark oragnish brown and greyish brown slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of sandstone and mudstone.
		2.00	SPT	N=3 (1,1/2,0,0,1)				MADE GROUND: Dark orangish brown and greyish black gravelly SAND. Gravel is fine to coarse, subangular to angular of coal and mudstone. Hydrocarbon odour enocuntered throughout.
		2.15 - 2.40	ES					
					2.45	66.86		Stiff light yellowish brown and mottled grey slightly gravelly CLAY. Gravel is fine to medium, subangular to angular of mudstone.
		2.70	ES					
					3.00	66.31		Light yellowish brown and mottled grey slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone (extremely weathered mudstone).
		3.50	SPT	N=25 (7,6/6,7,6,6)				
					4.40	64.91		Black COAL.
					5.50	63.81		Dark grey MUDSTONE.

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			2.55	140	0.00	7.30	90				

Remarks

No groundwater encountered. Hydrocarbon odour and limited viscous material encountered between 1.32m and 2.45m bgl. Monitoring well installed to 3.00m bgl, bentonite backfill used beneath installation.

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 07/08/2026
Location: Barugh Green	Contractor:	Co-ords: E432036.89 N408270.85
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO101A	RO	69.31m AoD	EJS	1:33	Sheet 2 of 2

Well	Water Strikes	In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Dark grey MUDSTONE.
					7.30	62.01		End of Borehole at 7.30m

7
8
9
10
11
12
13

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			2.55	140	0.00	7.30	90				

Remarks

No groundwater encountered. Hydrocarbon odour and limited viscous material encountered between 1.32m and 2.45m bgl. Monitoring well installed to 3.00m bgl, bentonite backfill used beneath installation.

5 John Charles Way
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LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 15/12/2025
Location: Barugh Green	Contractor:	Co-ords: E432053.56 N408277.54
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO102	RO	69.07m AoD	EJS	1:33	Sheet 1 of 2

Well	Water Strikes	In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Greyish brown and orangish brown sandy occasionally clayey GRAVEL. Gravel is fine to coarse, subangular to angular of brick, concrete, sandstone and mudstone.
					0.80	68.27		MADE GROUND: Dark orangish brown slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.
					1.04	68.03		MADE GROUND: Dark grey sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstonr and mudstone.
					1.20	67.87		MADE GROUND: Dark greyish black occasionally orangish brown gravelly fine to coarse SAND. Gravel is fine to coarse, rounded to subangular of coal, mudstone and sandstone.
		2.00	SPT	N=6 (2,1/2,2,1,1)				
					2.20	66.87		MADE GROUND: Dark greyish black slightly sandy silty CLAY, slightly fiborous and organic.
					2.70	66.37		Stiff greyish brown gravelly CLAY. Clay is fine to coarse, subangular to angular of mudstone. (Extremely weathered mudstone).
		3.50	SPT	50 (10,10/50 for 215mm)				
					5.50	63.57		Black COAL
					6.40	62.67		Dark grey MUDSTONE

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			2.75	140	0.00	8.80	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Monitoring well installed to 4.00m bgl bentonite backfill beneath installation.

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 15/12/2025
Location: Barugh Green	Contractor:	Co-ords: E432053.56 N408277.54
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO102	RO	69.07m AoD	EJS	1:33	Sheet 2 of 2

Well	Water Strikes	In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
[redacted]								Dark grey MUDSTONE
					8.80	60.27		End of Borehole at 8.80m

7
8
9
10
11
12
13

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			2.75	140	0.00	8.80	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Monitoring well installed to 4.00m bgl bentonite backfill beneath installation.

5 John Charles Way
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LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 17/12/2025
Location: Barugh Green	Contractor:	Co-ords: E432053.22 N408225.30
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO103	RO	70.33m AoD	EJS	1:33	Sheet 1 of 3

Well	Water Strikes	In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Light grey sandy GRAVEL with low cobble content of concrete. Gravel is fine to coarse, subangular to angular of concrete, brick, bitmac, mudstone and sandstone.
					0.50	69.83		MADE GROUND: Black slighly sandy slightly clayey GRAVEL with low cobble content of brick. Gravel is fine to coarse, subangular to angular of coal, concrete, ash, clinker, mudstone and brick.
					1.20	69.13		Stiff light yellowish brown and mottled grey slightly gravelly CLAY. Gravel is fine to medium, subangular to angular of mudstone.
		1.50	SPT	N=19 (2,2/4,4,6,5)				
					2.10	68.23		Light yellowish brown and mottled grey slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone (extremely weathered mudstone).
		3.00	SPT	N=50 (9,10/50 for 285mm)				
					3.38	66.95		Black COAL
					3.60	66.73		Weak dark grey MUDSTONE.
					4.00	66.33		Black COAL
					4.20	66.13		Grey MUDSTONE

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			1.50	116	0.00	16.30	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Monitoring well installed to 2.50m bgl, bentonite backfill beneath installation.

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 17/12/2025
Location: Barugh Green	Contractor:	Co-ords: E432053.22 N408225.30
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO103	RO	70.33m AoD	EJS	1:33	Sheet 2 of 3

Well	Water Strikes	In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
[redacted]								Grey MUDSTONE	7 8 9 10 11 12 13

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			1.50	116	0.00	16.30	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Monitoring well installed to 2.50m bgl, bentonite backfill beneath installation.

AGS

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 17/12/2025
Location: Barugh Green	Contractor:	Co-ords: E432053.22 N408225.30
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO103	RO	70.33m AoD	EJS	1:33	Sheet 3 of 3

Well	Water Strikes	In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
[redacted]								Grey MUDSTONE
					16.30	54.03		End of Borehole at 16.30m

14
15
16
17
18
19

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			1.50	116	0.00	16.30	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Monitoring well installed to 2.50m bgl, bentonite backfill beneath installation.

JPG	5 John Charles Way Leeds LS12 6QA	# Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 03/08/2026 - 04/08/2026
Location: Barugh Green	Contractor:	Co-ords: E432163.57 N408339.42
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO104	RO	67.69m AoD	EJS	1:33	Sheet 1 of 3

Well	Water Strikes	In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Light grey sandy GRAVEL with low cobble content of concrete. Gravel is fine to coarse, subangular to angular of concrete, brick, bitmac, mudstone and sandstone.
					0.60	67.09		MADE GROUND: Dark brown and black slightly clayey sandy GRAVEL. Gravel is fine to coarse, subangular to angular of coal, brick, ash, clinker and mudstone.
		1.20	SPT	N=14 (5,4/4,4,3,3)				
		2.00	SPT	N=13 (2,3/2,3,3,5)				
		3.50	SPT	N=13 (3,3/3,3,3,4)				
					4.70	62.99		Light grey and mottled yellowish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone (extremely weathered mudstone).
		5.00	SPT	N=11 (3,2/3,3,3,2)				

1 2 3 4 5 6

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			6.00	140	0.00	19.50	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Borehole backfilled with bentonite upon completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 03/08/2026 - 04/08/2026
Location: Barugh Green	Contractor:	Co-ords: E432163.57 N408339.42
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO104	RO	67.69m AoD	EJS	1:33	Sheet 2 of 3

Well	Water Strikes	In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		6.50	SPT	N=50 (9,11/14,10,10,16)				Light grey and mottled yellowish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone (extremely weathered mudstone).
					6.90	60.79		Black COAL.
					7.30	60.39		Dark grey MUDSTONE.
					12.90	54.79		Black COAL.
					13.00	54.69		Dark grey MUDSTONE.

Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			6.00	140	0.00	19.50	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Borehole backfilled with bentonite upon completion.

5 John Charles Way
Leeds
LS12 6QA

Rotary Open Hole Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 03/08/2026 - 04/08/2026
Location: Barugh Green	Contractor:	Co-ords: E432163.57 N408339.42
Project No. : 6709	Crew Name: Geocore	Drilling Equipment: Commachio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RO104	RO	67.69m AoD	EJS	1:33	Sheet 3 of 3

Well	Water Strikes	In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								Dark grey MUDSTONE.
					13.40	54.29		Dark grey MUDSTONE, interbedded with black coal.
					15.50	52.19		Dark grey MUDSTONE.
					19.50	48.19		End of Borehole at 19.50m

14
15
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Hole Diameter		Drill Bit Type	Casing Diameter		Inclination & Orientation				Drilling Flush		
Depth Base (m)	Diameter (mm)	Bit Type	Depth Base (m)	Diameter (mm)	Depth Top (m)	Depth Base (m)	Inclination	Orientation	Depth Top (m)	Depth Base (m)	Flush Type
			6.00	140	0.00	19.50	90				

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Borehole backfilled with bentonite upon completion.

5 John Charles Way
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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 05/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432049.40 N408251.32
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP101	TP	69.76m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10	69.66		MADE GROUND: Dark yellowish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		0.50	ES					MADE GROUND: Dark brown and black slightly clayey sandy GRAVEL with high cobble content. Gravel is fine to coarse, subangular to angular of bitmac, concrete, clinker, sandstone and mudstone. Cobbles of bitmac and brick encountered. Rare tile and clay pipe encountered.
					1.10	68.66		MADE GROUND: Light greyish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse, subangular to angular of sandstone and coal.
	▼				1.45	68.31		MADE GROUND: Dark greyish brown BOULDERS with some cobbles and some sandy gravel. Boulders are anfular and up to 1000mm across of concrete and metal.
					2.30	67.46		Greyish black COAL, recovered as sandy gravel.
		2.50 - 2.60 2.50 - 2.60	B D		2.40	67.36		Firm light greyish brown sandy slightly gravelly CLAY. Gravel is fine to medium, subangular to angular of mudstone.
					2.90	66.86		End of Trial Pit at 2.90m

1 2 3 4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

Water seepage encountered at 1.70m bgl. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 05/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432091.83 N408269.60
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP102	TP	69.46m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Dark yellowish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
					0.20	69.26		MADE GROUND: Dark greyish brown and black sandy GRAVEL with high cobble content. Gravel is fine to coarse, subangular to angular if concrete, brick, mudstone and clinker.
					0.50	68.96		MADE GROUND: BOULDER of Concrete.
					0.65	68.81		MADE GROUND: Dark greyish black slightly clayey sandy GRAVEL with medium cobble content. Gravel is fine to coarse, subangular to angular of brick, tile, clinker, coal, sandstone and mudstone. Cobbles of bitmac. Rare glass, wood and plastic encountered.
		0.90	ES					
					2.50	66.96		MADE GROUND: Dark grey and black and organish brown sandy slightly clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone and coal.
					3.00	66.46		Firm light grey slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone and rare coal.
		3.10 - 3.20	B					
		3.10 - 3.20	D					
		3.10						
					3.30	66.16		End of Trial Pit at 3.30m

1 2 3 4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432105.99 N408304.52
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP103	TP	68.87m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.10	68.77		MADE GROUND: Bitmac.
		0.20	ES					MADE GROUND: Dark brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of brick, concrete, clinker, tile, sandstone, coal. Rare plastic and visqueen encountered.
		0.40 - 0.50 0.40 - 0.50	B D		0.37	68.50		MADE GROUND: Greyish brown sandy GRAVEL. Gravel is fine to coarse, subanguar to angular of ash, clinker and concrete.
					0.62	68.25		MADE GROUND: Yellowish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of clinker, concrete and brick. Rare coal encountered.
					0.90	67.97		At 0.80m bgl, redundant cable encountered. MADE GROUND: Dark greyish brown and orangish brown slightly clayey sandy GRAVEL. Gravel is fine to coarse, subangular to angular of coal, mudstone and ironstone.
					2.87	66.00		End of Trial Pit at 2.87m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432140.10 N408297.28
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP105	TP	69.05m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Greyish brown sandy GRAVEL. Gravel is fine to coarse, subanguar to angular of ash, clinker and concrete.
					0.40	68.65		MADE GROUND: Dark grey and black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subangular of mudstone and coal with rare siltstone and brick. Rare piece of wood encountered.
		0.60	ES					
					1.10	67.95		MADE GROUND: Dark grey and black and organish brown sandy slightly clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone and coal.
		1.50 - 1.80	B					
		1.50 - 1.80	D					
					3.60	65.45		End of Trial Pit at 3.60m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

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Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432150.49 N408336.08
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP106	TP	68.10m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
								MADE GROUND: Light greyish brown slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
					0.30	67.80		MADE GROUND: Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of brick, clinker, concrete, mudstone and sandstone.
					0.59	67.50		MADE GROUND: Soft becoming firm black and dark brown slightly sandy gravelly CLAY with high cobble content. Gravel is fine to coarse, subangular to angular of ash, clinker, metal wire, brick, mudstone , sandstone and coal. Cobbles of sandstone.
								At 2.00m bgl, increasingly gravelly.
					2.90	65.19		End of Trial Pit at 2.90m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432166.87 N408330.42
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP108	TP	68.11m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.07	68.04		MADE GROUND: Bitmac.
		0.80	ES		0.95	67.16		MADE GROUND: Yellowish brown and orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of ash, clinker, concrete and sandstone.
		1.30 - 1.40 1.30 - 1.40	B D		2.03	66.08		MADE GROUND: Firm dark greyish black slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of coal and mudstone. Rare clay pipe and redundant cables encountered.
	▼	2.80 2.80 2.90	B D		2.58	65.53		MADE GROUND: Light yellowish brown sandy GRAVEL and COBBLES of sandstone.
					3.50	64.61		Firm light yellowsh brown and mottled grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse, fine to medium of mudstone.
								End of Trial Pit at 3.50m

1 2 3 4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

Water seepage encountered at 2.58m bgl. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 05/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432199.81 N408350.26
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP109	TP	67.56m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.30	ES					MADE GROUND: Dark greyish brown and black sandy GRAVEL with medium cobble content. Gravel is fine to coarse, subangular to angular if concrete, brick, mudstone and clinker.
					0.85	66.71		MADE GROUND: Dark greyish black and orangish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone and coal.
		1.40			1.25	66.31		Firm light grey slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone and rare coal.
					1.55	66.01		Black COAL, recovered as sandy gravel.
		2.00 2.00	D		1.75	65.81		Firm light yellowish brown and mottled grey slightly gravelly silty CLAY. Gravel is fine to coarse, subangular to angular of mudstone.
					2.50 2.60	65.06 64.96		Firm light yellowish brown and greyish brown sandy slightly gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.

End of Trial Pit at 2.60m

1 2 3 4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

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LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432184.48 N408288.18
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP110	TP	69.04m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.80	ES		1.00	68.04		MADE GROUND: Dark reddish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone.
					1.80	67.24		Light greyish brown clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone.
								End of Trial Pit at 1.80m

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4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Trial Pit Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 04/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432166.80 N408330.41
Project No. : 6709	Crew Name: Hather Plant Hire	Equipment: JCB 3CX

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP111	TP	68.11m AoD	EJS	1:20	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.40 0.40 0.40	B D					MADE GROUND: Light yellowish brown slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.
					0.83	67.28		Light greyish brown clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone.
		1.20 1.20	B D					
					2.10	66.02		End of Trial Pit at 2.10m

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4

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	0.50	Stable					

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432074.20 N408242.81
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS101	WS	69.90m AoD	EJS	1:25	Sheet 1 of 1

Sample and In Situ Testing						
Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
			0.08	69.82		MADE GROUND: Dark grey GRAVEL. Gravel is fine to coarse angular to subangular of clinker, coal, mudstone and bitmac.
0.20 - 1.40	B		0.22	69.68		MADE GROUND: Dark grey and brown slightly silty gravelly CLAY with low cobble content. Gravel is fine to coarse angular to subangular of concrete, brick, mudstone and sandstone. Cobbles are angular of concrete.
0.20 - 1.40	D					
			0.86	69.04		MADE GROUND: Dark grey and locally white slightly silty GRAVEL with high cobble content. Gravel is fine to coarse angular to subangular of clinker, coal, concrete, mudstone and quartz. Cobbles are angular of concrete.
0.95	ES					
1.00	SPT	N=17 (5,7/6,3,3,5)	1.10	68.80		MADE GROUND: Firm grey and mottled greyish brown slightly silty slightly gravelly CLAY. Gravel is fine to coarse angular to subangular of brick, mudstone and coal.
			1.40	68.50		MADE GROUND: Black and locally white slightly silty slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of concrete, brick, mudstone and limestone.
			1.70	68.20		MADE GROUND: Firm dark greyish brown and locally orangish brown slightly silty slightly gravelly CLAY. Gravel is fine to medium angular to subangular of mudstone and coal.
2.00	SPT	N=50 (2,2/50 for 265mm)				Stiff high strength light grey and mottled light orangish brown slightly silty CLAY with rare gravel of mudstone and coal.
			2.42	67.48		End of Borehole at 2.42m

Well: 1 2 3 4 5

Water Strikes:

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	2.42	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432078.20 N408288.34
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS102	WS	68.96m AoD	EJS	1:25	Sheet 1 of 1

Sample and In Situ Testing			Depth (m)	Level (m)	Stratum Description
Depth (m)	Type	Results			
0.20 - 0.40	B		0.15	68.81	MADE GROUND: Dark brown slightly clayey GRAVEL. Gravel is fine to coarse angular to subangular of mudstone, sandstone, concrete, brick and clinker.
0.20 - 0.40	D				
0.45	ES		0.40	68.56	MADE GROUND: Firm dark grey and brownish grey slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of coal, brick, concrete sandstone, siltstone and mudstone.
1.00	SPT	N=34 (14,9/9,9,8,8)			MADE GROUND: Dark grey and black slightly silty clayey GRAVEL with low cobble content. Gravel is fine to coarse angular to subangular of mudstone, coal, concrete and brick. Cobbles are angular of brick and concrete.
					At 1.70m bgl, predominately mottled orangish brown in colour.
2.00	SPT	N=24 (8,8/8,6,5,5)			
					At 2.60m bgl, frequent gravel of coal encountered.
3.00	SPT	N=7 (2,1/2,1,2,2)			
			3.30	65.66	MADE GROUND: Firm dark grey and mottled light grey slightly gravelly CLAY. Gravel is fine to medium angular to subangular of coal and mudstone.
			3.70	65.26	Stiff high strength light grey and mottled light orangish brown slightly silty CLAY with rare gravel of coal.
4.00	SPT	N=50 (2,3/50 for 265mm)			
			4.42	64.54	End of Borehole at 4.42m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	4.42	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432110.97 N408247.09
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS103	WS	69.90m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	
					0.14	69.76		MADE GROUND: Black sandy GRAVEL. Gravel is fine to coarse, subrounded to angular of birmac and clinker.	
					0.22	69.68		MADE GROUND: Dark yellowish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.	
					0.43	69.47		MADE GROUND: Orangish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of concrete, clinker, bitmac and sandstone.	
		0.60	ES					MADE GROUND: Black and orangish brown slightly sandy clayey GRAVEL with ironstone staining. Gravel is fine to coarse, subangular to angular of mudstone and coal.	1
		0.95 - 1.50	B						
		0.95 - 1.50	D						
		1.00	SPT	N=11 (3,3/2,3,3,3)					
					1.84	68.06		Firm yellowish brown and mottled grey slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.	2
		2.00	SPT	N=12 (1,2/2,3,3,4)					
					2.87	67.04		Light greyish brown slightly silty sandy GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone.	3
		3.00	SPT	N=33 (5,5/5,9,9,10)					
		4.00	SPT	50 (25 for 60mm/50 for 60mm)					4
					4.12	65.78		End of Borehole at 4.12m	
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	4.12	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432123.45 N408284.91
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS104	WS	69.10m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	
		0.05 - 3.00	B		0.08	69.02		MADE GROUND: Bitmac.	
		0.05 - 3.00	D		0.18	68.92		MADE GROUND: Grey and brown clayey sandy GRAVEL. Gravel is fine to coarse angular to subangular of brick, mudstone, quartz, concrete and clinker.	
					0.65	68.44		MADE GROUND: Brown, greyish brown and locally yellowish/reddish brown slightly clayey slightly sandy GRAVEL with low cobble content and rare clay lens. Gravel is fine to coarse angular to subangular mostly mudstone, concrete, sandstone and brick with rare clinker and coal. Cobbles are angular of concrete and brick.	
		1.00	SPT	N=12 (3,3/3,3,3,3)				MADE GROUND: Firm brown and yellowish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of brick, concrete and sandstone.	1
		2.00	SPT	N=12 (3,3/3,3,3,3)					2
		3.00	SPT	N=11 (3,3/3,2,3,3)					3
					3.20	65.90		Firm medium strength brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone and siltstone.	
					3.45	65.64		Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.	
		4.00	SPT	N=50 (7,9/50 for 245mm)					4
					4.40	64.69		End of Borehole at 4.39m	
									5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	4.40	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

AGS

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS105	WS		EJS	1:25	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	
					0.08			MADE GROUND: Bitmac.	
					0.20			MADE GROUND: Brown and greyish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse angular to subangular of mudstone, sandstone, limestone and brick.	
		0.30	ES						
					0.45			MADE GROUND: Firm dark brown and dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly mudstone, coal and siltstone with rare brick.	
		1.00	SPT	N=12 (3,3/3,3,3,3)				MADE GROUND: Firm brown and yellowish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly brick, coal and mudstone with rare siltstone. Metal nail encountered.	1
		2.00	SPT	N=12 (3,3/3,3,3,3)					2
		3.00	SPT	N=14 (4,3/3,3,4,4)					3
		4.00	SPT	N=13 (4,4/4,3,3,3)					4
					4.30			Firm medium strength brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone and siltstone.	
					4.55			Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.	5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	5.45	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS105	WS		EJS	1:25	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00	SPT	N=35 (3,3/5,5,12,13)				Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.
					5.45			End of Borehole at 5.45m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	5.45	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

5 John Charles Way
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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432161.98 N408283.19
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS106	WS	69.14m AoD	EJS	1:25	Sheet 1 of 2

Sample and In Situ Testing			Depth (m)	Level (m)	Stratum Description
Depth (m)	Type	Results			
			0.09	69.05	MADE GROUND: Bitmac.
			0.30	68.84	MADE GROUND: Dark grey and locally light brown slightly clayey slightly sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to subangular of mudstone, coal, siltstone and brick. Cobbles are angular of concrete and brick.
0.50	ES				
			0.77	68.37	MADE GROUND: Dark grey and black slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly mudstone and coal with rare siltstone and brick. Rare piece of wood encountered.
1.00	SPT	N=16 (4,4/4,4,4,4)			MADE GROUND: Firm brown and reddish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly coal, mudstone and red shale with rare siltstone.
2.00	SPT	N=17 (3,3/4,4,4,5)			
3.00	SPT	N=16 (3,4/4,4,4,4)			
4.00	SPT	N=13 (4,4/4,3,3,3)			
			4.10	65.04	Firm medium strength brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone and siltstone.
			4.50	64.64	Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.

Well: 1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	5.45	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432161.98 N408283.19
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS106	WS	69.14m AoD	EJS	1:25	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00	SPT	N=26 (2,4/4,5,6,11)				Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.
					5.45	63.69		End of Borehole at 5.45m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	5.45	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432160.20 N408313.73
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS107	WS	68.78m AoD	EJS	1:25	Sheet 1 of 1

Sample and In Situ Testing					
Depth (m)	Type	Results	Depth (m)	Level (m)	Stratum Description
			0.09	68.69	MADE GROUND: Bitmac.
			0.19	68.59	MADE GROUND: Brownish grey slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of mostly limestone with rare mudstone and brick.
			0.49	68.29	MADE GROUND: Dark grey slightly silty slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of mostly mudstone, clinker and coal with rare brick.
			0.84	67.94	MADE GROUND: Poorly cemented concrete - recovered as cobbles of concrete.
1.00	SPT	N=12 (3,3/3,3,3,3)			MADE GROUND: Firm brown and reddish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly coal, mudstone and red shale with rare siltstone.
2.00	SPT	N=12 (3,3/3,3,3,3)			
					Between 2.60m and 2.74m bgl, frequent gravel of coal encountered.
			2.74	66.04	Firm medium strength brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone and siltstone.
3.00	SPT	N=12 (2,2/2,3,3,4)			
			3.75	65.03	Black COAL (0.30m thick) - recovered as fine to coarse gravel.
4.00	SPT	50 (5,5/50 for 225mm)	4.05	64.73	Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.
			4.38	64.40	End of Borehole at 4.38m

Water Strikes: ▼ 3.00m

Legend: 1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	4.38	90	

Remarks

Water seepage encountered at 3.00m bgl. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432143.24 N408245.00
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS108	WS	69.79m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.08	69.71		MADE GROUND: Bitmac.
					0.18	69.61		MADE GROUND: Grey and brown clayey sandy GRAVEL. Gravel is fine to coarse angular to subangular of brick, mudstone, quartz, concrete and clinker.
					0.45	69.34		MADE GROUND: Firm brown and yellowish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of brick, concrete and sandstone.
		1.00	SPT	N=11 (3,3/3,2,3,3)				MADE GROUND: Dark grey, black and lcoally orangish brown slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular of mostly coal and rare mudstone.
					1.64	68.15		Black COAL (0.23m thick) - recovered as fine to coarse gravel.
					1.87	67.92		Firm black and dark grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium angular to subangular of mudstone, siltstone and coal. Organic (plant based) odour encountered.
		2.00	SPT	N=11 (2,2/2,2,3,4)	2.08	67.71		Firm medium strength brown and grey slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded of mudstone and siltstone.
								At 2.50m bgl, predominately orangish brown and mottled light grey in colour.
		2.70						
		3.00	SPT	N=27 (3,4/4,6,8,9)				
					3.40	66.39		Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.
		4.00	SPT	50 (8,11/50 for 115mm)				
					4.26	65.53		End of Borehole at 4.26m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	4.27	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432171.41 N408223.78
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS109	WS	70.51m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.18	70.33		MADE GROUND: Dark brown and greyish brown slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of limestone, clinker, bitmac, concrete, brick and mudstone.
		0.25	ES					
					0.45	70.06		MADE GROUND: Firm dark brown and grey slightly silty very gravelly CLAY with low cobble content. Gravel is fine to coarse angular to subangular of bitmac, brick, concrete, limestone and mudstone. Cobbles are angular of brick and concrete.
		0.85 - 0.95	B		0.85	69.66		MADE GROUND: Firm dark grey slightly silty gravelly CLAY with low cobble content. Gravel is fine to coarse angular to subangular of coal, mudstone and sandstone. Cobbles are angular of sandstone.
		1.00 - 1.45	D		0.95	69.56		
		1.00	SPT	N=13 (1,1/2,2,3,6)				MADE GROUND: Firm dark grey and black slightly silty slightly gravelly CLAY. Gravel is fine to coarse angular to subangular of mudstone, siltstone and coal.
								Firm medium strength orangish brown and mottled light grey slightly silty slightly sandy CLAY.
					1.60	68.91		Stiff thinly laminated dark brown, orangish brown and black slightly gravelly CLAY with rare coal lens. Gravel is fine to medium subangular of mudstone and coal.
					1.86	68.65		Black COAL (0.24m thick) - recovered as fine to coarse gravel.
		2.00	SPT	50 (25 for 95mm/50 for 135mm)	2.10	68.41		Very stiff very high strength light grey slightly gravelly CLAY. Gravel is fine subangular of mudstone.
					2.30	68.21		End of Borehole at 2.23m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	2.23	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432155.33 N408188.49
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS110	WS	71.67m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.09	71.58		MADE GROUND: Bitmac.
					0.18	71.49		MADE GROUND: Dark grey GRAVEL. Gravel is fine to coarse angular to subangular of mudstone, clinker, brick and sandstone.
		0.40	ES					MADE GROUND: Firm dark grey slightly sandy gravelly CLAY with low cobble content and rare pockets of fibrous peat. Gravel is fine to coarse angular to subangular of concrete, mudstone, brick, coal and limestone. Cobbles are angular of concrete and brick. Rare pieces of glass encountered. At 0.60m bgl, becoming mottled brownish grey. At 0.80m bgl, a pocket of sandstone gravel encountered.
		1.00	SPT	N=29 (3,3/4,8,8,9)	0.95	70.72		Stiff high strength grey and mottled brownish grey slightly sandy gravelly CLAY with rare coal lens. Gravel is fine to coarse subangular of mudstone.
					1.45	70.22		Very stiff very high strength thickly laminated grey, dark grey and orangish brown slightly sandy CLAY with rare mudstone gravel and coal lens.
		2.00	SPT	51 (9,13/51 for 170mm)	2.00	69.67		
								End of Borehole at 3.32m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	3.32	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 08/06/2026
Location: Barugh Green	Contractor:	Co-ords: E432135.55 N408265.59
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS111	WS	69.29m AoD	EJS	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.24	69.05		MADE GROUND: Dark greyish brown and black slightly clayey sandy GRAVEL. Gravel is fine to coarse, subangular to anguar of bitmac, sandstone and clinker. Rare gravel of wood and coal encountered.
					0.47	68.82		MADE GROUND: Brown slightly sandy gravelly CLAY with low cobble content. Gravel is fine to coarse, subangular to angular of mudstone and sandstone. Cobbles of sandstone.
					0.76	68.53		MADE GROUND: Dark yellowish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of concrete, brick, sandstone and clinker. Rare gravel of glass and coal.
		0.90			0.90	68.39		
		1.00	SPT	N=10 (1,1/2,2,3,3)				MADE GROUND: Dark grey and black slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of mudstone and coal.
					1.50	67.79		Firm yellowish brown and mottled grey slightly gravelly slightly sandy CLAY. Gravel is fine to coarse, subangular to angular of mudstone. Rare gravel of coal encountered.
								Firm light grey sandy slightly gravelly CLAY. Gravel is fine to medium of mudstone.
		2.00	SPT	N=26 (3,3/7,7,5,7)				
					2.50	66.79		Greyish black COAL, recovered as sandy gravel.
		2.70	SPT	50 (25 for 75mm/50 for 135mm)				
					2.85	66.44		End of Borehole at 2.85m

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
		1.00	150					0.00	2.85	90	

Remarks

No groundwater encountered. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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JPG	5 John Charles Way Leeds LS12 6QA	**Window Sampler Log**

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS112	WS		EJS	1:25	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing: Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description	
					0.20			MADE GROUND: Concrete with underlying visqueen.	
					0.40			MADE GROUND: Light brown and light reddish brown sandy GRAVEL. Gravel is fine to coarse angular to subangular of limestone. (Subbase).	
					0.65			MADE GROUND: Firm brown and yellowish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly brick, coal and mudstone with rare siltstone and pottery.	
		1.00	SPT	N=12 (2,4/3,3,3,3)				MADE GROUND: Firm brown and reddish brown slightly silty gravelly CLAY. Gravel is fine to coarse angular to subangular of mostly coal, mudstone and red shale with rare siltstone.	1
		2.00	SPT	N=12 (3,3/3,3,3,3)					2
								At 2.50m bgl, becoming locally reddish brown in colour.	
		3.00	SPT	N=12 (3,3/3,3,3,3)					3
		4.00	SPT	N=12 (3,3/3,3,3,3)	4.00			MADE GROUND: Black slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of mudstone and coal.	4
	▼								5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	5.45	90	

Remarks

Water seepage encountered at 4.80m bgl. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

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LS12 6QA

Window Sampler Log

Project Name: Whaley Road	Client: Wordsworth Construction	Date: 09/06/2026
Location: Barugh Green	Contractor:	
Project No. : 6709	Crew Name: RP Drilling	Drilling Equipment: Window Sample

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS112	WS		EJS	1:25	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		5.00	SPT	N=12 (3,3/3,3,3,3)				MADE GROUND: Black slightly clayey slightly sandy GRAVEL. Gravel is fine to coarse angular to subangular of mudstone and coal.
					5.45			End of Borehole at 5.45m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	5.45	90	

Remarks

Water seepage encountered at 4.80m bgl. No visual or olfactory evidence of any hydrocarbon contamination. Backfilled with arisings on completion.

Appendix C Chemical Analysis Certificates & HazWasteOnline Waste Classification

STATISTICAL ASSESSMENT OF CHEMICAL ANALYSIS

The results of the chemical analysis have been assessed in accordance with CL:AIRE (Contaminated Land: Applications in Real Environments) '*Guidance on Comparing Soil Contamination Data with a Critical Concentration*' published by the CIEH, May 2008.

This guidance provides a statistical approach to objectively evaluate the evidence for and against particular propositions/hypothesis and has the useful attribute of enabling decision makers to reach conclusions about the available evidence, with at least some understanding of the validity of the results.

The guidance approaches this in the context of assessing the results from two different perspectives, the Planning Scenario and Part 2A.

When assessing in terms of the Planning Scenario, the key question would be '*Can we confidently say that the level of contamination on this land is low relative to some appropriate measure of risk?*'. Under Part 2A, the question would be '*Can we confidently say that the level of contamination is high relative to some appropriate measure of risk?*'.

These questions are addressed through the use of formal hypothesis – the "Null Hypothesis" and the "Alternative Hypothesis".

This assessment will be carried out in accordance with the Planning Scenario, where the aim is to demonstrate '*suitability for use*'. The Null Hypothesis is that the level of contamination is the same as, or higher than the critical concentration/GAC. The Alternative Hypothesis is that the level of contamination is lower than the critical concentration/GAC. Under Part 2A the opposite set of propositions are applicable.

By convention, the Null Hypothesis is the starting proposition against which the key question, as expressed by the Alternative Hypothesis, can be tested.

The assessment of the results relies on there being a normal distribution of results for a particular contaminant and that the data set under consideration is representative of the particular material which is being assessed. If more than one dataset is present, then the hypothesis should be applied individually for each data set.

Under the Planning Scenario, the statistical test is used to demonstrate that there is a 95% probability that the true population mean falls below the critical concentration/GAC.

Appropriate data sets must be created to enable the statistical testing to be carried out, and three key elements must be considered prior to statistical analysis. These are as follows:

- Dealing with non-detects;
- Understanding the statistical distribution of data; and
- Dealing with outliers.

The results can then be assessed, and the results will be compared against the following:

- Sample Mean – if the sample mean of the data set is in excess of the GAC, then the Upper Confidence Limit of the true population mean will be higher than the critical concentration.
- 95% of the Upper Confidence Limit.
- One Sample T Test (parametric test) carried out at the 95% confidence level.

On the basis of these tests, the validity of the Null Hypothesis can be assessed.

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Analytical Report Number : 26-031377

Replaces Analytical Report Number: 26-031377, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to samples 947891/895 & 896 as per client's request

Project / Site name:	Barugh Green Whaley Road	**Samples received on:**	08/06/2026
Your job number:	6709	**Samples instructed on/ Analysis started on:**	11/06/2026
Your order number:	6709-EJS	**Analysis completed by:**	09/07/2026
Report Issue Number:	2	**Report issued on:**	10/07/2026
Samples Analysed:	7 soil samples - 4 leachate samples		

Signed:

Rachel Chappell
Key Account Manager
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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947890	947891	947892	947893	947894
Sample Reference				TP101	TP102	TP103	TP105	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.90	0.20	0.60	0.80
Date Sampled				05/06/2026	05/06/2026	04/06/2026	04/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Mass of stone >10mm	%	0.1	NONE	44.5	9.6	2.4	< 0.1	23.3
Moisture Content	%	0.01	NONE	7.9	6.1	5	9	7.2
Total mass of sample received	kg	0.1	NONE	2	1.1	1.2	2	2
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	WBR	WBR	PKU	PKU	PKU
Analysis completed	N/A	N/A	N/A	26/06/2026	26/06/2026	26/06/2026	26/06/2026	26/06/2026
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Detected	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	0.217	-	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Asbestos Cement	-	-	-
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	8.7	7.9	10.6	6.7	9.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	6300	31000	2400	62000	1800
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	4300	4900	620	5000	1100
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2150	2460	311	2500	538
Sulphide	mg/kg	1	MCERTS	150	43	33	9.5	16
Total Chloride	mg/kg	5	NONE	64	43	330	120	50
Organic Matter (automated)	%	0.1	MCERTS	5.1	5.9	8.2	7.8	5.8
Calorific Value	MJ/Kg	0.12	ISO 17025	< 0.120	-	-	4.68	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947890	947891	947892	947893	947894
Sample Reference				TP101	TP102	TP103	TP105	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.90	0.20	0.60	0.80
Date Sampled				05/06/2026	05/06/2026	04/06/2026	04/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	10	1.3	0.71	6.3	1.6
Acenaphthylene	mg/kg	0.05	MCERTS	1.5	0.1	1.5	0.17	0.55
Acenaphthene	mg/kg	0.05	MCERTS	9.5	0.23	2	1.3	1.6
Fluorene	mg/kg	0.05	MCERTS	9.5	0.35	2.4	4	1.6
Phenanthrene	mg/kg	0.05	MCERTS	69	2.6	16 #	7.4	12 #
Anthracene	mg/kg	0.05	MCERTS	17	0.52	5.9	2.1	3.9
Fluoranthene	mg/kg	0.05	MCERTS	110	2.7	29 #	5.9	20 #
Pyrene	mg/kg	0.05	MCERTS	98	2.6	27 #	4.8	19 #
Benzo(a)anthracene	mg/kg	0.05	MCERTS	39	1.4	15	2.9	10
Chrysene	mg/kg	0.05	MCERTS	36	1.6	14	2.9	10
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	48	2	21	2.5	13
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	20	0.71	9.2	1.2	6.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	39	1.9	21	2.3	12
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	16	0.93	10	1.1	6.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	4.6	0.21	2.1	0.42	1.5
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	18	1.2	12	1.1	7.4
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	545	20.4	189	46.4	128
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	21	75	9	130	13
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.4	0.5	0.7	0.3	0.5
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	38	16	240	17	160
Copper (aqua regia extractable)	mg/kg	1	MCERTS	52	80	31	59	49
Lead (aqua regia extractable)	mg/kg	1	MCERTS	97	59	44	52	61
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	0.7	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	29	20	32	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.4	3.1	3.6	3.5	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120	250	120	90	110
VOCs								
Chloromethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Chloroethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Bromomethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Vinyl Chloride	µg/kg	5	NONE	< 5.0	-	-	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	-	-	-	-
Chloroform	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	-	-	-	-

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947890	947891	947892	947893	947894
Sample Reference				TP101	TP102	TP103	TP105	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.90	0.20	0.60	0.80
Date Sampled				05/06/2026	05/06/2026	04/06/2026	04/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Test Limit of detection	Test Accreditation Status					
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Benzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	-	-	-	-
Trichloroethene	µg/kg	10	MCERTS	< 10	-	-	-	-
Dibromomethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	-	-	-	-
Toluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	-	-	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
p & m-Xylene	µg/kg	8	MCERTS	< 8.0	-	-	-	-
Styrene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Bromoform	µg/kg	5	MCERTS	< 5.0	-	-	-	-
o-Xylene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	-	-	-	-
Bromobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Butylbenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	-	-	-	-

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947890	947891	947892	947893	947894
Sample Reference				TP101	TP102	TP103	TP105	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A	N/A
Depth (m)				0.50	0.90	0.20	0.60	0.80
Date Sampled				05/06/2026	05/06/2026	04/06/2026	04/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	0.5	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	0.5	-	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	1.1	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	0.7	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 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	4.9	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	6.5	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Azobenzene	mg/kg	0.3	NONE	< 0.3	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	6.4	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	-	-	-	-
Anthraquinone	mg/kg	0.3	NONE	5.8	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	-	-	-	-

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

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947895	947896
Sample Reference				TP109	TP110
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.30	0.80
Date Sampled				05/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Mass of stone >10mm	%	0.1	NONE	23.8	12.4
Moisture Content	%	0.01	NONE	7.9	8.2
Total mass of sample received	kg	0.1	NONE	2	1.2

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	PKU	PKU
Analysis completed	N/A	N/A	N/A	26/06/2026	26/06/2026
Actinolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Amosite detected	Type	N/A	ISO 17025	Detected	Detected
Anthophyllite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Chrysotile detected	Type	N/A	ISO 17025	Not-detected	Detected
Crocidolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Tremolite detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	< 0.001	< 0.001
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	Loose Fibres	Loose Fibres

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.4	10.1
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	57000	2100
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	4600	900
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2280	448
Sulphide	mg/kg	1	MCERTS	1.4	6.9
Total Chloride	mg/kg	5	NONE	85	410
Organic Matter (automated)	%	0.1	MCERTS	6	2.2
Calorific Value	MJ/Kg	0.12	ISO 17025	-	< 0.120

Total Phenols

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

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947895	947896
Sample Reference				TP109	TP110
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.30	0.80
Date Sampled				05/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	1.7	0.32
Acenaphthylene	mg/kg	0.05	MCERTS	0.15	0.1
Acenaphthene	mg/kg	0.05	MCERTS	0.63	0.12
Fluorene	mg/kg	0.05	MCERTS	0.54	0.12
Phenanthrene	mg/kg	0.05	MCERTS	4.8	1.4
Anthracene	mg/kg	0.05	MCERTS	1.3	0.45
Fluoranthene	mg/kg	0.05	MCERTS	6	2.8
Pyrene	mg/kg	0.05	MCERTS	5.4	2.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.9	1.4
Chrysene	mg/kg	0.05	MCERTS	2.9	1.4
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	3.1	1.5
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	1.6	0.92
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.9	1.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4	0.76
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.33	0.17
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6	0.93
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	37.3	16.9
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	120	8.1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	110
Copper (aqua regia extractable)	mg/kg	1	MCERTS	65	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	49	30
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	22	19
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	2.5	1.7
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	130	60
VOCs					
Chloromethane	µg/kg	5	MCERTS	-	-
Chloroethane	µg/kg	5	MCERTS	-	-
Bromomethane	µg/kg	5	MCERTS	-	-
Vinyl Chloride	µg/kg	5	NONE	-	-
Trichlorofluoromethane	µg/kg	5	MCERTS	-	-
1,1-Dichloroethene	µg/kg	5	MCERTS	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	-	-
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	-	-
1,1-Dichloroethane	µg/kg	5	MCERTS	-	-
2,2-Dichloropropane	µg/kg	5	NONE	-	-
Chloroform	µg/kg	5	MCERTS	-	-
1,1,1-Trichloroethane	µg/kg	5	MCERTS	-	-
1,2-Dichloroethane	µg/kg	7	MCERTS	-	-

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947895	947896
Sample Reference				TP109	TP110
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.30	0.80
Date Sampled				05/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
1,1-Dichloropropene	µg/kg	5	MCERTS	-	-
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	-	-
Benzene	µg/kg	5	MCERTS	-	-
Carbontetrachloride	µg/kg	5	MCERTS	-	-
1,2-Dichloropropane	µg/kg	6	MCERTS	-	-
Trichloroethene	µg/kg	10	MCERTS	-	-
Dibromomethane	µg/kg	5	MCERTS	-	-
Bromodichloromethane	µg/kg	5	MCERTS	-	-
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	-	-
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	-	-
Toluene	µg/kg	5	MCERTS	-	-
1,1,2-Trichloroethane	µg/kg	6	MCERTS	-	-
1,3-Dichloropropane	µg/kg	5	MCERTS	-	-
Dibromochloromethane	µg/kg	5	MCERTS	-	-
Tetrachloroethene	µg/kg	5	MCERTS	-	-
1,2-Dibromoethane	µg/kg	5	MCERTS	-	-
Chlorobenzene	µg/kg	5	MCERTS	-	-
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	-	-
Ethylbenzene	µg/kg	5	MCERTS	-	-
p & m-Xylene	µg/kg	8	MCERTS	-	-
Styrene	µg/kg	5	MCERTS	-	-
Bromoform	µg/kg	5	MCERTS	-	-
o-Xylene	µg/kg	5	MCERTS	-	-
Isopropylbenzene	µg/kg	5	MCERTS	-	-
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	-	-
Bromobenzene	µg/kg	5	MCERTS	-	-
n-Propylbenzene	µg/kg	5	MCERTS	-	-
2-Chlorotoluene	µg/kg	5	MCERTS	-	-
4-Chlorotoluene	µg/kg	5	MCERTS	-	-
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	-
1,2-Dichlorobenzene	µg/kg	5	MCERTS	-	-
Butylbenzene	µg/kg	5	MCERTS	-	-
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	-	-
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	-	-
Hexachlorobutadiene	µg/kg	5	MCERTS	-	-
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	-	-

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709-EJS

Lab Sample Number				947895	947896
Sample Reference				TP109	TP110
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.30	0.80
Date Sampled				05/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		

SVOCs

Aniline	mg/kg	0.1	NONE	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-
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	MCERTS	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	-
Azobenzene	mg/kg	0.3	NONE	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	-
Anthraquinone	mg/kg	0.3	NONE	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	-

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

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Analytical Report Number: **26-031377**
Project / Site name: **Barugh Green Whaley Road**
Your Order No: **6709-EJS**

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 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	Analysis completed	Analyst ID
947891	TP102	0.9	114	Asbestos Cement	**Chrysotile**	0.217	**0.217**	09/07/2026	MBI
947895	TP109	0.3	237	Loose Fibres	**Amosite**	< 0.001	**< 0.001**	09/07/2026	PKU
947896	TP110	0.8	231	Loose Fibres	**Amosite & Chrysotile**	< 0.001	**< 0.001**	09/07/2026	PKU

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

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Analytical Report Number: 26-031377
Project / Site name: Barugh Green Whaley Road

Your Order No: 6709-EJS

Lab Sample Number				947890	947892	947893	947894
Sample Reference				TP101	TP103	TP105	TP108
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.50	0.20	0.60	0.80
Date Sampled				05/06/2026	04/06/2026	04/06/2026	04/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.4	9.6	6.5	7.6
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1	< 1	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	228	19.8	984	37.5
Total Phenols							
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	1.2	1.3	< 1.0
Speciated PAHs							
Naphthalene	µg/l	0.01	NONE	< 0.01	3.4	0.73	< 0.01
Acenaphthylene	µg/l	0.01	NONE	0.05	0.04	0.01	0.04
Acenaphthene	µg/l	0.01	NONE	1.5	0.18	0.04	0.08
Fluorene	µg/l	0.01	NONE	0.13	0.1	0.03	0.03
Phenanthrene	µg/l	0.01	NONE	0.08	0.14	0.09	0.13
Anthracene	µg/l	0.01	NONE	< 0.01	0.08	< 0.01	0.06
Fluoranthene	µg/l	0.01	NONE	0.28	0.17	< 0.01	0.45
Pyrene	µg/l	0.01	NONE	0.21	0.15	< 0.01	0.44
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	0.08	< 0.01	0.22
Chrysene	µg/l	0.01	NONE	< 0.01	0.06	< 0.01	0.23
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.44
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.12
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.35
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.19
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	0.22
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	NONE	2.22	4.39	0.9	3
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	2.9	2.5	1.2	6.4
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	0.15	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.9	4	< 0.4	0.9
Copper (dissolved)	µg/l	0.7	ISO 17025	17	15	< 0.7	11
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	3.2	< 1.0	< 1.0
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	7.1	1.6	3.9	0.9
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	140	12	4.2	2.1

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Analytical Report Number : 26-031377
Project / Site name: Barugh Green Whaley Road

* 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 *
947890	TP101	None Supplied	0.5	Brown loam and sand with gravel and stones
947891	TP102	None Supplied	0.9	Brown sand with gravel and stones
947892	TP103	None Supplied	0.2	Brown sand with gravel and stones
947893	TP105	None Supplied	0.6	Brown clay and sand with gravel
947894	TP108	None Supplied	0.8	Brown sand with gravel and stones
947895	TP109	None Supplied	0.3	Brown clay and sand with gravel and stones
947896	TP110	None Supplied	0.8	Brown sand with gravel and stones

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Analytical Report Number : 26-031377
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Calorific Value of soil	Determination of the calorific value of soil by combustion in a controlled environment	Calorific Value of Soil by Bomb Calorimeter	L013B	D	ISO 17025
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
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.	L019B	D	NONE
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	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
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	L039B	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Chloride in soil	Determination of acid soluble chloride in soil by extraction with nitric acid, addition of silver nitrate followed by titration against thiocyanate	In-house method	L075B	D	NONE
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
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE

Analytical Report Number : 26-031377
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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	L080-PL	W	MCERTS
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-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	L080-PL	W	MCERTS
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 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

#- Quality control parameter failure associated with this result; other checks applied prior to reporting the data have been accepted. The result should be considered as deviating and should be interpreted with caution. The result is not accredited.

Sample Deviation Report

Analytical Report Number : 26-031377
Project / Site name: Barugh Green Whaley Road

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/Insufficient material provided c - Holding time d - Headspace e - Temperature

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP102	None Supplied	S	947891	c	Sulphide in soil	L010-PL	c
TP109	None Supplied	S	947895	c	Sulphide in soil	L010-PL	c
TP110	None Supplied	S	947896	c	Sulphide in soil	L010-PL	c

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Analytical Report Number : 26-031598

Replaces Analytical Report Number: 26-031598, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to sample 949218 as per client's request

Project / Site name:	Barugh Green Whaley Road	**Samples received on:**	11/06/2026
Your job number:	6709	**Samples instructed on/ Analysis started on:**	11/06/2026
Your order number:	6414-EJS	**Analysis completed by:**	08/07/2026
Report Issue Number:	2	**Report issued on:**	08/07/2026
Samples Analysed:	4 soil samples - 2 leachate samples		

Signed:

Trevor Hill
Customer Service
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
air	- once the analysis is complete

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

Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

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Analytical Report Number: 26-031598
Project / Site name: Barugh Green Whaley Road
Your Order No: 6414-EJS

Lab Sample Number				949217	949218	949219	949220
Sample Reference				WS101	WS105	WS106	WS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.95	0.30	0.50	0.40
Date Sampled				09/06/2026	10/06/2026	10/06/2026	09/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	9.8	9.2	17
Total mass of sample received	kg	0.1	NONE	1.6	1	1.7	1.7

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SPU	SPU	SPU	SPU
Analysis completed	N/A	N/A	N/A	24/06/2026	24/06/2026	24/06/2026	24/06/2026
Actinolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-
Amosite detected	Type	N/A	ISO 17025	-	Detected	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	Not-detected	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	Not-detected	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-
Tremolite detected	Type	N/A	ISO 17025	-	Not-detected	-	-
Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	< 0.001	-	-
Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	Loose Fibres	-	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.7	7.9	6.5	7.6
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	8900	21000	63000	-
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	34	5500	5600	4600
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	17.1	2740	2800	2300
Sulphide	mg/kg	1	MCERTS	3.9	< 1.0	5.7	-
Total Chloride	mg/kg	5	NONE	50	150	14	-
Organic Matter (automated)	%	0.1	MCERTS	2.2	4.8	9.2	5.3

Total Phenols

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-031598
Project / Site name: Barugh Green Whaley Road
Your Order No: 6414-EJS

Lab Sample Number				949217	949218	949219	949220
Sample Reference				WS101	WS105	WS106	WS110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				0.95	0.30	0.50	0.40
Date Sampled				09/06/2026	10/06/2026	10/06/2026	09/06/2026
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	0.35	0.84	17	0.74
Acenaphthylene	mg/kg	0.05	MCERTS	0.06	0.09	0.2	0.08
Acenaphthene	mg/kg	0.05	MCERTS	0.25	0.07	1.4	0.28
Fluorene	mg/kg	0.05	MCERTS	0.26	0.15	4.8	0.28
Phenanthrene	mg/kg	0.05	MCERTS	1.9	1.2	6.5	2.5
Anthracene	mg/kg	0.05	MCERTS	0.57	0.2	1.5	0.59
Fluoranthene	mg/kg	0.05	MCERTS	2.3	1	5.4	2.9
Pyrene	mg/kg	0.05	MCERTS	2	0.94	4.2	2.6
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.2	0.62	2.7	1.5
Chrysene	mg/kg	0.05	MCERTS	1.3	0.75	2.6	1.6
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.1	0.8	2.4	1.8
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.71	0.37	1.1	0.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1	0.66	1.9	1.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.47	0.37	1.1	0.75
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.16	0.11	0.57	0.21
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.53	0.46	1	0.87
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	14	8.62	54	18.9
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	39	53	140	60
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	3.2	0.3	0.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	27	18	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	64	80	57	53
Lead (aqua regia extractable)	mg/kg	1	MCERTS	33	92	59	100
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.6	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	35	32	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	3	1.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	250	250	120	210

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

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Analytical Report Number:	**26-031598**
Project / Site name:	**Barugh Green Whaley Road**
Your Order No:	**6414-EJS**

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 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	Analysis completed	Analyst ID
949218	WS105	0.3	185	Loose Fibres	**Amosite**	< 0.001	**< 0.001**	08/07/2026	SPU

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

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-031598
Project / Site name: Barugh Green Whaley Road

Your Order No: 6414-EJS

Lab Sample Number				949217	949218
Sample Reference				WS101	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				0.95	0.30
Date Sampled				09/06/2026	10/06/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
General Inorganics					
pH (automated)	pH Units	N/A	ISO 17025	7.4	7.1
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	< 1	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	543	761
Total Phenols					
Total Phenols (monohydric) low level	µg/l	1	NONE	< 1.0	< 1.0
Speciated PAHs					
Naphthalene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	0.03	0.01
Fluorene	µg/l	0.01	NONE	0.04	0.02
Phenanthrene	µg/l	0.01	NONE	0.08	0.05
Anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.02	< 0.01
Pyrene	µg/l	0.01	NONE	0.02	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	NONE	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	NONE	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	NONE	0.2	< 0.16
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	1	ISO 17025	3.4	1
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4
Copper (dissolved)	µg/l	0.7	ISO 17025	1.6	1.7
Lead (dissolved)	µg/l	1	ISO 17025	< 1.0	1.9
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	0.7	0.6
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	4.3	11

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

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Analytical Report Number : 26-031598
Project / Site name: Barugh Green Whaley Road

* 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 *
949217	WS101	None Supplied	0.95	Grey clay with gravel
949218	WS105	None Supplied	0.3	Brown clay and sand with gravel
949219	WS106	None Supplied	0.5	Brown loam and clay with gravel
949220	WS110	None Supplied	0.4	Brown clay and sand with gravel

Analytical Report Number : 26-031598
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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, 2021	A001B	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode	In-house method	L010-PL	D	MCERTS
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
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.	L019B	D	NONE
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	L038B	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES	In-house method	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
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	L039B	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
Chloride in soil	Determination of acid soluble chloride in soil by extraction with nitric acid, addition of silver nitrate followed by titration against thiocyanate	In-house method	L075B	D	NONE
Free cyanide (low level) in leachate	Determination of free cyanide by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	NONE
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	L080-PL	W	MCERTS
Monohydric phenols (low level) in leachate	Determination of phenols in leachate by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-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	L080-PL	W	MCERTS
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

Analytical Report Number : 26-031598
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
pH at 20°C in leachate (automated)	Determination of pH in leachate by electrometric measurement	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in leachate	SVOCs and PAHs in leachate	In-house method	L102B		NONE
NRA Leachate 10:1		In-house method based on interim NRA guidance (1994)	L020B	W	NONE
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references	HSE Report No: 83/1996, HSG 248 (2021), HSG 264 (2012) & SCA Blue Book (draft)	A006B	D	ISO 17025

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.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

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Analytical Report Number : 26-043510

Project / Site name:	Barugh Green Whaley Road	**Samples received on:**	07/08/2026
Your job number:	6709	**Samples instructed on/ Analysis started on:**	07/08/2026
Your order number:	6709 EJS	**Analysis completed by:**	17/08/2026
Report Issue Number:	1	**Report issued on:**	18/08/2026
Samples Analysed:	2 soil samples		

Signed:

Rachel Chappell
Key Account Manager
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
air	- once the analysis is complete

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Retention period for records and reports is minimum 6 years from the date of issue of the final report.
Some records may be kept for longer according to other legal/best practice requirements.

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.

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-043510
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709 EJS

Lab Sample Number				1010707	1010708
Sample Reference				Sample A	Sample B
Sample Number				RO101B	RO101B
Water Matrix				N/A	N/A
Depth (m)				2.15-2.40	2.70
Date Sampled				06/08/2026	06/08/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Mass of stone >10mm	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	29	20
Total mass of sample received	kg	0.1	NONE	2	0.9

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDZ	DSA
Analysis completed	N/A	N/A	N/A	17/08/2026	14/08/2026

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	10.4	8.9
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	5900	5200
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2960	2580
Organic Matter	%	0.1	MCERTS	15	-
Organic Matter (automated)	%	0.1	MCERTS	-	1

Total Phenols

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

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	33	1.8
Acenaphthylene	mg/kg	0.05	MCERTS	1.4	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	3.1	0.18
Fluorene	mg/kg	0.05	MCERTS	11	0.25
Phenanthrene	mg/kg	0.05	MCERTS	26	0.52
Anthracene	mg/kg	0.05	MCERTS	14	0.19
Fluoranthene	mg/kg	0.05	MCERTS	53	1
Pyrene	mg/kg	0.05	MCERTS	46	0.94
Benzo(a)anthracene	mg/kg	0.05	MCERTS	23	0.45
Chrysene	mg/kg	0.05	MCERTS	19	0.44
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	26	0.52
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	9	0.27
Benzo(a)pyrene	mg/kg	0.05	MCERTS	18	0.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	10	0.22
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	<0.1 ^^	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	9.8	0.23

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	302	7.45

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Analytical Report Number: 26-043510
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709 EJS

Lab Sample Number				1010707	1010708
Sample Reference				Sample A	Sample B
Sample Number				RO101B	RO101B
Water Matrix				N/A	N/A
Depth (m)				2.15-2.40	2.70
Date Sampled				06/08/2026	06/08/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	31	6.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	13	9.3
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	78	43
Lead (aqua regia extractable)	mg/kg	1	MCERTS	230	72
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.2	0.4
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	4	1.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	610	450
Petroleum Hydrocarbons					
TPHCWG - Aliphatic >EC5 - EC6 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC6 - EC8 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	0.029	< 0.010
TPHCWG - Aliphatic >EC8 - EC10 $_{HS_1D_AL}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aliphatic >EC10 - EC12 $_{EH_CU_1D_AL}$	mg/kg	1	MCERTS	2	1.9
TPHCWG - Aliphatic >EC12 - EC16 $_{EH_CU_1D_AL}$	mg/kg	2	MCERTS	3.6	4.6
TPHCWG - Aliphatic >EC16 - EC21 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0
TPHCWG - Aliphatic >EC21 - EC35 $_{EH_CU_1D_AL}$	mg/kg	8	MCERTS	73	< 8.0
TPHCWG - Aliphatic >EC5 - EC35 $_{EH_CU+HS_1D_AL}$	mg/kg	10	NONE	79	< 10
TPHCWG - Aromatic >EC5 - EC7 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	0.11	0.022
TPHCWG - Aromatic >EC7 - EC8 $_{HS_1D_AR}$	mg/kg	0.01	MCERTS	0.026	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS_1D_AR}$	mg/kg	0.02	MCERTS	0.077	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH_CU_1D_AR}$	mg/kg	1	MCERTS	7.7	1.2
TPHCWG - Aromatic >EC12 - EC16 $_{EH_CU_1D_AR}$	mg/kg	2	MCERTS	21	2.1
TPHCWG - Aromatic >EC16 - EC21 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	65	< 10
TPHCWG - Aromatic >EC21 - EC35 $_{EH_CU_1D_AR}$	mg/kg	10	MCERTS	150	< 10
TPHCWG - Aromatic >EC5 - EC35 $_{EH_CU+HS_1D_AR}$	mg/kg	10	NONE	240	< 10
VOCs					
Chloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Vinyl Chloride	µg/kg	5	NONE	< 5.0	< 5.0
Trichlorofluoromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans 1,2-dichloroethylene	µg/kg	5	MCERTS	< 5.0	< 5.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1-Dichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
2,2-Dichloropropane	µg/kg	5	NONE	< 5.0	< 5.0
Chloroform	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1-Trichloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloroethane	µg/kg	7	MCERTS	< 7.0	< 7.0
1,1-Dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,2-dichloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
Benzene	µg/kg	5	MCERTS	100	21

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Analytical Report Number: 26-043510
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709 EJS

Lab Sample Number				1010707	1010708
Sample Reference				Sample A	Sample B
Sample Number				RO101B	RO101B
Water Matrix				N/A	N/A
Depth (m)				2.15-2.40	2.70
Date Sampled				06/08/2026	06/08/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Carbontetrachloride	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichloropropane	µg/kg	6	MCERTS	< 6.0	< 6.0
Trichloroethene	µg/kg	10	MCERTS	< 10	< 10
Dibromomethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromodichloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Cis-1,3-dichloropropene	µg/kg	5	MCERTS	< 5.0	< 5.0
Trans-1,3-dichloropropene	µg/kg	10	MCERTS	< 10	< 10
Toluene	µg/kg	5	MCERTS	24	< 5.0
1,1,2-Trichloroethane	µg/kg	6	MCERTS	< 6.0	< 6.0
1,3-Dichloropropane	µg/kg	5	MCERTS	< 5.0	< 5.0
Dibromochloromethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Tetrachloroethene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromoethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Chlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,1,1,2-Tetrachloroethane	µg/kg	5	MCERTS	< 5.0	< 5.0
Ethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p & m-Xylene	µg/kg	8	MCERTS	29	< 8.0
Styrene	µg/kg	5	MCERTS	< 5.0	< 5.0
Bromoform	µg/kg	5	MCERTS	< 5.0	< 5.0
o-Xylene	µg/kg	5	MCERTS	19	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	150	< 5.0
1,1,2,2-Tetrachloroethane	µg/kg	5	NONE	< 5.0	< 5.0
Bromobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
n-Propylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
2-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
4-Chlorotoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3,5-Trimethylbenzene	µg/kg	5	MCERTS	8.9	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	8.6	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	37	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	9.6	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2-Dibromo-3-chloropropane	µg/kg	8	MCERTS	< 8.0	< 8.0
1,2,4-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
Hexachlorobutadiene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,3-Trichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 26-043510
Project / Site name: Barugh Green Whaley Road
Your Order No: 6709 EJS

Lab Sample Number				1010707	1010708
Sample Reference				Sample A	Sample B
Sample Number				RO101B	RO101B
Water Matrix				N/A	N/A
Depth (m)				2.15-2.40	2.70
Date Sampled				06/08/2026	06/08/2026
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
SVOCs					
Aniline	mg/kg	0.1	NONE	<0.2 ^^	< 0.1
Phenol	mg/kg	0.2	ISO 17025	<0.4 ^^	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	<0.4 ^^	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	<0.4 ^^	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	<0.1 ^^	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
Isophorone	mg/kg	0.2	MCERTS	<0.4 ^^	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	<0.6 ^^	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	<0.2 ^^	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	<0.2 ^^	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	<0.2 ^^	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	9.2	0.4
2-Chloronaphthalene	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	<0.2 ^^	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	<0.2 ^^	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	6.8	0.3
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	<0.4 ^^	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
Azobenzene	mg/kg	0.3	NONE	<0.6 ^^	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	<0.4 ^^	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	<0.6 ^^	< 0.30
Carbazole	mg/kg	0.3	MCERTS	3.6	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	<0.4 ^^	< 0.2
Anthraquinone	mg/kg	0.3	NONE	2.3	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	<0.6 ^^	< 0.3

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

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Analytical Report Number : 26-043510
Project / Site name: Barugh Green Whaley Road

* 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 *
1010707	Sample A	RO101B	2.15-2.40	Brown clay and sand with gravel
1010708	Sample B	RO101B	2.7	Light brown clay and sand with gravel

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number : 26-043510
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI 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, 2021	A001B	D	ISO 17025
Moisture Content (Wet Weight)	Moisture content (% wet weight), determined gravimetrically (up to 30°C)	In-house-procedure based on BS EN 12880:2000	L019B	W	NONE
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.	L019B	D	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L023B	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	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated PAHs and/or Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds (including PAH) in soil by extraction in dichloromethane and hexane followed by GC-MS	In-house method based on USEPA 8270	L064B	D	MCERTS
BTEX and/or Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS	In-house method based on USEPA 8260	L073B	W	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID in soil	Determination of total petroleum hydrocarbons in soil by GC-FID with carbon banding aliphatic and aromatic	In-house method	L076B	D	MCERTS
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil (Summed Bands)	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic (Summed Bands).	Calculation	L076B/L088-PL	D/W	NONE
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	L080-PL	W	MCERTS
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	L080-PL	W	MCERTS
Total petroleum hydrocarbons with carbon banding by HS-GC/MS in soil	Determination of total petroleum hydrocarbons in soil by HS-GC/MS with carbon banding aliphatic and aromatic	In-house method	L088-PL	W	MCERTS
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
Soil Descriptions	Textural classification	In-house method	L019B	W	NONE

Analytical Report Number : 26-043510
Project / Site name: Barugh Green Whaley Road

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters Heating/Cooling (PrW) DI Process Water (DI PrW)
Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate (Walkley Black Method)	In-house method	L009B	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.

Where coal tar is reported as "indicative/not indicative", PAH source attribution has been assessed using the ratio of parent PAHs to alkylated PAHs to indicate a likely pyrogenic (coal tar–related) or petrogenic (bitumen-related) origin. This assessment is independent of total residue and/or benzo(a)pyrene concentrations and is provided for indicative purposes only; it represents a single line of evidence and does not, in isolation, constitute confirmation or classification as hazardous under WM3 guidance.

Quality control parameter failure associated with individual result applies to calculated sum of individuals.
The result for sum should be interpreted with caution

^^- Sample required dilution within the concentration range for the procedure due to matrix effect/ analyte concentration/ sample volume. The method limit of detection has been raised in line with the dilution.

Waste Classification Report

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

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

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

DYP7M-5DF61-XWHGL

Report is invalid if pages are removed.

Job name

Whaley Road, Barugh Green

Description/Comments

Project

6709

Site

Baurgh Green

Classified by

Name:
Emily Sykes
Date:
29 Sep 2026 13:12 GMT
Telephone:
01132631155

Company:
JPG (LEEDS) Ltd
5 John Charles Way
Leeds
LS12 6QA

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

HazWasteOnline™ Certification: **CERTIFIED**

Course	Date
Hazardous Waste Classification	07 Aug 2025

Next 3 year Refresher due by Aug 2028

Purpose of classification

2 - Material Characterisation

Address of the waste

Barnsley, South Yorkshire, England, United Kingdom **Post Code** S75 1FJ

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Redevelopment of existing commercial development.

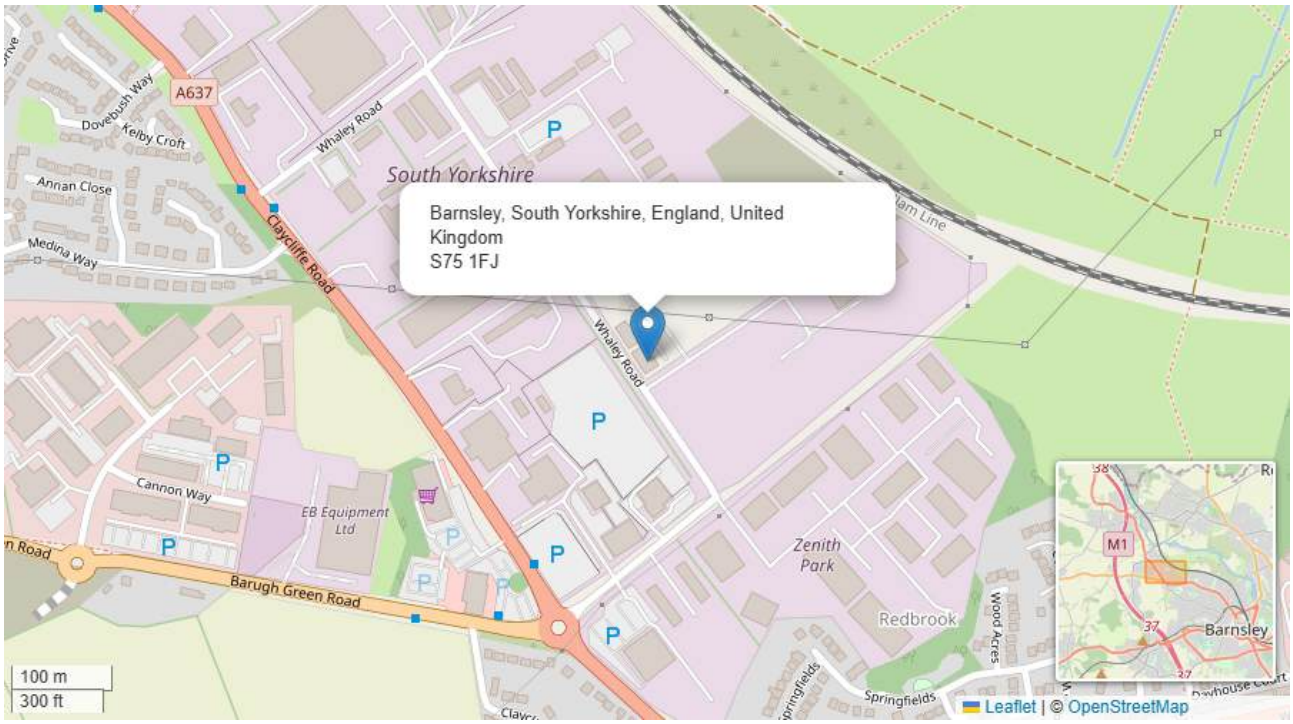
Description of the specific process, sub-process and/or activity that created the waste

Waste created during historic and existing land uses, e.g. coke works, railway, adjacent coal mine workings.

Description of the waste

Dark yellowish brown and greyish brown occasionally clayey sandy gravel of primarily sandstone and limestone but also clinker, mudstone, brick, bitmac and rare wood and coal.
Dark grey and black slightly sandy gravelly clay. Gravel comprising mudstone, coal and occasional ironstone. (Coal backfill)
Dark reddish brown and orangish brown slightly sandy occasionally silty gravelly clay. Gravel comprising coal, mudstone, shale and siltstone.

Waste Location



Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP101	0.50	Non Hazardous		3
2	TP102	0.90	Non Hazardous		5
3	TP103	0.20	Non Hazardous		7
4	TP105	0.60	Non Hazardous		9
5	TP108	0.80	Non Hazardous		11
6	TP109	0.30	Non Hazardous		13
7	TP110	0.80	Non Hazardous		15
8	WS101	0.95	Non Hazardous		17
9	WS105	0.30	Non Hazardous		19
10	WS106	0.50	Non Hazardous		21
11	WS110	0.40	Non Hazardous		23
12	Sample A	2.15-2.40	Non Hazardous		25
13	Sample B	2.70	Non Hazardous		27

Related documents

#	Name	Description
1	JPG WASTE STREAM V21	waste stream template used to create this Job

Report

Created by: Emily Sykes

Created date: 29 Sep 2026 13:12 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	29
Appendix B: Rationale for selection of metal species	30
Appendix C: Version	31

Classification of sample: TP101

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

Sample details

Sample name:
TP101
Sample Depth:
0.50 m
Moisture content:
7.9%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.9% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		21	mg/kg	1.32	27.727	mg/kg	0.00277 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38	mg/kg	1.462	55.539	mg/kg	0.00555 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		52	mg/kg	1.126	58.546	mg/kg	0.00585 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	97	mg/kg	1.56	151.302	mg/kg	0.0097 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18	mg/kg	2.976	53.573	mg/kg	0.00536 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.4	mg/kg	1.405	1.967	mg/kg	0.000197 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		120	mg/kg	2.469	296.316	mg/kg	0.0296 %		
11		pH			PH		8.7	pH		8.7	pH	8.7 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		10	mg/kg		10	mg/kg	0.001 %		
13		acenaphthylene		205-917-1	208-96-8		1.5	mg/kg		1.5	mg/kg	0.00015 %		
14		acenaphthene		201-469-6	83-32-9		9.5	mg/kg		9.5	mg/kg	0.00095 %		
15		fluorene		201-695-5	86-73-7		9.5	mg/kg		9.5	mg/kg	0.00095 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				69	mg/kg		69	mg/kg	0.0069 %		
			201-581-5	85-01-8									
17	•	anthracene				17	mg/kg		17	mg/kg	0.0017 %		
			204-371-1	120-12-7									
18	•	fluoranthene				110	mg/kg		110	mg/kg	0.011 %		
			205-912-4	206-44-0									
19	•	pyrene				98	mg/kg		98	mg/kg	0.0098 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				39	mg/kg		39	mg/kg	0.0039 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				36	mg/kg		36	mg/kg	0.0036 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				48	mg/kg		48	mg/kg	0.0048 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				20	mg/kg		20	mg/kg	0.002 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				39	mg/kg		39	mg/kg	0.0039 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				16	mg/kg		16	mg/kg	0.0016 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				4.6	mg/kg		4.6	mg/kg	0.00046 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				18	mg/kg		18	mg/kg	0.0018 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.114 %		

Key

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

Classification of sample: TP102

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

Sample details

Sample name:
TP102
Sample Depth:
0.90 m
Moisture content:
6.1%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 6.1% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		75	mg/kg	1.32	99.024	mg/kg	0.0099 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5	mg/kg	1.142	0.571	mg/kg	0.0000571 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	23.385	mg/kg	0.00234 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		80	mg/kg	1.126	90.071	mg/kg	0.00901 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	59	mg/kg	1.56	92.029	mg/kg	0.0059 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		29	mg/kg	2.976	86.312	mg/kg	0.00863 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3.1	mg/kg	1.405	4.356	mg/kg	0.000436 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		250	mg/kg	2.469	617.324	mg/kg	0.0617 %		
11		pH			PH		7.9	pH		7.9	pH	7.9 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		1.3	mg/kg		1.3	mg/kg	0.00013 %		
13		acenaphthylene		205-917-1	208-96-8		0.1	mg/kg		0.1	mg/kg	0.00001 %		
14		acenaphthene		201-469-6	83-32-9		0.23	mg/kg		0.23	mg/kg	0.000023 %		
15		fluorene		201-695-5	86-73-7		0.35	mg/kg		0.35	mg/kg	0.000035 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				2.6	mg/kg		2.6	mg/kg	0.00026 %		
			201-581-5	85-01-8									
17	•	anthracene				0.52	mg/kg		0.52	mg/kg	0.000052 %		
			204-371-1	120-12-7									
18	•	fluoranthene				2.7	mg/kg		2.7	mg/kg	0.00027 %		
			205-912-4	206-44-0									
19	•	pyrene				2.6	mg/kg		2.6	mg/kg	0.00026 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2	mg/kg		2	mg/kg	0.0002 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.9	mg/kg		1.9	mg/kg	0.00019 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				0.93	mg/kg		0.93	mg/kg	0.000093 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
29		asbestos				0.217	mg/kg		0.217	mg/kg	0.0000217 %		
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.1 %		

Key

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

Classification of sample: TP103

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

Sample details

Sample name:
TP103
Sample Depth:
0.20 m
Moisture content:
5%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 5% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9	mg/kg	1.32	11.883	mg/kg	0.00119 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7	mg/kg	1.142	0.8	mg/kg	0.00008 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		240	mg/kg	1.462	350.773	mg/kg	0.0351 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		31	mg/kg	1.126	34.903	mg/kg	0.00349 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	44	mg/kg	1.56	68.632	mg/kg	0.0044 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		20	mg/kg	2.976	59.525	mg/kg	0.00595 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3.6	mg/kg	1.405	5.058	mg/kg	0.000506 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		120	mg/kg	2.469	296.316	mg/kg	0.0296 %		
11		pH			PH		10.6	pH		10.6	pH	10.6 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.71	mg/kg		0.71	mg/kg	0.000071 %		
13		acenaphthylene		205-917-1	208-96-8		1.5	mg/kg		1.5	mg/kg	0.00015 %		
14		acenaphthene		201-469-6	83-32-9		2	mg/kg		2	mg/kg	0.0002 %		
15		fluorene		201-695-5	86-73-7		2.4	mg/kg		2.4	mg/kg	0.00024 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				16	mg/kg		16	mg/kg	0.0016 %		
			201-581-5	85-01-8									
17	•	anthracene				5.9	mg/kg		5.9	mg/kg	0.00059 %		
			204-371-1	120-12-7									
18	•	fluoranthene				29	mg/kg		29	mg/kg	0.0029 %		
			205-912-4	206-44-0									
19	•	pyrene				27	mg/kg		27	mg/kg	0.0027 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				15	mg/kg		15	mg/kg	0.0015 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				14	mg/kg		14	mg/kg	0.0014 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				21	mg/kg		21	mg/kg	0.0021 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				9.2	mg/kg		9.2	mg/kg	0.00092 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				21	mg/kg		21	mg/kg	0.0021 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				10	mg/kg		10	mg/kg	0.001 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				2.1	mg/kg		2.1	mg/kg	0.00021 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				12	mg/kg		12	mg/kg	0.0012 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0992 %		

Key

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

Classification of sample: TP105

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

Sample details

Sample name:
TP105
Sample Depth:
0.60 m
Moisture content:
9%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		130	mg/kg	1.32	171.642	mg/kg	0.0172 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		17	mg/kg	1.462	24.846	mg/kg	0.00248 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		59	mg/kg	1.126	66.427	mg/kg	0.00664 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	52	mg/kg	1.56	81.11	mg/kg	0.0052 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		0.7	mg/kg	1.16	0.812	mg/kg	0.0000812 %		
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		32	mg/kg	2.976	95.24	mg/kg	0.00952 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3.5	mg/kg	1.405	4.918	mg/kg	0.000492 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		90	mg/kg	2.469	222.237	mg/kg	0.0222 %		
11		pH			PH		6.7	pH		6.7	pH	6.7 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		6.3	mg/kg		6.3	mg/kg	0.00063 %		
13		acenaphthylene		205-917-1	208-96-8		0.17	mg/kg		0.17	mg/kg	0.000017 %		
14		acenaphthene		201-469-6	83-32-9		1.3	mg/kg		1.3	mg/kg	0.00013 %		
15		fluorene		201-695-5	86-73-7		4	mg/kg		4	mg/kg	0.0004 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				7.4	mg/kg		7.4	mg/kg	0.00074 %		
			201-581-5	85-01-8									
17	•	anthracene				2.1	mg/kg		2.1	mg/kg	0.00021 %		
			204-371-1	120-12-7									
18	•	fluoranthene				5.9	mg/kg		5.9	mg/kg	0.00059 %		
			205-912-4	206-44-0									
19	•	pyrene				4.8	mg/kg		4.8	mg/kg	0.00048 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2.5	mg/kg		2.5	mg/kg	0.00025 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2.3	mg/kg		2.3	mg/kg	0.00023 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.42	mg/kg		0.42	mg/kg	0.000042 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0685 %		

Key

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

Classification of sample: TP108

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

Sample details

Sample name:
TP108
Sample Depth:
0.80 m
Moisture content:
7.2%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.2% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5	mg/kg	1.142	0.571	mg/kg	0.0000571 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		160	mg/kg	1.462	233.849	mg/kg	0.0234 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		49	mg/kg	1.126	55.169	mg/kg	0.00552 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	61	mg/kg	1.56	95.149	mg/kg	0.0061 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21	mg/kg	2.976	62.502	mg/kg	0.00625 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		**<LOD**
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		110	mg/kg	2.469	271.623	mg/kg	0.0272 %		
11		pH			PH		9.9	pH		9.9	pH	9.9 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		1.6	mg/kg		1.6	mg/kg	0.00016 %		
13		acenaphthylene		205-917-1	208-96-8		0.55	mg/kg		0.55	mg/kg	0.000055 %		
14		acenaphthene		201-469-6	83-32-9		1.6	mg/kg		1.6	mg/kg	0.00016 %		
15		fluorene		201-695-5	86-73-7		1.6	mg/kg		1.6	mg/kg	0.00016 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				12	mg/kg		12	mg/kg	0.0012 %		
			201-581-5	85-01-8									
17	•	anthracene				3.9	mg/kg		3.9	mg/kg	0.00039 %		
			204-371-1	120-12-7									
18	•	fluoranthene				20	mg/kg		20	mg/kg	0.002 %		
			205-912-4	206-44-0									
19	•	pyrene				19	mg/kg		19	mg/kg	0.0019 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				10	mg/kg		10	mg/kg	0.001 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				10	mg/kg		10	mg/kg	0.001 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				13	mg/kg		13	mg/kg	0.0013 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				6.3	mg/kg		6.3	mg/kg	0.00063 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				12	mg/kg		12	mg/kg	0.0012 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				6.3	mg/kg		6.3	mg/kg	0.00063 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				7.4	mg/kg		7.4	mg/kg	0.00074 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0829 %		

Key

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

Classification of sample: TP109

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

Sample details

Sample name:
TP109
Sample Depth:
0.30 m
Moisture content:
7.9%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.9% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		120	mg/kg	1.32	158.439	mg/kg	0.0158 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38	mg/kg	1.462	55.539	mg/kg	0.00555 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		65	mg/kg	1.126	73.183	mg/kg	0.00732 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	49	mg/kg	1.56	76.431	mg/kg	0.0049 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		0.4	mg/kg	1.16	0.464	mg/kg	0.0000464 %		
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		22	mg/kg	2.976	65.478	mg/kg	0.00655 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				2.5	mg/kg	1.405	3.513	mg/kg	0.000351 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		130	mg/kg	2.469	321.009	mg/kg	0.0321 %		
11		pH			PH		7.4	pH		7.4	pH	7.4 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		1.7	mg/kg		1.7	mg/kg	0.00017 %		
13		acenaphthylene		205-917-1	208-96-8		0.15	mg/kg		0.15	mg/kg	0.000015 %		
14		acenaphthene		201-469-6	83-32-9		0.63	mg/kg		0.63	mg/kg	0.000063 %		
15		fluorene		201-695-5	86-73-7		0.54	mg/kg		0.54	mg/kg	0.000054 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				4.8	mg/kg		4.8	mg/kg	0.00048 %		
			201-581-5	85-01-8									
17	•	anthracene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
			204-371-1	120-12-7									
18	•	fluoranthene				6	mg/kg		6	mg/kg	0.0006 %		
			205-912-4	206-44-0									
19	•	pyrene				5.4	mg/kg		5.4	mg/kg	0.00054 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				3.1	mg/kg		3.1	mg/kg	0.00031 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
29		asbestos				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.0764 %		

Key

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

Classification of sample: TP110

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

Sample details

Sample name:
TP110
Sample Depth:
0.80 m
Moisture content:
8.2%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.2% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.1	mg/kg	1.32	10.695	mg/kg	0.00107 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		110	mg/kg	1.462	160.771	mg/kg	0.0161 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30	mg/kg	1.56	46.794	mg/kg	0.003 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19	mg/kg	2.976	56.549	mg/kg	0.00565 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.7	mg/kg	1.405	2.389	mg/kg	0.000239 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		60	mg/kg	2.469	148.158	mg/kg	0.0148 %		
11		pH			PH		10.1	pH		10.1	pH	10.1 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.32	mg/kg		0.32	mg/kg	0.000032 %		
13		acenaphthylene		205-917-1	208-96-8		0.1	mg/kg		0.1	mg/kg	0.00001 %		
14		acenaphthene		201-469-6	83-32-9		0.12	mg/kg		0.12	mg/kg	0.000012 %		
15		fluorene		201-695-5	86-73-7		0.12	mg/kg		0.12	mg/kg	0.000012 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
			201-581-5	85-01-8									
17	•	anthracene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			204-371-1	120-12-7									
18	•	fluoranthene				2.8	mg/kg		2.8	mg/kg	0.00028 %		
			205-912-4	206-44-0									
19	•	pyrene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.92	mg/kg		0.92	mg/kg	0.000092 %		
		601-036-00-5	205-916-6	207-08-9									
24		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									
25	•	indeno[123-cd]pyrene				0.76	mg/kg		0.76	mg/kg	0.000076 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				0.93	mg/kg		0.93	mg/kg	0.000093 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
29		asbestos				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.045 %		

Key

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

Classification of sample: WS101

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

Sample details

Sample name:
WS101
Sample Depth:
0.95 m
Moisture content:
15%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 15% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		39	mg/kg	1.32	51.493	mg/kg	0.00515 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		**<LOD**
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19	mg/kg	1.462	27.77	mg/kg	0.00278 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		64	mg/kg	1.126	72.057	mg/kg	0.00721 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	33	mg/kg	1.56	51.474	mg/kg	0.0033 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28	mg/kg	2.976	83.335	mg/kg	0.00833 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		**<LOD**
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		250	mg/kg	2.469	617.324	mg/kg	0.0617 %		
11		pH			PH		7.7	pH		7.7	pH	7.7 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.35	mg/kg		0.35	mg/kg	0.000035 %		
13		acenaphthylene		205-917-1	208-96-8		0.06	mg/kg		0.06	mg/kg	0.000006 %		
14		acenaphthene		201-469-6	83-32-9		0.25	mg/kg		0.25	mg/kg	0.000025 %		
15		fluorene		201-695-5	86-73-7		0.26	mg/kg		0.26	mg/kg	0.000026 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				1.9	mg/kg		1.9	mg/kg	0.00019 %		
			201-581-5	85-01-8									
17	•	anthracene				0.57	mg/kg		0.57	mg/kg	0.000057 %		
			204-371-1	120-12-7									
18	•	fluoranthene				2.3	mg/kg		2.3	mg/kg	0.00023 %		
			205-912-4	206-44-0									
19	•	pyrene				2	mg/kg		2	mg/kg	0.0002 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.3	mg/kg		1.3	mg/kg	0.00013 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.71	mg/kg		0.71	mg/kg	0.000071 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1	mg/kg		1	mg/kg	0.0001 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				0.47	mg/kg		0.47	mg/kg	0.000047 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				0.53	mg/kg		0.53	mg/kg	0.000053 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0899 %		

Key

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

Classification of sample: WS105

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

Sample details

Sample name:
WS105
Sample Depth:
0.30 m
Moisture content:
9.8%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.8% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		53	mg/kg	1.32	69.977	mg/kg	0.007 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		3.2	mg/kg	1.142	3.655	mg/kg	0.000366 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		27	mg/kg	1.462	39.462	mg/kg	0.00395 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		80	mg/kg	1.126	90.071	mg/kg	0.00901 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	92	mg/kg	1.56	143.503	mg/kg	0.0092 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		**<LOD**
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		35	mg/kg	2.976	104.169	mg/kg	0.0104 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<1	mg/kg	1.405	<1.405	mg/kg	<0.000141 %		**<LOD**
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		250	mg/kg	2.469	617.324	mg/kg	0.0617 %		
11		pH			PH		7.9	pH		7.9	pH	7.9 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.84	mg/kg		0.84	mg/kg	0.000084 %		
13		acenaphthylene		205-917-1	208-96-8		0.09	mg/kg		0.09	mg/kg	0.000009 %		
14		acenaphthene		201-469-6	83-32-9		0.07	mg/kg		0.07	mg/kg	0.000007 %		
15		fluorene		201-695-5	86-73-7		0.15	mg/kg		0.15	mg/kg	0.000015 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				1.2	mg/kg		1.2	mg/kg	0.00012 %		
			201-581-5	85-01-8									
17	•	anthracene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
			204-371-1	120-12-7									
18	•	fluoranthene				1	mg/kg		1	mg/kg	0.0001 %		
			205-912-4	206-44-0									
19	•	pyrene				0.94	mg/kg		0.94	mg/kg	0.000094 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.62	mg/kg		0.62	mg/kg	0.000062 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.75	mg/kg		0.75	mg/kg	0.000075 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.8	mg/kg		0.8	mg/kg	0.00008 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.66	mg/kg		0.66	mg/kg	0.000066 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				0.37	mg/kg		0.37	mg/kg	0.000037 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
29		asbestos				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		**<LOD**
		650-013-00-6	- - - - - - -	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
										Total:	0.103 %		

Key

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

Classification of sample: WS106

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

Sample details

Sample name:
WS106
Sample Depth:
0.50 m
Moisture content:
9.2%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 9.2% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		140	mg/kg	1.32	184.846	mg/kg	0.0185 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		18	mg/kg	1.462	26.308	mg/kg	0.00263 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		57	mg/kg	1.126	64.176	mg/kg	0.00642 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	59	mg/kg	1.56	92.029	mg/kg	0.0059 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		0.6	mg/kg	1.16	0.696	mg/kg	0.0000696 %		
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		32	mg/kg	2.976	95.24	mg/kg	0.00952 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				3	mg/kg	1.405	4.215	mg/kg	0.000422 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		120	mg/kg	2.469	296.316	mg/kg	0.0296 %		
11		pH			PH		6.5	pH		6.5	pH	6.5 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		17	mg/kg		17	mg/kg	0.0017 %		
13		acenaphthylene		205-917-1	208-96-8		0.2	mg/kg		0.2	mg/kg	0.00002 %		
14		acenaphthene		201-469-6	83-32-9		1.4	mg/kg		1.4	mg/kg	0.00014 %		
15		fluorene		201-695-5	86-73-7		4.8	mg/kg		4.8	mg/kg	0.00048 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				6.5	mg/kg		6.5	mg/kg	0.00065 %		
			201-581-5	85-01-8									
17	•	anthracene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
			204-371-1	120-12-7									
18	•	fluoranthene				5.4	mg/kg		5.4	mg/kg	0.00054 %		
			205-912-4	206-44-0									
19	•	pyrene				4.2	mg/kg		4.2	mg/kg	0.00042 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				2.7	mg/kg		2.7	mg/kg	0.00027 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				2.6	mg/kg		2.6	mg/kg	0.00026 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				2.4	mg/kg		2.4	mg/kg	0.00024 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.9	mg/kg		1.9	mg/kg	0.00019 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				1.1	mg/kg		1.1	mg/kg	0.00011 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.57	mg/kg		0.57	mg/kg	0.000057 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				1	mg/kg		1	mg/kg	0.0001 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0786 %		

Key

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

Classification of sample: WS110

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

Sample details

Sample name:
WS110
Sample Depth:
0.40 m
Moisture content:
17%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 17% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		60	mg/kg	1.32	79.22	mg/kg	0.00792 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
3		chromium in Cr(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<1.8	mg/kg	1.923	<3.462	mg/kg	<0.000346 %		**<LOD**
4		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		26	mg/kg	1.462	38	mg/kg	0.0038 %		
5		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		53	mg/kg	1.126	59.672	mg/kg	0.00597 %		
6		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	100	mg/kg	1.56	155.982	mg/kg	0.01 %		
7		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		0.4	mg/kg	1.16	0.464	mg/kg	0.0000464 %		
8		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23	mg/kg	2.976	68.454	mg/kg	0.00685 %		
9		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.9	mg/kg	1.405	2.669	mg/kg	0.000267 %		
10		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		210	mg/kg	2.469	518.552	mg/kg	0.0519 %		
11		pH			PH		7.6	pH		7.6	pH	7.6 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		0.74	mg/kg		0.74	mg/kg	0.000074 %		
13		acenaphthylene		205-917-1	208-96-8		0.08	mg/kg		0.08	mg/kg	0.000008 %		
14		acenaphthene		201-469-6	83-32-9		0.28	mg/kg		0.28	mg/kg	0.000028 %		
15		fluorene		201-695-5	86-73-7		0.28	mg/kg		0.28	mg/kg	0.000028 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				2.5	mg/kg		2.5	mg/kg	0.00025 %		
			201-581-5	85-01-8									
17	•	anthracene				0.59	mg/kg		0.59	mg/kg	0.000059 %		
			204-371-1	120-12-7									
18	•	fluoranthene				2.9	mg/kg		2.9	mg/kg	0.00029 %		
			205-912-4	206-44-0									
19	•	pyrene				2.6	mg/kg		2.6	mg/kg	0.00026 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				1.6	mg/kg		1.6	mg/kg	0.00016 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.7	mg/kg		0.7	mg/kg	0.00007 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				1.5	mg/kg		1.5	mg/kg	0.00015 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				0.75	mg/kg		0.75	mg/kg	0.000075 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.21	mg/kg		0.21	mg/kg	0.000021 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				0.87	mg/kg		0.87	mg/kg	0.000087 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0886 %		

Key

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

Classification of sample: Sample A

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

Sample details

Sample name:
Sample A
Sample Depth:
2.15-2.40 m
Moisture content:
29%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 29% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		31	mg/kg	1.32	40.93	mg/kg	0.00409 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		13	mg/kg	1.142	14.85	mg/kg	0.00149 %		
3		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21	mg/kg	1.462	30.693	mg/kg	0.00307 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		78	mg/kg	1.126	87.819	mg/kg	0.00878 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	230	mg/kg	1.56	358.757	mg/kg	0.023 %		
6		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		1.2	mg/kg	1.16	1.392	mg/kg	0.000139 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		33	mg/kg	2.976	98.217	mg/kg	0.00982 %		
8		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				4	mg/kg	1.405	5.62	mg/kg	0.000562 %		
9		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		610	mg/kg	2.469	1506.271	mg/kg	0.151 %		
10		TPH (C6 to C40) petroleum group			TPH		319	mg/kg		319	mg/kg	0.0319 %		
11		pH			PH		10.4	pH		10.4	pH	10.4 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		33	mg/kg		33	mg/kg	0.0033 %		
13		acenaphthylene		205-917-1	208-96-8		1.4	mg/kg		1.4	mg/kg	0.00014 %		
14		acenaphthene		201-469-6	83-32-9		3.1	mg/kg		3.1	mg/kg	0.00031 %		
15		fluorene		201-695-5	86-73-7		11	mg/kg		11	mg/kg	0.0011 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				26	mg/kg		26	mg/kg	0.0026 %		
			201-581-5	85-01-8									
17	•	anthracene				14	mg/kg		14	mg/kg	0.0014 %		
			204-371-1	120-12-7									
18	•	fluoranthene				53	mg/kg		53	mg/kg	0.0053 %		
			205-912-4	206-44-0									
19	•	pyrene				46	mg/kg		46	mg/kg	0.0046 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				23	mg/kg		23	mg/kg	0.0023 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				19	mg/kg		19	mg/kg	0.0019 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				26	mg/kg		26	mg/kg	0.0026 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				9	mg/kg		9	mg/kg	0.0009 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				18	mg/kg		18	mg/kg	0.0018 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				10	mg/kg		10	mg/kg	0.001 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				9.8	mg/kg		9.8	mg/kg	0.00098 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.264 %		

Key

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

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 for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: Unlikely to be flammable due to high natural moisture content of soils.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0319%)

Classification of sample: Sample B

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

Sample details

Sample name:
Sample B
Sample Depth:
2.70 m
Moisture content:
20%
(no correction)

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

Hazard properties

None identified

Determinands

Moisture content: 20% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.6	mg/kg	1.32	8.714	mg/kg	0.000871 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		9.3	mg/kg	1.142	10.624	mg/kg	0.00106 %		
3		chromium in Cr(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30	mg/kg	1.462	43.847	mg/kg	0.00438 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		43	mg/kg	1.126	48.413	mg/kg	0.00484 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	72	mg/kg	1.56	112.307	mg/kg	0.0072 %		
6		mercury { mercury(II) sulfide }		215-696-3	1344-48-5		0.4	mg/kg	1.16	0.464	mg/kg	0.0000464 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		25	mg/kg	2.976	74.407	mg/kg	0.00744 %		
8		selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.3	mg/kg	1.405	1.827	mg/kg	0.000183 %		
9		zinc { zinc sulphate }	030-006-00-9	231-793-3	7733-02-0		450	mg/kg	2.469	1111.183	mg/kg	0.111 %		
10		TPH (C6 to C40) petroleum group			TPH		<20	mg/kg		<20	mg/kg	<0.002 %		**<LOD**
11		pH			PH		8.9	pH		8.9	pH	8.9 pH		
12		naphthalene	601-052-00-2	202-049-5	91-20-3		1.8	mg/kg		1.8	mg/kg	0.00018 %		
13		acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		**<LOD**
14		acenaphthene		201-469-6	83-32-9		0.18	mg/kg		0.18	mg/kg	0.000018 %		
15		fluorene		201-695-5	86-73-7		0.25	mg/kg		0.25	mg/kg	0.000025 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
16	•	phenanthrene				0.52	mg/kg		0.52	mg/kg	0.000052 %		
			201-581-5	85-01-8									
17	•	anthracene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
			204-371-1	120-12-7									
18	•	fluoranthene				1	mg/kg		1	mg/kg	0.0001 %		
			205-912-4	206-44-0									
19	•	pyrene				0.94	mg/kg		0.94	mg/kg	0.000094 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.44	mg/kg		0.44	mg/kg	0.000044 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.52	mg/kg		0.52	mg/kg	0.000052 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
		601-032-00-3	200-028-5	50-32-8									
25	•	indeno[123-cd]pyrene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		601-041-00-2	200-181-8	53-70-3									
27	•	benzo[ghi]perylene				0.23	mg/kg		0.23	mg/kg	0.000023 %		
			205-883-8	191-24-2									
28		phenol				<1	mg/kg		<1	mg/kg	<0.0001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.138 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

Description/Comments: Data from ECHACHEM; notifications <1% & outliers (H360, H413) ignored
Data source: https://chem.echa.europa.eu/100.013.783/overview
Data source date: 16 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Skin Sens. 1; H317 , Eye Irrit. 2; H319 , Resp. Sens. 1; H334

mercury(II) sulfide (EC Number: 215-696-3, CAS Number: 1344-48-5)

Description/Comments: Data from ECHACHEM; Sigma Aldrich SDS v6.15 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.014.270/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/243566
Data source date: 12 May 2026
Hazard Statements: Skin Sens. 1; H317 , EUH031 , EUH031 >= 1 % , Aquatic Chronic 4; H413

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: None.

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

Description/Comments: Data from ECHACHEM; CLP submissions;
SDS Sigma Aldrich v6.7 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.005.380/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/416703
Data source date: 02 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H310 , Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Acute Tox. 1; H330 , STOT SE 3; H335

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

Description/Comments: Data from ECHACHEM; CLP submissions;
SDS Sigma Aldrich v6.8 dated 12/12/2025
Data source: https://chem.echa.europa.eu/100.001.336/industry/113817?searchText=83-32-9
https://www.sigmaaldrich.com/GB/en/sds/aldrich/215376
Data source date: 02 Mar 2026
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from ECHACHEM; CLP submissions;
SDS Sigma Aldrich v6.6 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.001.541/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/128333
Data source date: 02 Mar 2026
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from ECHACHEM; CLP submissions;
SDS Sigma Aldrich v7.2 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.001.437/overview
https://www.sigmaaldrich.com/GB/en/sds/supelco/48569
Data source date: 02 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , EUH441

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

Description/Comments: Data from ECHACHEM; CLP submissions
SDS Sigma Aldrich v9.3 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.003.974/overview
https://www.sigmaaldrich.com/GB/en/sds/supelco/48567
Data source date: 03 Mar 2026
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , PBT; EUH440

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

Description/Comments: Data from ECHACHEM; CLP submissions
SDS Sigma Aldrich v7.2 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.005.376/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/f807
Data source date: 03 Mar 2026
Hazard Statements: Acute Tox. 4; H302 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , PBT; EUH440 , EUH441

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

Description/Comments: Data from ECHACHEM; CLP submissions
SDS Sigma Aldrich v7.2 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.004.481/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/185515
Data source date: 03 Mar 2026
Hazard Statements: Skin Irrit. 2; H315 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , PBT; EUH440 , EUH441

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

Description/Comments: Data from ECHACHEM database; CLP submissions
SDS Sigma Aldrich v6.8 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.005.359/overview
https://www.sigmaaldrich.com/GB/en/sds/supelco/48499
Data source date: 03 Mar 2026
Hazard Statements: Carc. 2; H351 , 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 ECHACHEM; CLP submissions; Sigma Aldrich SDS v7.1 dated 25/12/2025
Data source: https://chem.echa.europa.eu/100.005.350/overview
https://www.sigmaaldrich.com/GB/en/sds/aldrich/b9009
Data source date: 18 May 2026
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , vPvB; EUH441 , PBT; EUH440

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

Description/Comments: Unknown Oil
Hazard statements taken from WM3 version 1.1.NI and 1.2.GB 2021
Data source: WM3 version 1.1.NI and 1.2.GB 2021
Data source date: 30 Jan 2021
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case CLP species based on hazard statements/molecular weight and low solubility. Industrial sources include: flame retardants in electrical apparatus, textiles and coatings.

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides.

chromium in Cr(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments

chromium in Cr(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass.

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected.

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight.

mercury {mercury(II) sulfide}

Worst case CLP species based on hazard statements/molecular weight.

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight.

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil.

zinc {zinc sulphate}

Insufficient chromium in samples taken across the site in similar ground conditions, therefore changed species to zinc sulphate.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2026.261.7371.00a268d (19 Sep 2026)
HazWasteOnline Database: 2026.261.7371.00a268d (19 Sep 2026)

This classification utilises the following guidance and legislation:
WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
14th ATP - Regulation (EU) 2020/217 of 4 October 2019
15th ATP - Regulation (EU) 2020/1182 of 19 May 2020
The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020
The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK: 2020 No. 1540 of 16th December 2020
GB MCL List - version 1.1 of 09 June 2021
GB MCL List v2.0 - version 2.0 of 20th October 2023
GB MCL List v3.0 - version 3.0 of 11th January 2024
GB MCL List v4.0 - version 4.0 of 2nd March 2024
GB MCL List v5.0 - version 5.0 of 26th June 2024
GB MCL List v6.0 - version 6.0 of 15th February 2025
GB MCL List v7.0 - version 7.0 of 23rd September 2025

Appendix D Geotechnical Testing Results

LABORATORY REPORT

Contract Number: PSL26/5185

Report Date: 04 August 2026

Client's Reference: 6709

Client Name: JPG Leeds
5 John Charles Way
Leeds
West Yorkshire
LS12 6QD

For the attention of: Emily Sykes

Contract Title: Whaley Road, Barugh Green

Date Received: 22/6/2026
Date Commenced: 22/6/2026
Date Completed: 4/8/2026

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins (Managing Director)
R Berriman (Associate Director)
S Royle (Laboratory Manager)
L Knight (Assistant Laboratory Manager)
S Eyre (Senior Technical Coordinator)
T Watkins (Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP101		B+T	2.50	2.60	Grey highly weathered MUDSTONE.
TP102		B+T	3.10	3.20	Brown mottled grey slightly sandy slightly gravelly CLAY.
TP103		B+T	0.40	0.50	MADE GROUND brown sandy clayey gravel with some cobbles.
TP105		B+T	1.50	1.80	MADE GROUND dark grey sandy slightly gravelly clay.
TP108		B+T	1.30	1.40	MADE GROUND dark grey slightly sandy gravelly clay.
TP108		B+T	2.80		Brown mottled grey slightly sandy slightly gravelly CLAY.
TP109		T	2.00		Brown mottled grey slightly sandy CLAY.
TP111		B+T	0.40		Brown slightly sandy slightly gravelly CLAY.
TP111		B+T	1.20		Brown mottled grey highly weathered MUDSTONE.
WS101		B+T	0.20	1.40	MADE GROUND dark grey sandy clayey gravel with some cobbles.
WS109		T	1.00	1.45	Brown mottled grey slightly sandy CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

BS 1377 - Part 2 : 2022 in accordance with BS EN ISO 17892 (as below)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Water Content %	Linear Shrinkage	Particle Density Mg/m^3	Liquid Limit %	Plastic Limit %	Plasticity Index %	Passing 0.425mm %	Remarks
TP101		B+T	2.50	2.60	14.8		2.70	50	24	26	86	High Plasticity CIH
TP102		B+T	3.10	3.20	26.4			58	26	32	94	High Plasticity CIH
TP103		B+T	0.40	0.50	11.4		2.57					
TP105		B+T	1.50	1.80	15.0		2.50					
TP108		B+T	1.30	1.40	17.8		2.38	37	21	16	44	Medium Plasticity CIM
TP108		B+T	2.80		32.5		2.64	71	30	41	94	Very High Plasticity CIV
TP109		T	2.00		28.6			67	29	38	100	High Plasticity CIH
TP111		B+T	0.40		26.0			57	28	29	87	High Plasticity CIH
TP111		B+T	1.20		11.5			45	22	23	71	Medium Plasticity CIM
WS101		B+T	0.20	1.40	6.7		2.43		NP			
WS109		T	1.00	1.45	27.5			63	27	36	100	High Plasticity CIH

Water Content - BS 1377 - Part 2 : 2022 : Clause 4 in accordance with BS EN ISO 17892 - 1 : 2014 + A1 : 2022
Linear Shrinkage - BS 1377 - Part 2 : 2022 : Clause 7
Particle Density (Gas Jar method) - BS 1377 - Part 2 : 2022 : Clause 9
Liquid, Plastic Limit & Plasticity Index - BS 1377 - Part 2 : 2022 : Clause 5 & 6 in accordance with BS EN ISO 17892 - 12 : 2018 + A2 : 2022

SYMBOLS : NP = Non Plastic

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

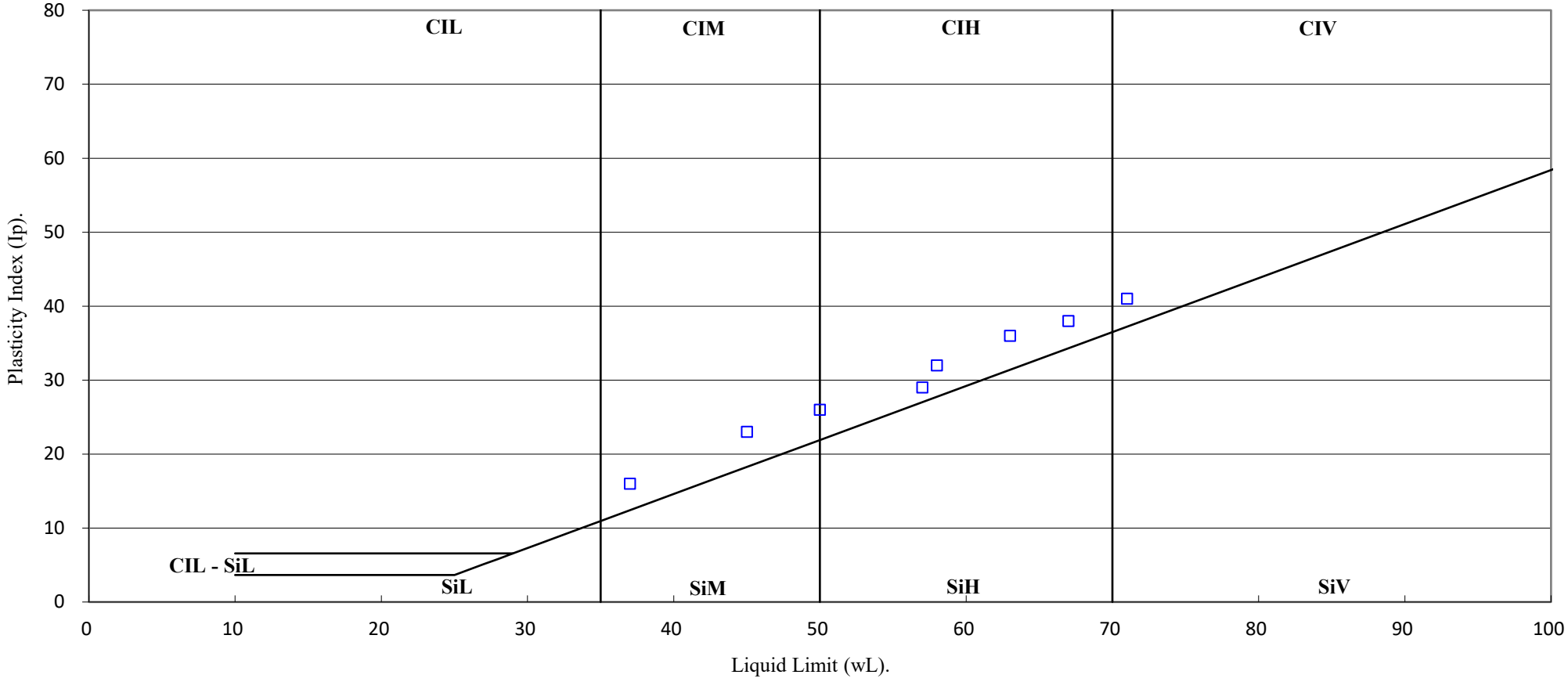
Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

PLASTICITY CHART

BS EN ISO 14688-2:2017 Clause 4.4



UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	Whaley Road, Barugh Green	Contract No: PSL26/5185
		Client Ref: 6709

PARTICLE SIZE DISTRIBUTION TEST

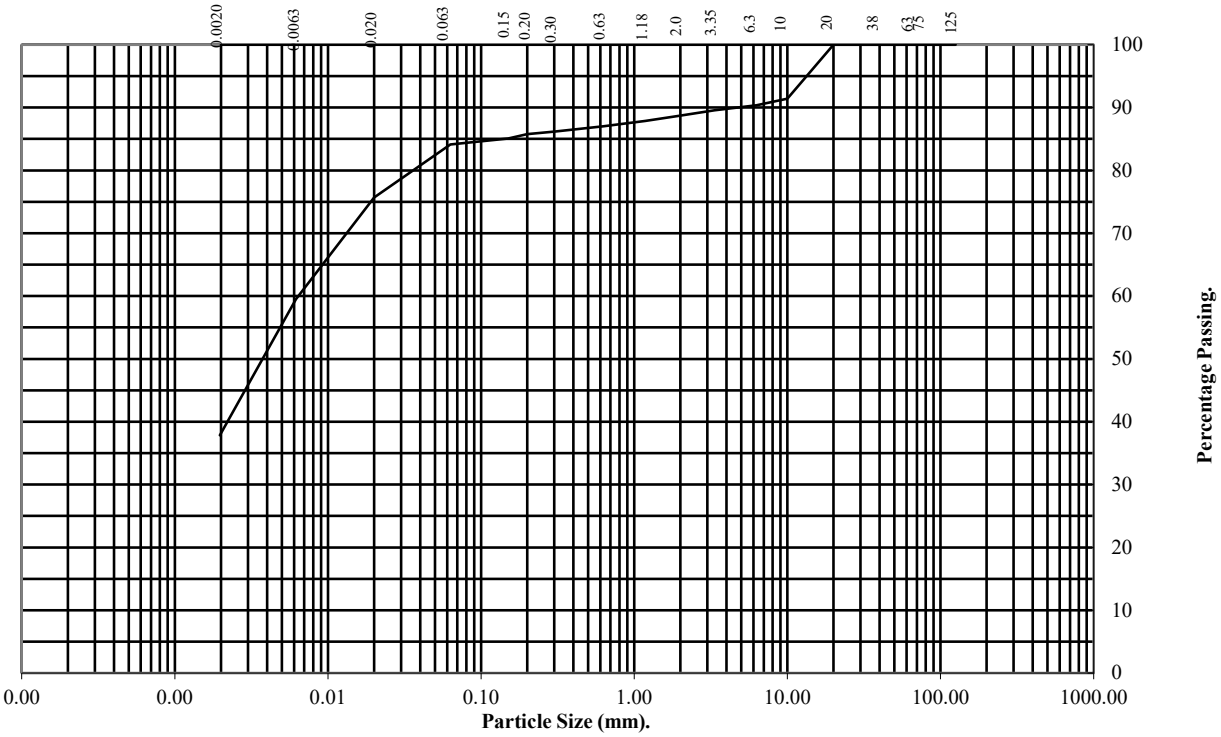
BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016

Sieve Method, Clause 5.2 & Pipette Method, Clause 5.4

Hole Number: **TP101** **Top Depth (m):** **2.50**

Sample Number: **Base Depth (m):** **2.60**

Sample Type: **B+T**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	91
6.3	90
3.35	90
2	89
1.18	88
0.63	87
0.3	86
0.2	86
0.15	85
0.063	84

Particle Diameter	Percentage Passing
0.020	76
0.0062	59
0.0020	38
Particle Density - 2.7 Mg/m3 measured	

Soil Fraction	Total Percentage
Cobbles	0
Gravel	11
Sand	5
Silt	46
Clay	38

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No:
PSL26/5185
Client Ref:
6709

PARTICLE SIZE DISTRIBUTION TEST

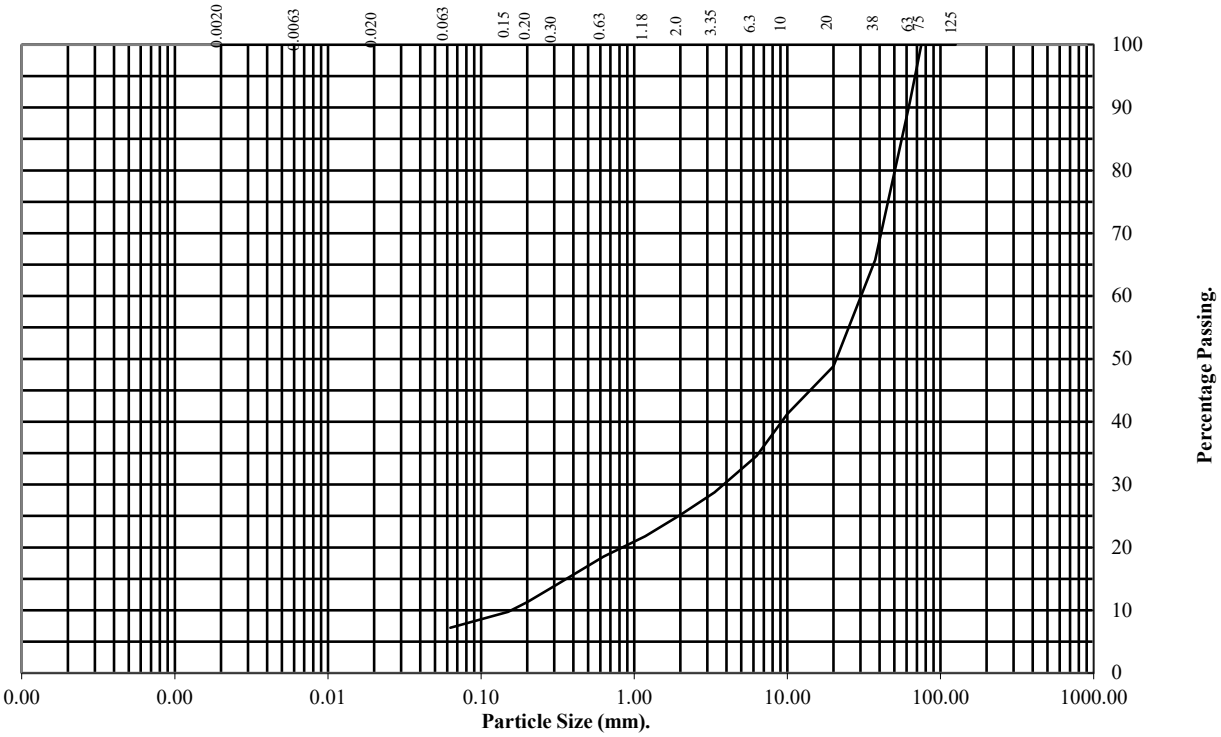
BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016

Sieve Method, Clause 5.2

Hole Number: TP103 **Top Depth (m):** 0.40

Sample Number: **Base Depth (m):** 0.50

Sample Type: B+T



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	91
37.5	66
20	49
10	41
6.3	35
3.35	29
2	25
1.18	22
0.63	19
0.3	14
0.2	11
0.15	10
0.063	7

Soil Fraction	Total Percentage
Cobbles	9
Gravel	66
Sand	18
Silt/Clay	7

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

PARTICLE SIZE DISTRIBUTION TEST

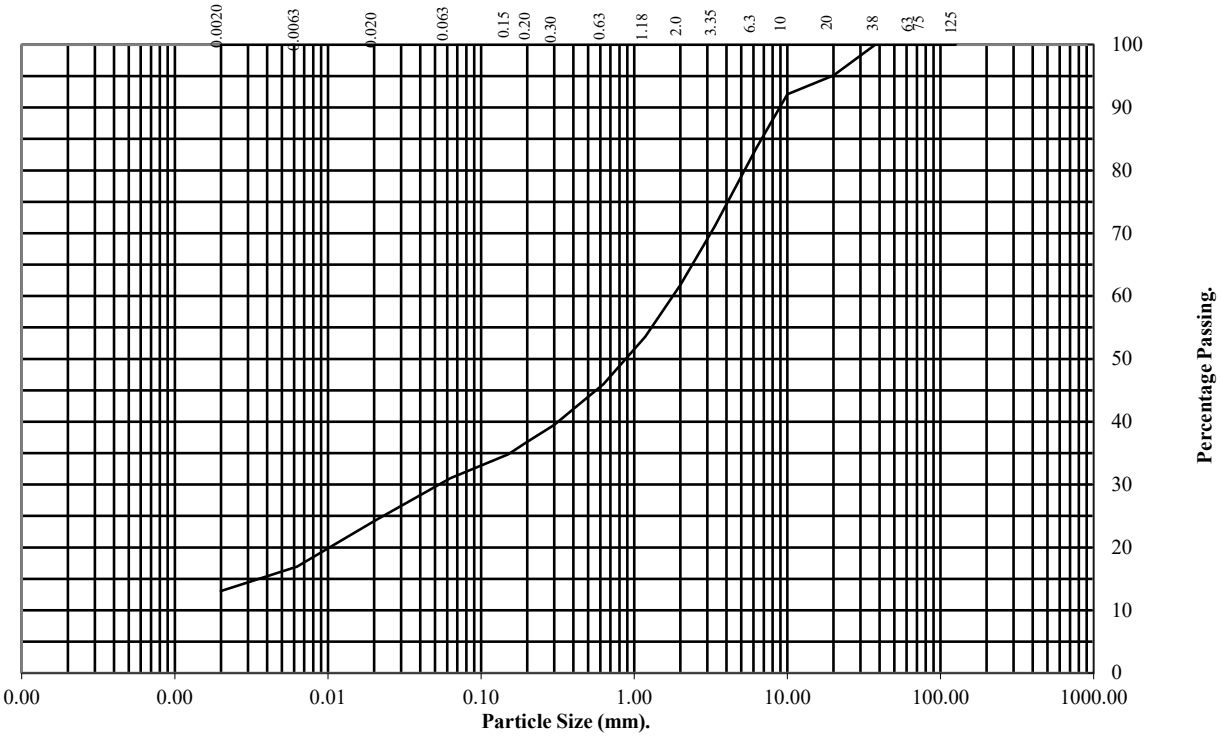
BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016

Sieve Method, Clause 5.2 & Pipette Method, Clause 5.4

Hole Number: **TP108** **Top Depth (m):** **1.30**

Sample Number: **Base Depth (m):** **1.40**

Sample Type: **B+T**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	95
10	92
6.3	84
3.35	71
2	62
1.18	54
0.63	46
0.3	39
0.2	37
0.15	35
0.063	31

Particle Diameter	Percentage Passing
0.020	24
0.0063	17
0.0020	13
Particle Density - 2.65 Mg/m3 assumed	

Soil Fraction	Total Percentage
Cobbles	0
Gravel	38
Sand	31
Silt	18
Clay	13

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No:
PSL26/5185
Client Ref:
6709

PARTICLE SIZE DISTRIBUTION TEST

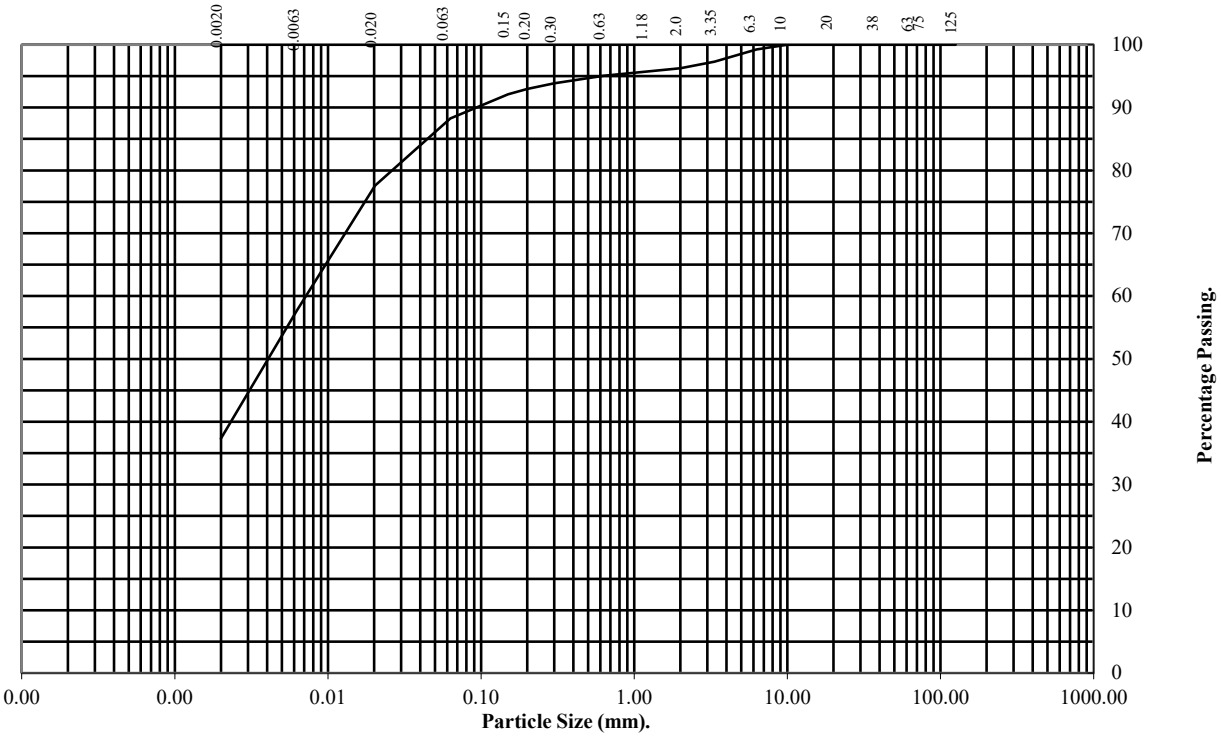
BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016

Sieve Method, Clause 5.2 & Pipette Method, Clause 5.4

Hole Number: **TP108** **Top Depth (m):** **2.80**

Sample Number: **Base Depth (m):**

Sample Type: **B+T**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	97
2	96
1.18	96
0.63	95
0.3	94
0.2	93
0.15	92
0.063	88

Particle Diameter	Percentage Passing
0.020	78
0.0063	58
0.0020	37
Particle Density - 2.65 Mg/m3 assumed	

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	8
Silt	51
Clay	37

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No:
PSL26/5185
Client Ref:
6709

PARTICLE SIZE DISTRIBUTION TEST

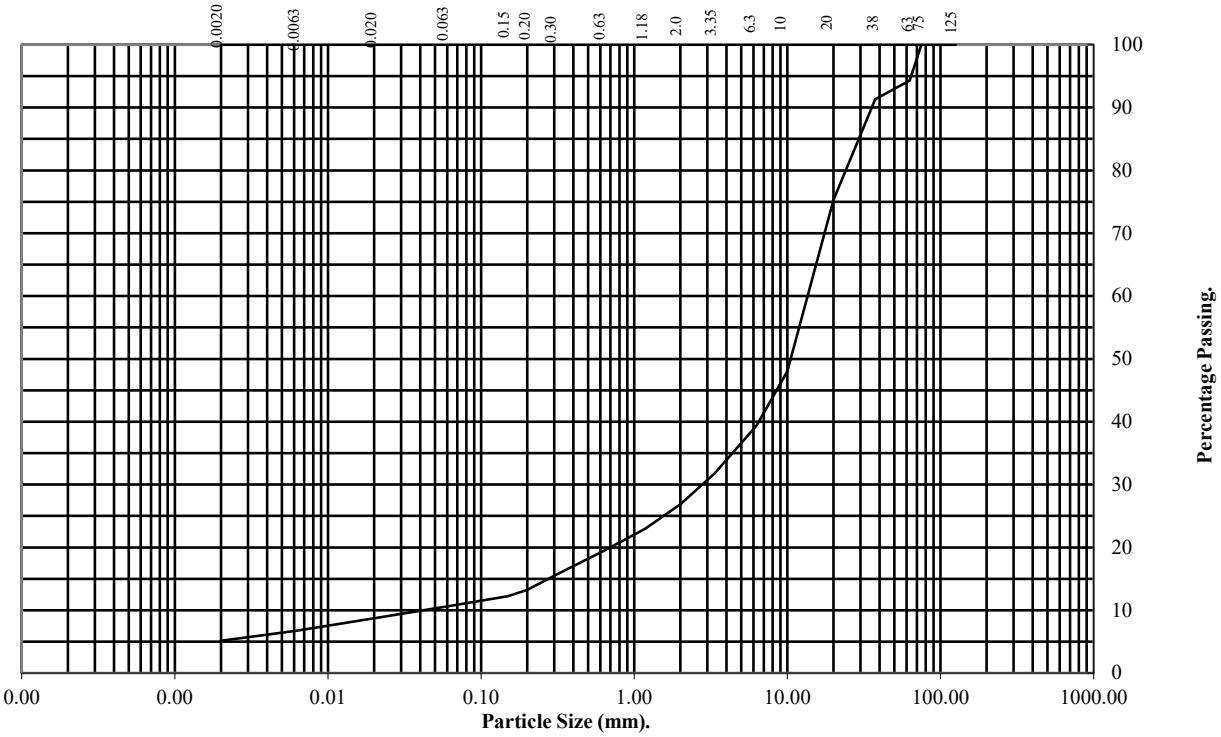
BS 1377 - Part 2 : 2022 : Clause 10 in accordance with BS EN ISO 17892 - 4 : 2016

Sieve Method, Clause 5.2 & Pipette Method, Clause 5.4

Hole Number: **WS101** **Top Depth (m):** **0.20**

Sample Number: **Base Depth (m):** **1.40**

Sample Type: **B+T**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	94
37.5	91
20	75
10	48
6.3	39
3.35	32
2	27
1.18	23
0.63	19
0.3	15
0.2	13
0.15	12
0.063	11

Particle Diameter	Percentage Passing
0.020	9
0.0063	7
0.0020	5
Particle Density - 2.65 Mg/m3 assumed	

Soil Fraction	Total Percentage
Cobbles	6
Gravel	67
Sand	16
Silt	6
Clay	5

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

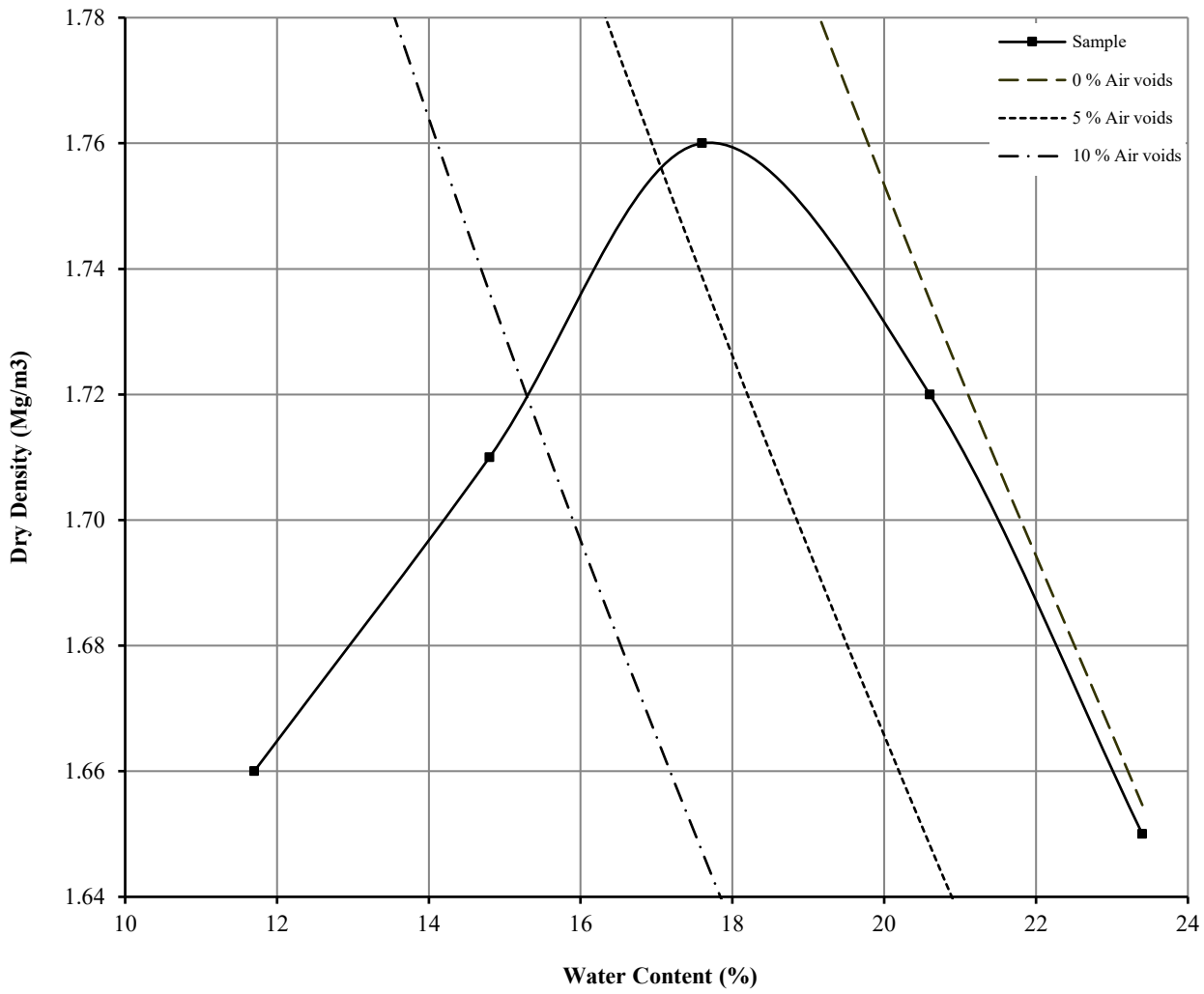
Whaley Road, Barugh Green

Contract No:
PSL26/5185
Client Ref:
6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP101**	**Top Depth (m):**	**2.50**
Sample Number:		**Base Depth (m):**	**2.60**
Sample Type:	**B+T**		



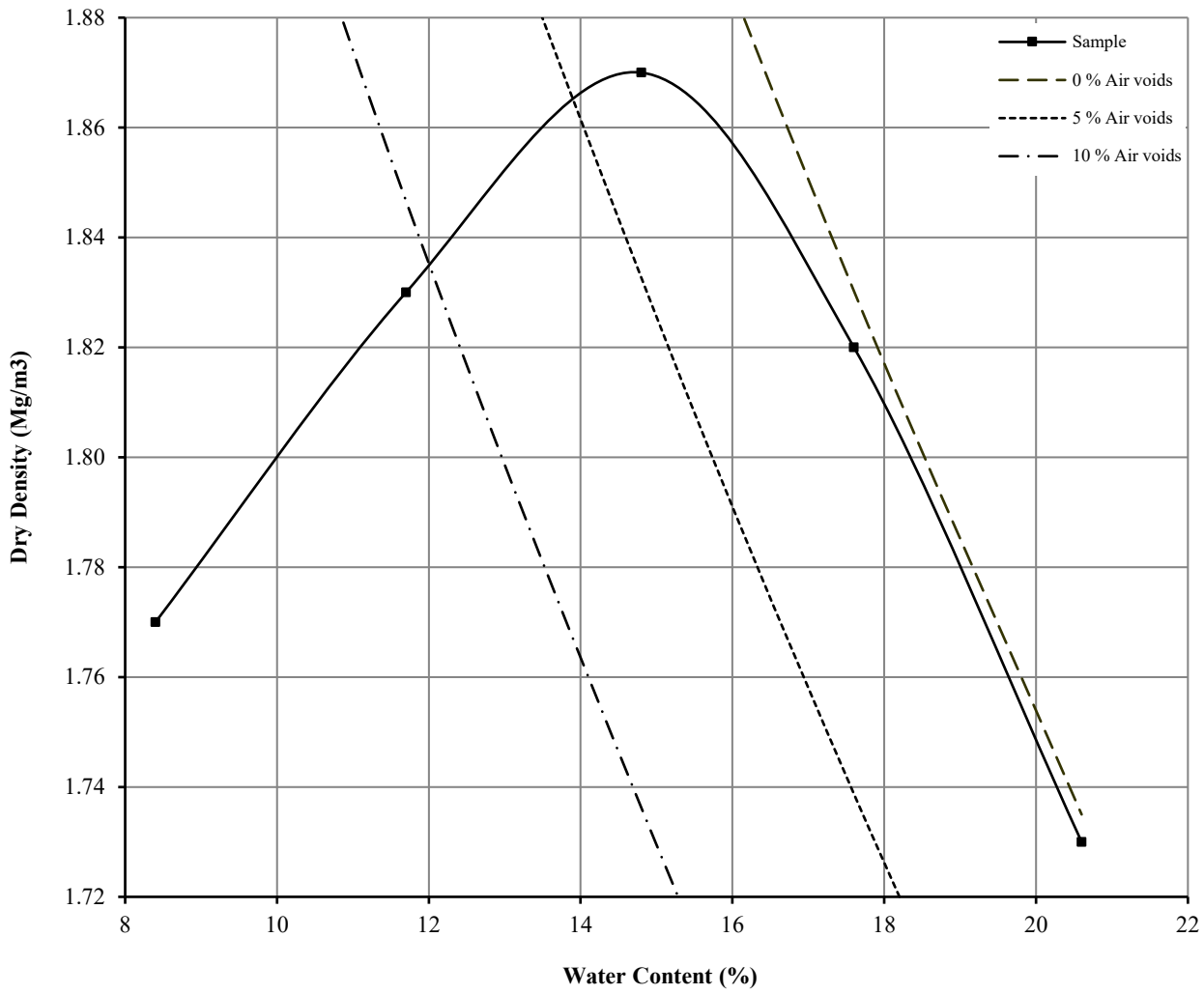
Initial Water Content:		14.8	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.7	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.76	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		18	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP101**	**Top Depth (m):**	**2.50**
Sample Number:		**Base Depth (m):**	**2.60**
Sample Type:	**B+T**		



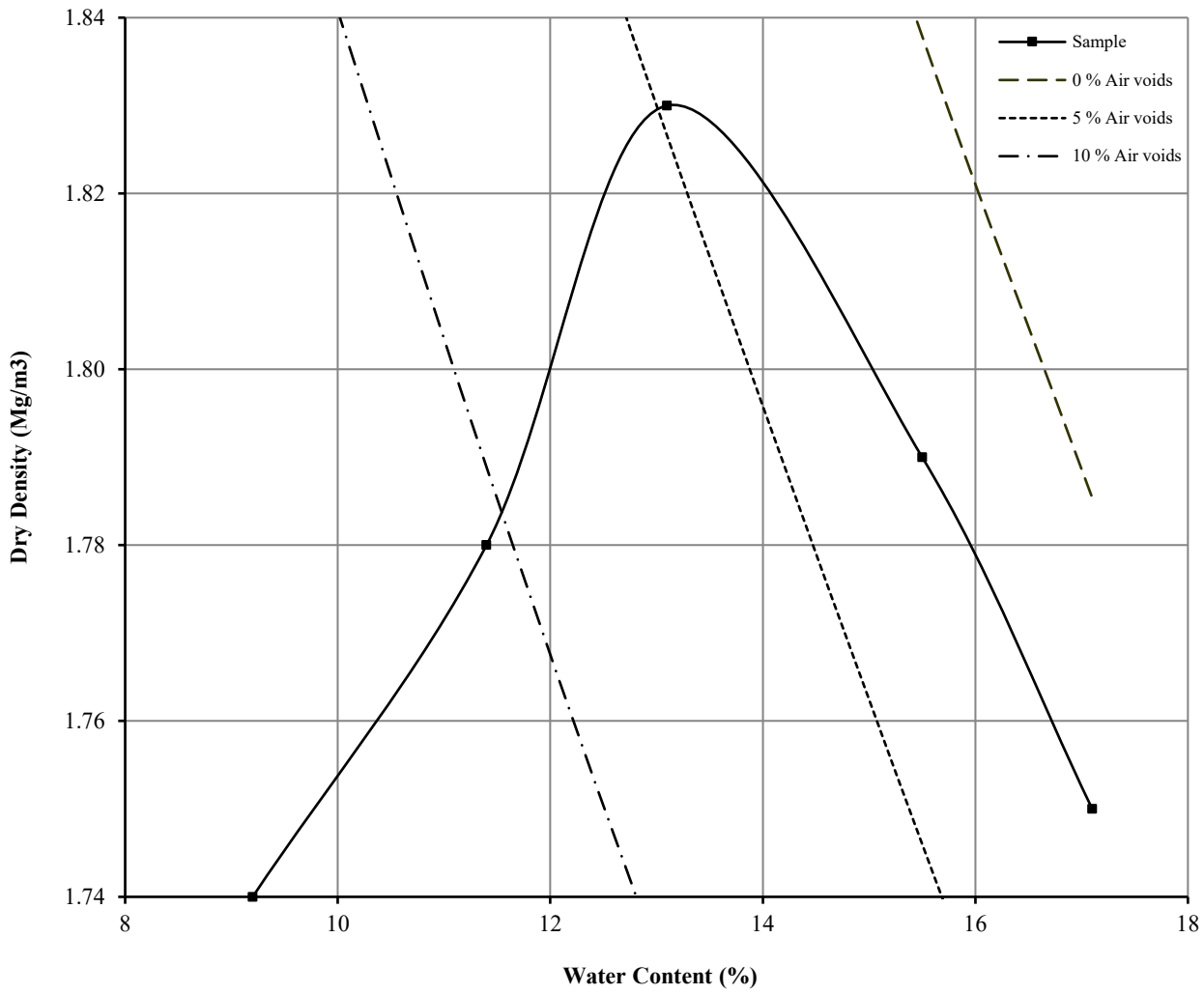
Initial Water Content:		14.8	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.7	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.87	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		15	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

Non compliance with BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP103**	**Top Depth (m):**	**0.40**
Sample Number:		**Base Depth (m):**	**0.50**
Sample Type:	**B+T**		



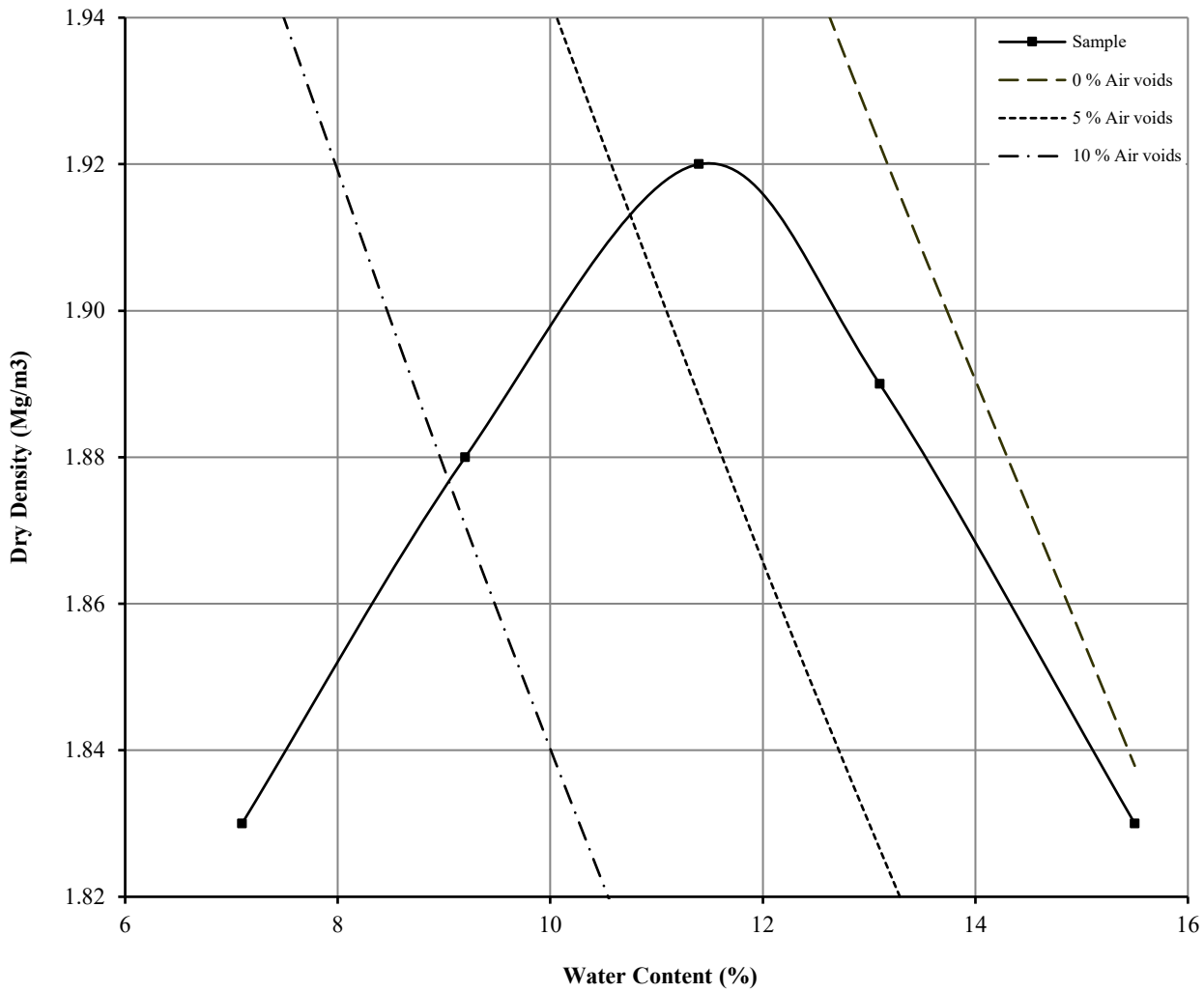
Initial Water Content:		11.4	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.57	Measured	Material Retained on 37.5 mm Test Sieve (%):		34
Maximum Dry Density (Mg/m3):		1.83	Material Retained on 20.0 mm Test Sieve (%):		17
Optimum Water Content (%):		13	Grading Zone:		X
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

Non compliance with BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP103**	**Top Depth (m):**	**0.40**
Sample Number:		**Base Depth (m):**	**0.50**
Sample Type:	**B+T**		



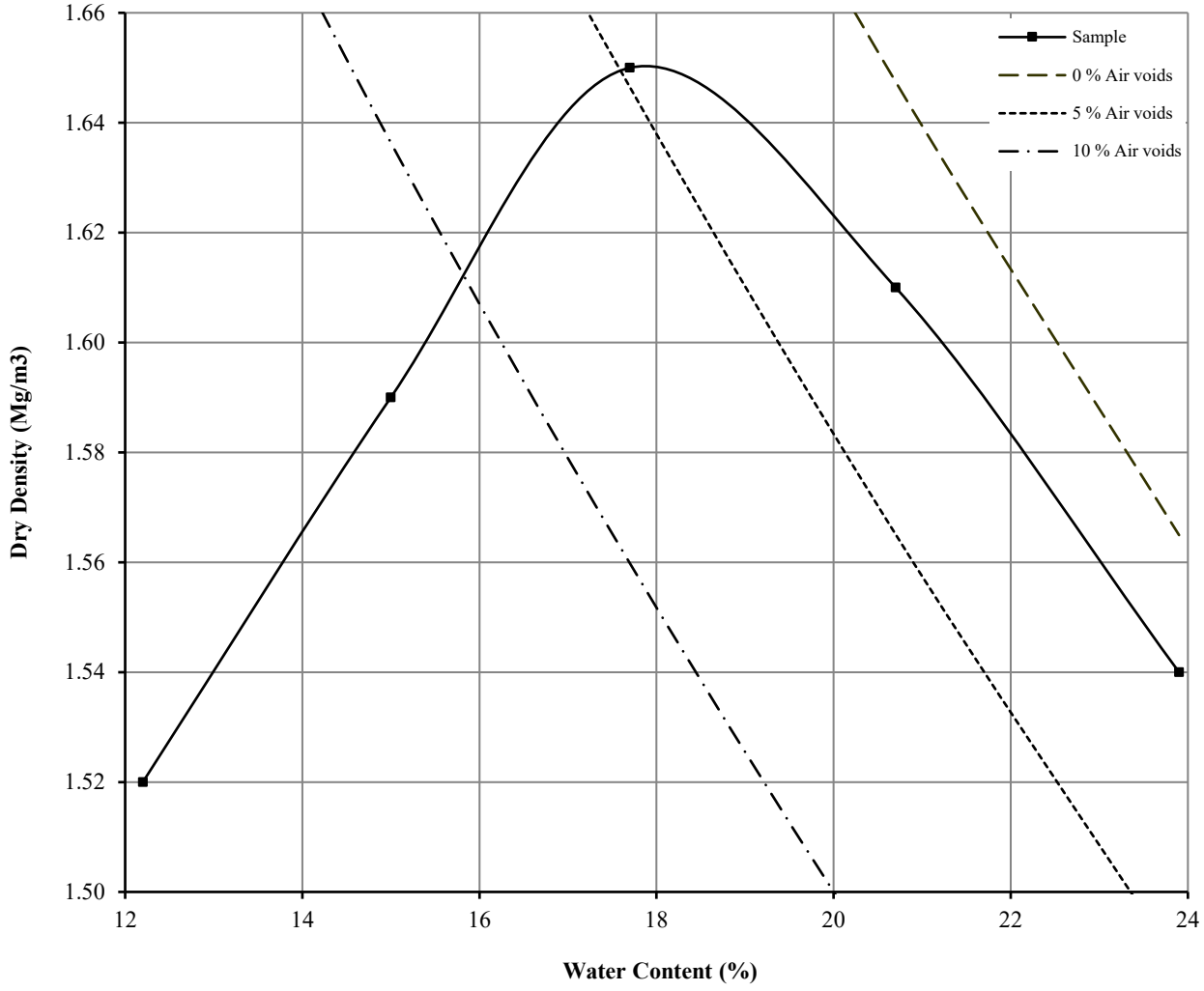
Initial Water Content:		11.4	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.57	Measured	Material Retained on 37.5 mm Test Sieve (%):		34
Maximum Dry Density (Mg/m3):		1.92	Material Retained on 20.0 mm Test Sieve (%):		17
Optimum Water Content (%):		11	Grading Zone:		X
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 / **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP105**	**Top Depth (m):**	**1.50**
Sample Number:		**Base Depth (m):**	**1.80**
Sample Type:	**B+T**		



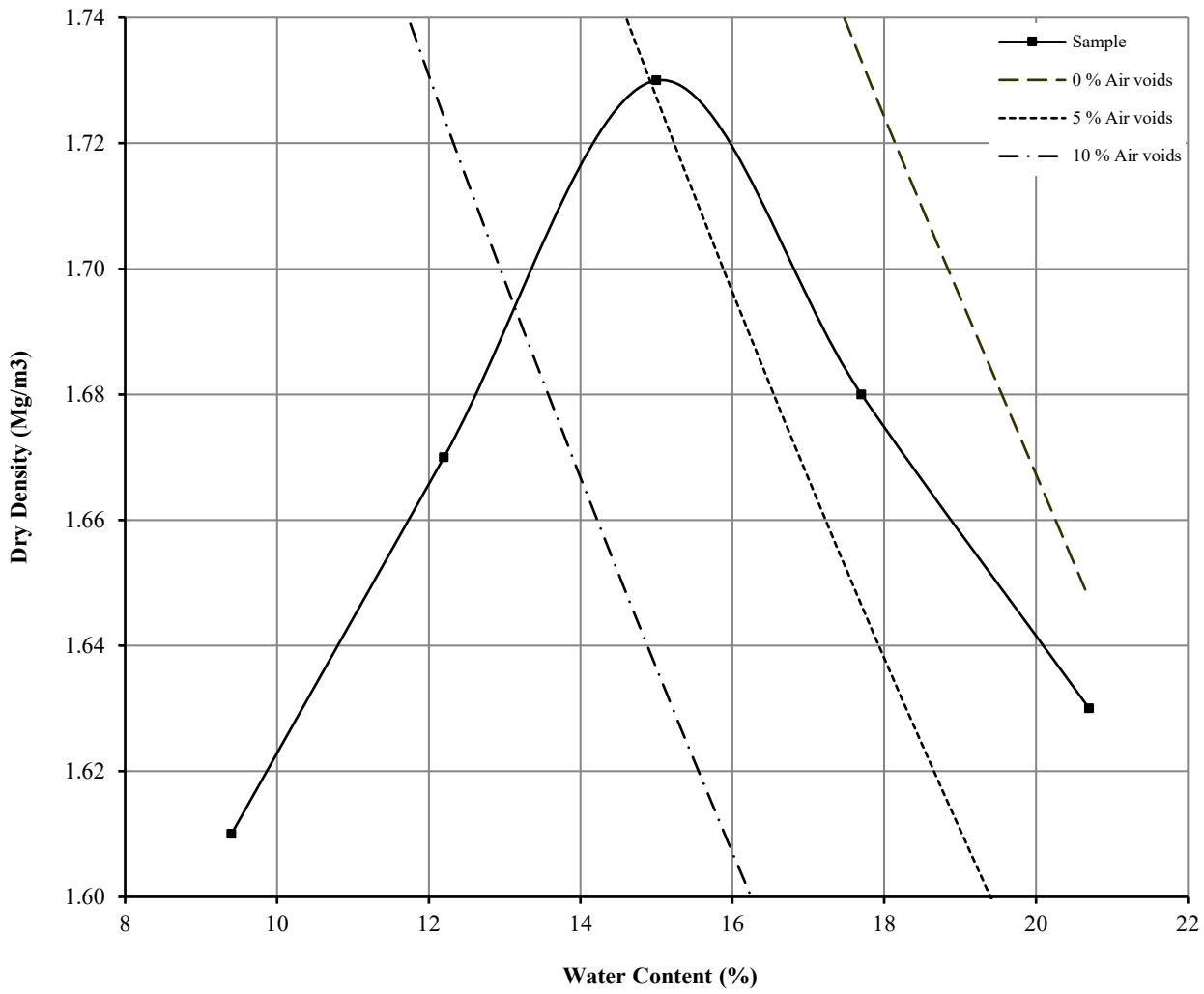
Initial Water Content:		15.0	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.5	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.65	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		18	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP105**	**Top Depth (m):**	**1.50**
Sample Number:		**Base Depth (m):**	**1.80**
Sample Type:	**B+T**		



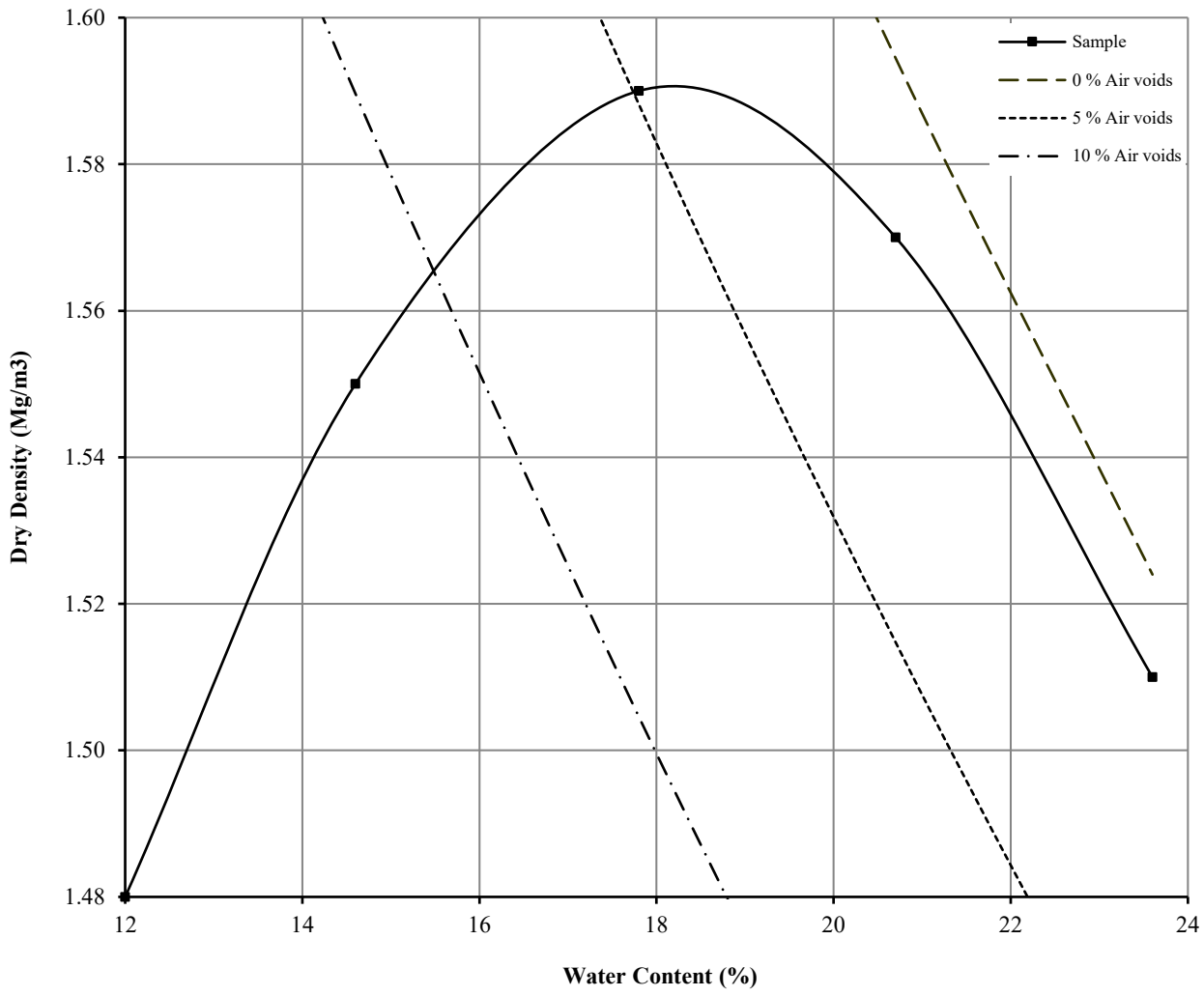
Initial Water Content:		15.0	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.5	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.73	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		15	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP108**	**Top Depth (m):**	**1.30**
Sample Number:		**Base Depth (m):**	**1.40**
Sample Type:	**B+T**		



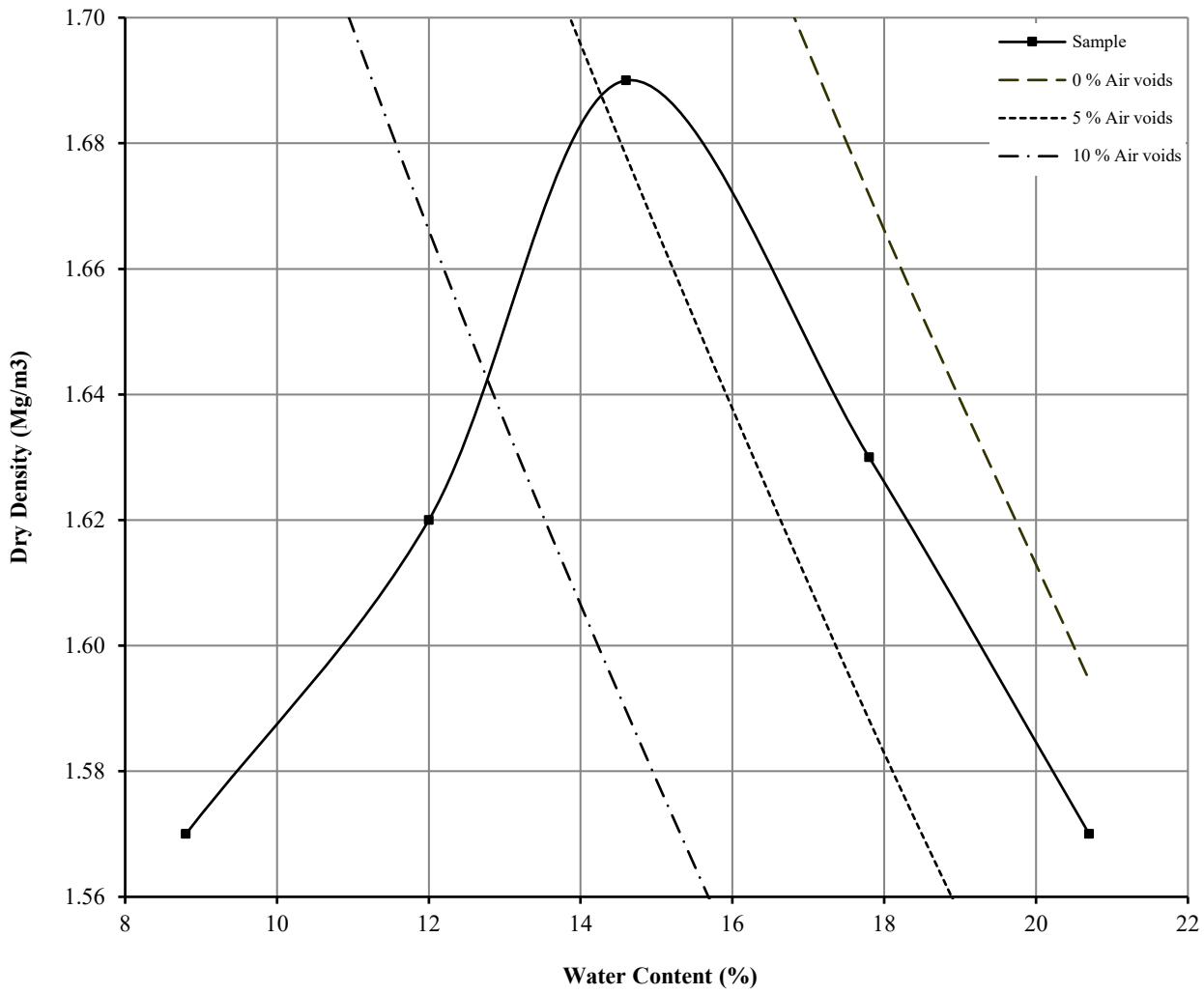
Initial Water Content:		17.8	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.38	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.59	Material Retained on 20.0 mm Test Sieve (%):		5
Optimum Water Content (%):		18	Grading Zone:		2
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**TP108**	**Top Depth (m):**	**1.30**
Sample Number:		**Base Depth (m):**	**1.40**
Sample Type:	**B+T**		



Initial Water Content:		17.8	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.38	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.69	Material Retained on 20.0 mm Test Sieve (%):		5
Optimum Water Content (%):		15	Grading Zone:		2
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

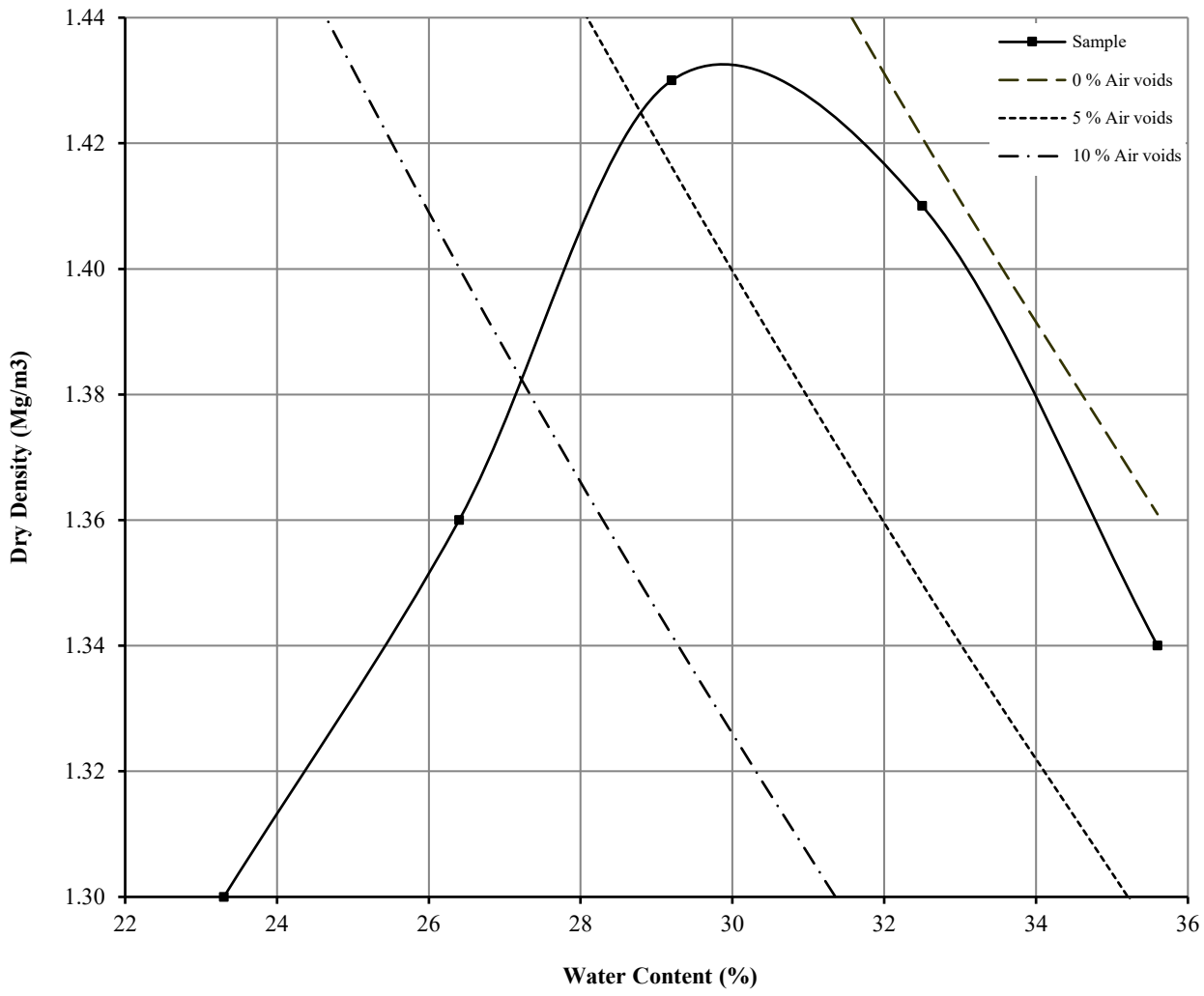
DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number: TP108 **Top Depth (m):** 2.80

Sample Number: **Base Depth (m):**

Sample Type: B+T



Initial Water Content:		32.5	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.64	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.43	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		29	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	Whaley Road, Barugh Green	Contract No. PSL26/5185 Client Ref 6709

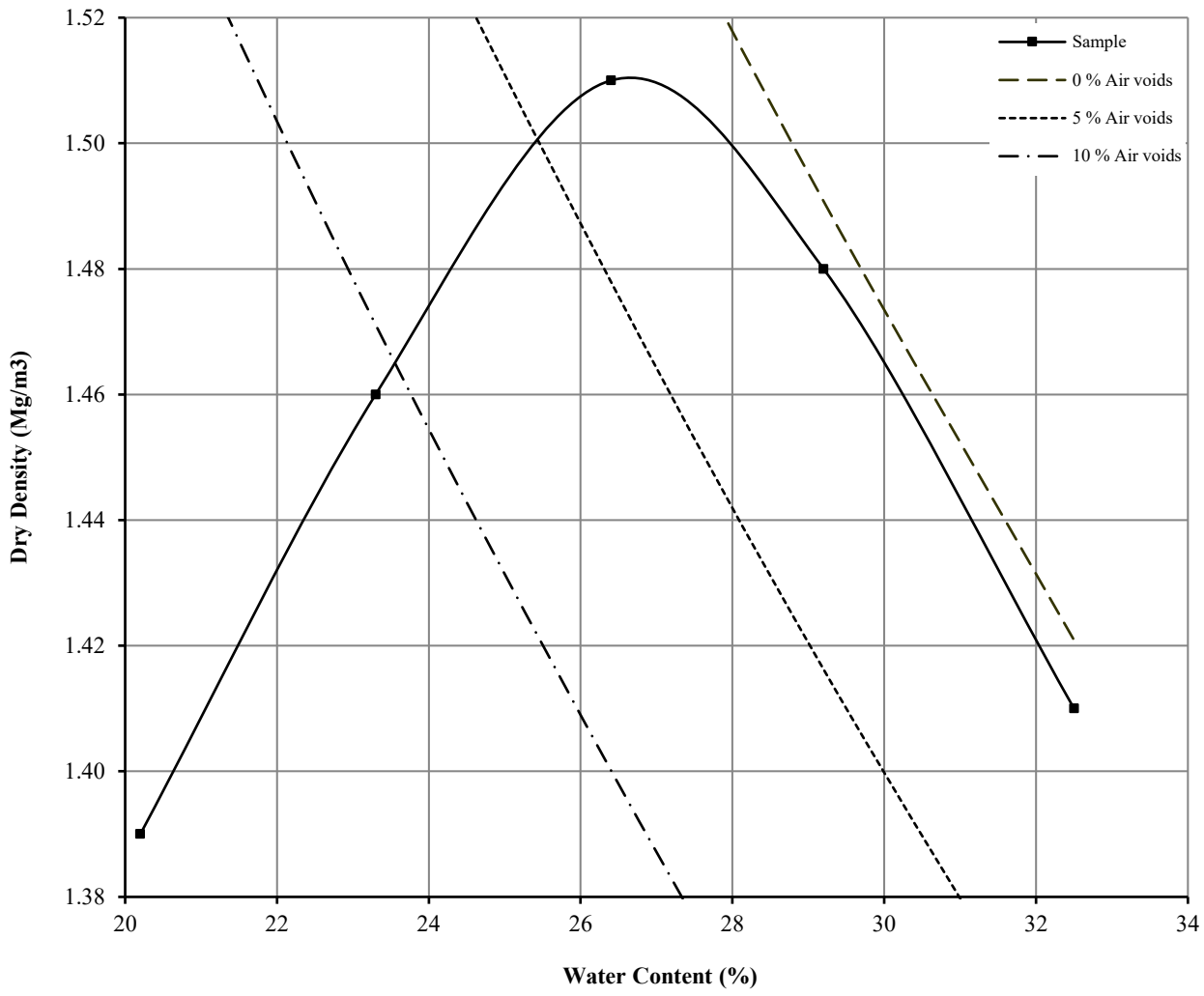
DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number: TP108 **Top Depth (m):** 2.80

Sample Number: **Base Depth (m):**

Sample Type: B+T



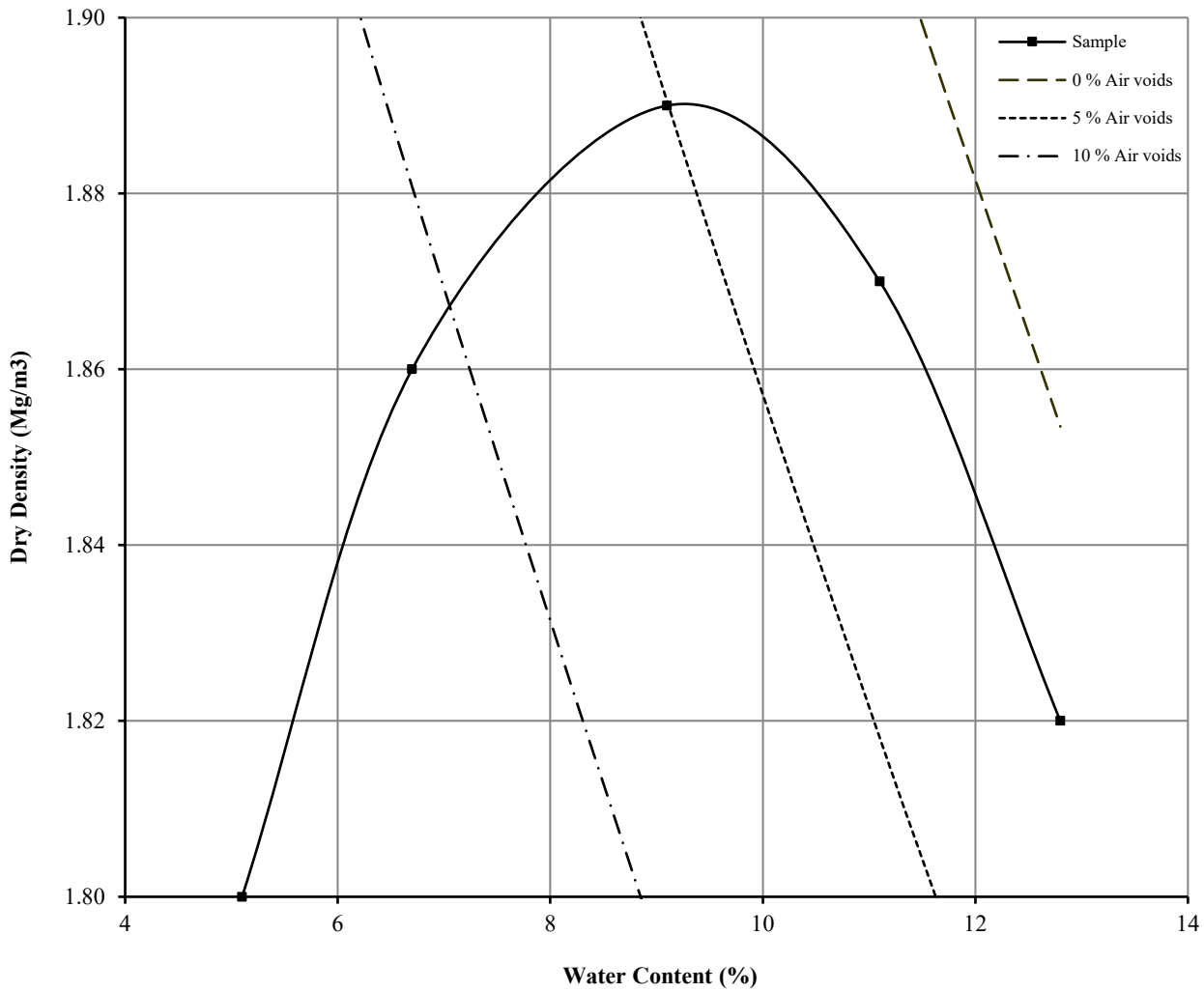
Initial Water Content:		32.5	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.64	Measured	Material Retained on 37.5 mm Test Sieve (%):		0
Maximum Dry Density (Mg/m3):		1.51	Material Retained on 20.0 mm Test Sieve (%):		0
Optimum Water Content (%):		26	Grading Zone:		1
Remarks See summary of soil descriptions					

UKAS TESTING 4043 PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	Whaley Road, Barugh Green	Contract No. PSL26/5185 Client Ref 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**WS101**	**Top Depth (m):**	**0.20**
Sample Number:		**Base Depth (m):**	**1.40**
Sample Type:	**B+T**		



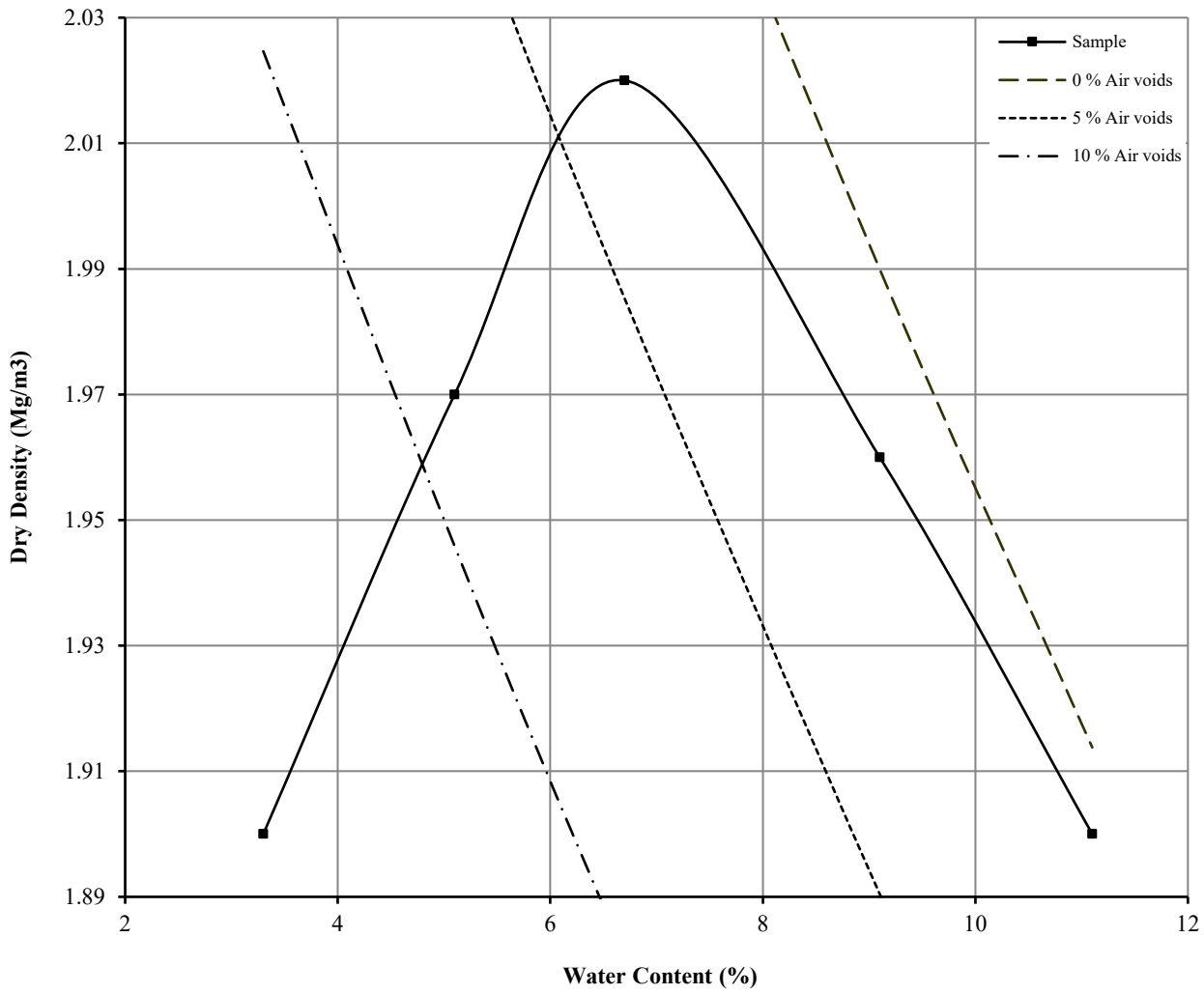
Initial Water Content:		6.7	Method of Compaction:	2.5kg	Separate Samples
Particle Density (Mg/m3):	2.43	Measured	Material Retained on 37.5 mm Test Sieve (%):		9
Maximum Dry Density (Mg/m3):		1.89	Material Retained on 20.0 mm Test Sieve (%):		16
Optimum Water Content (%):		9	Grading Zone:		5
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

DRY DENSITY/WATER CONTENT RELATIONSHIP

BS 1377 - Part 2 : Clause 11 : 2022

Hole Number:	**WS101**	**Top Depth (m):**	**0.20**
Sample Number:		**Base Depth (m):**	**1.40**
Sample Type:	**B+T**		



Initial Water Content:		6.7	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.43	Measured	Material Retained on 37.5 mm Test Sieve (%):		9
Maximum Dry Density (Mg/m3):		2.02	Material Retained on 20.0 mm Test Sieve (%):		16
Optimum Water Content (%):		7	Grading Zone:		5
Remarks See summary of soil descriptions					

UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Whaley Road, Barugh Green**	**Contract No.** PSL26/5185 **Client Ref** 6709

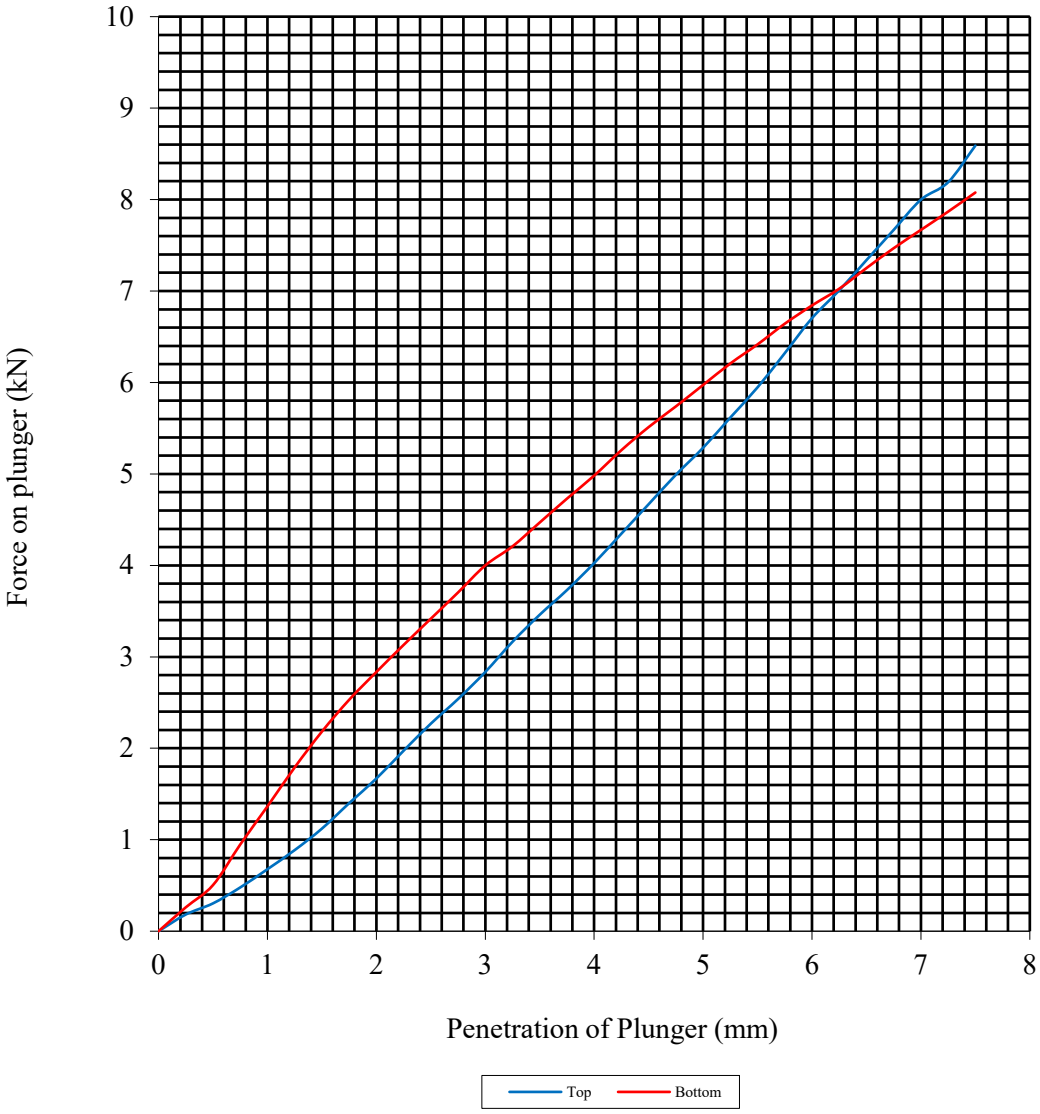
CALIFORNIA BEARING RATIO (CBR)

Non compliance with BS 1377 - Part 2 : Clause 15 : 2022

Hole Number: TP103 **Top Depth (m):** 0.40

Sample Number: **Base Depth (m):** 0.50

Sample Type: B+T



Initial Sample Conditions		Sample Preparation		Final Water Content %		C.B.R. Value %	
Water Content:	11.4	Surcharge Kg:	4.00	Sample Top	11.4	Sample Top	26.4
Bulk Density Mg/m3:	1.98	Soaking Time hrs	0	Sample Bottom	11.4	Sample Bottom	29.9
Dry Density Mg/m3:	1.78	Swelling mm:	0.00	Remarks : See Summary of Soil Descriptions.			
Percentage retained on 20mm BS test sieve:			51				
Compaction Conditions		2.5kg					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

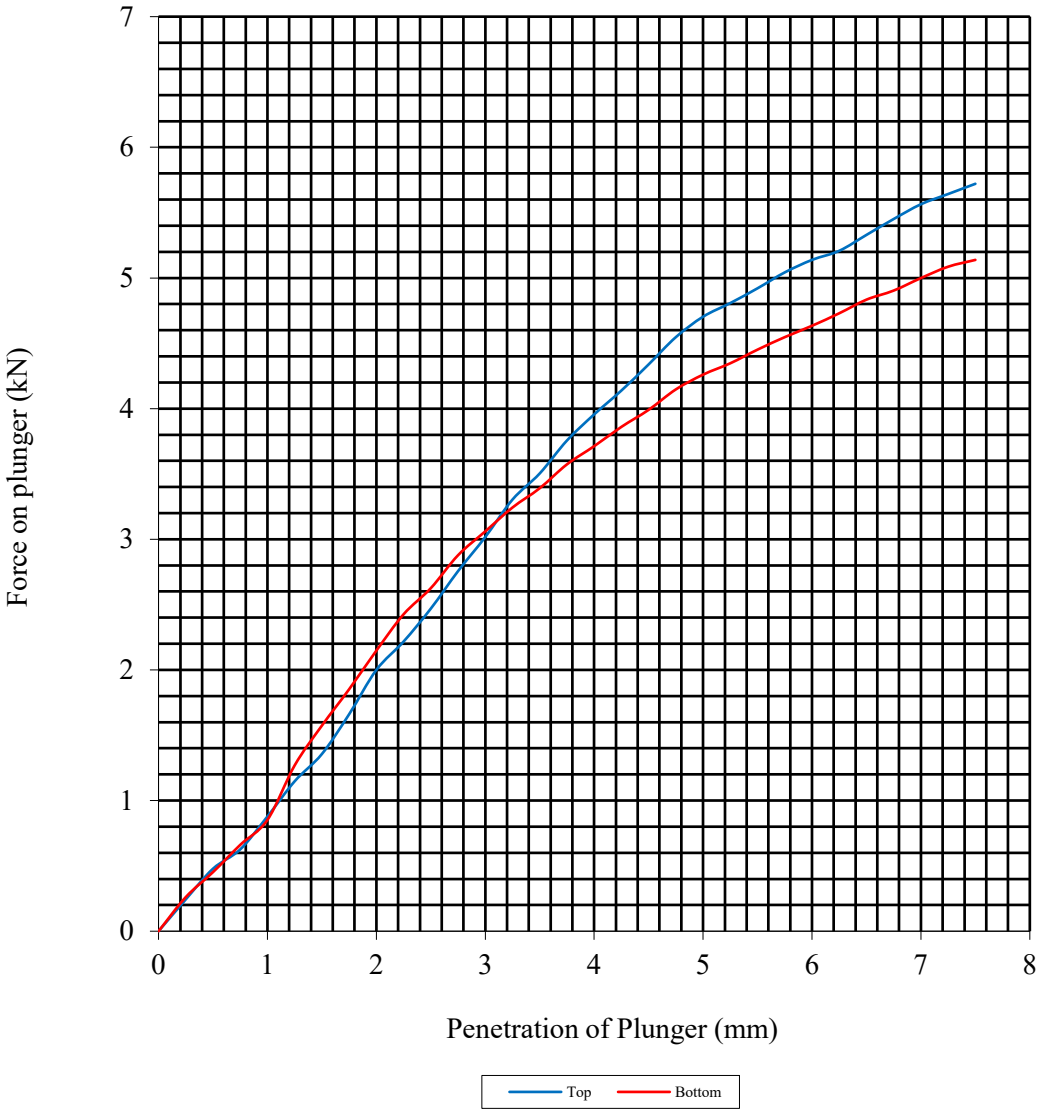
CALIFORNIA BEARING RATIO (CBR)

BS 1377 - Part 2 : Clause 15 : 2022

Hole Number: TP105 **Top Depth (m):** 1.50

Sample Number: **Base Depth (m):** 1.80

Sample Type: B+T



Initial Sample Conditions		Sample Preparation		Final Water Content %		C.B.R. Value %	
Water Content:	15.0	Surcharge Kg:	4.00	Sample Top	15.0	Sample Top	23.5
Bulk Density Mg/m3:	1.83	Soaking Time hrs	0	Sample Bottom	15.0	Sample Bottom	21.3
Dry Density Mg/m3:	1.59	Swelling mm:	0.00	Remarks : See Summary of Soil Descriptions.			
Percentage retained on 20mm BS test sieve:			0				
Compaction Conditions		2.5kg					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

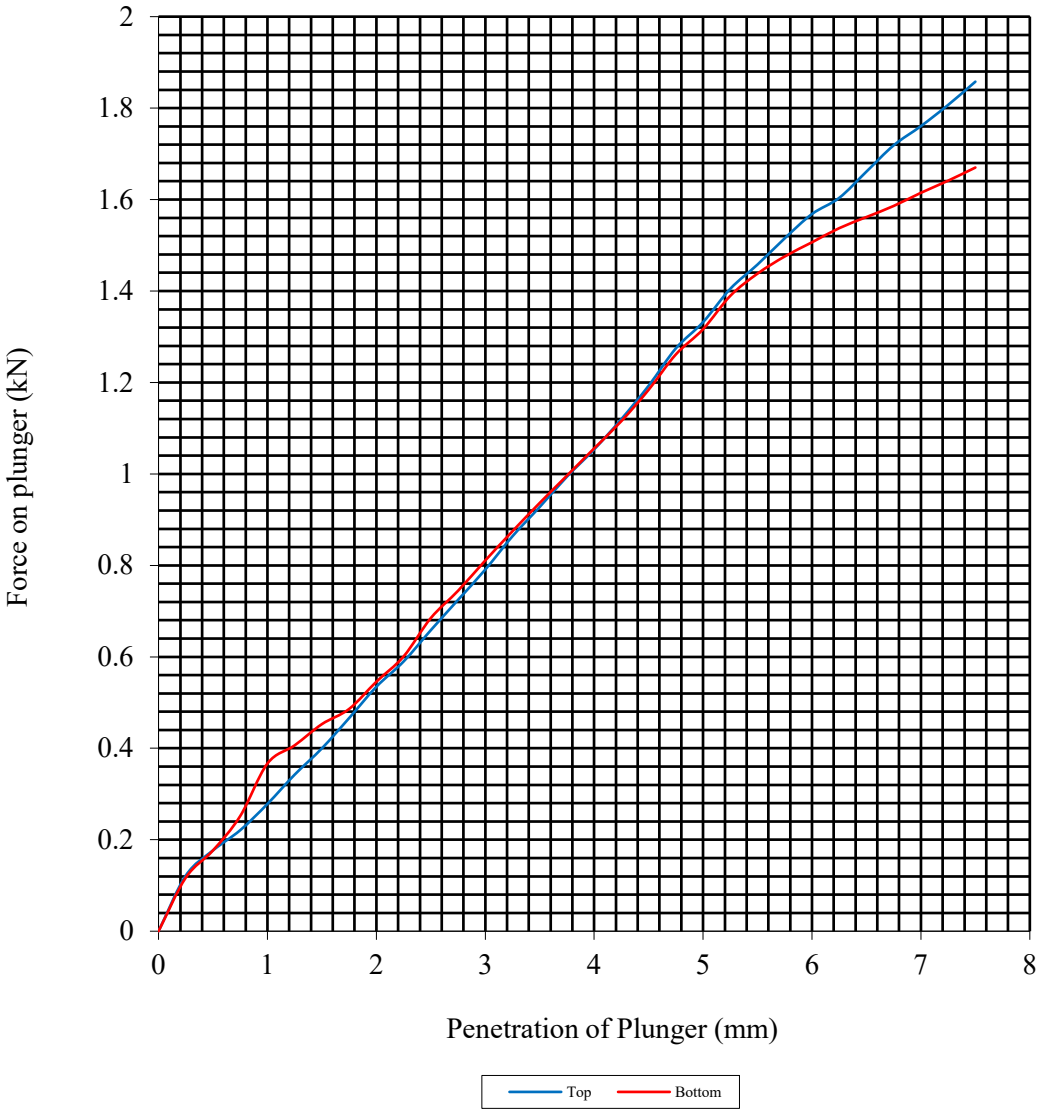
CALIFORNIA BEARING RATIO (CBR)

BS 1377 - Part 2 : Clause 15 : 2022

Hole Number: TP108 **Top Depth (m):** 1.30

Sample Number: **Base Depth (m):** 1.40

Sample Type: B+T



Initial Sample Conditions		Sample Preparation		Final Water Content %		C.B.R. Value %	
Water Content:	17.8	Surcharge Kg:	4.00	Sample Top	17.8	Sample Top	6.7
Bulk Density Mg/m3:	1.87	Soaking Time hrs	0	Sample Bottom	17.8	Sample Bottom	6.6
Dry Density Mg/m3:	1.59	Swelling mm:	0.00	Remarks : See Summary of Soil Descriptions.			
Percentage retained on 20mm BS test sieve:			5				
Compaction Conditions		2.5kg					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

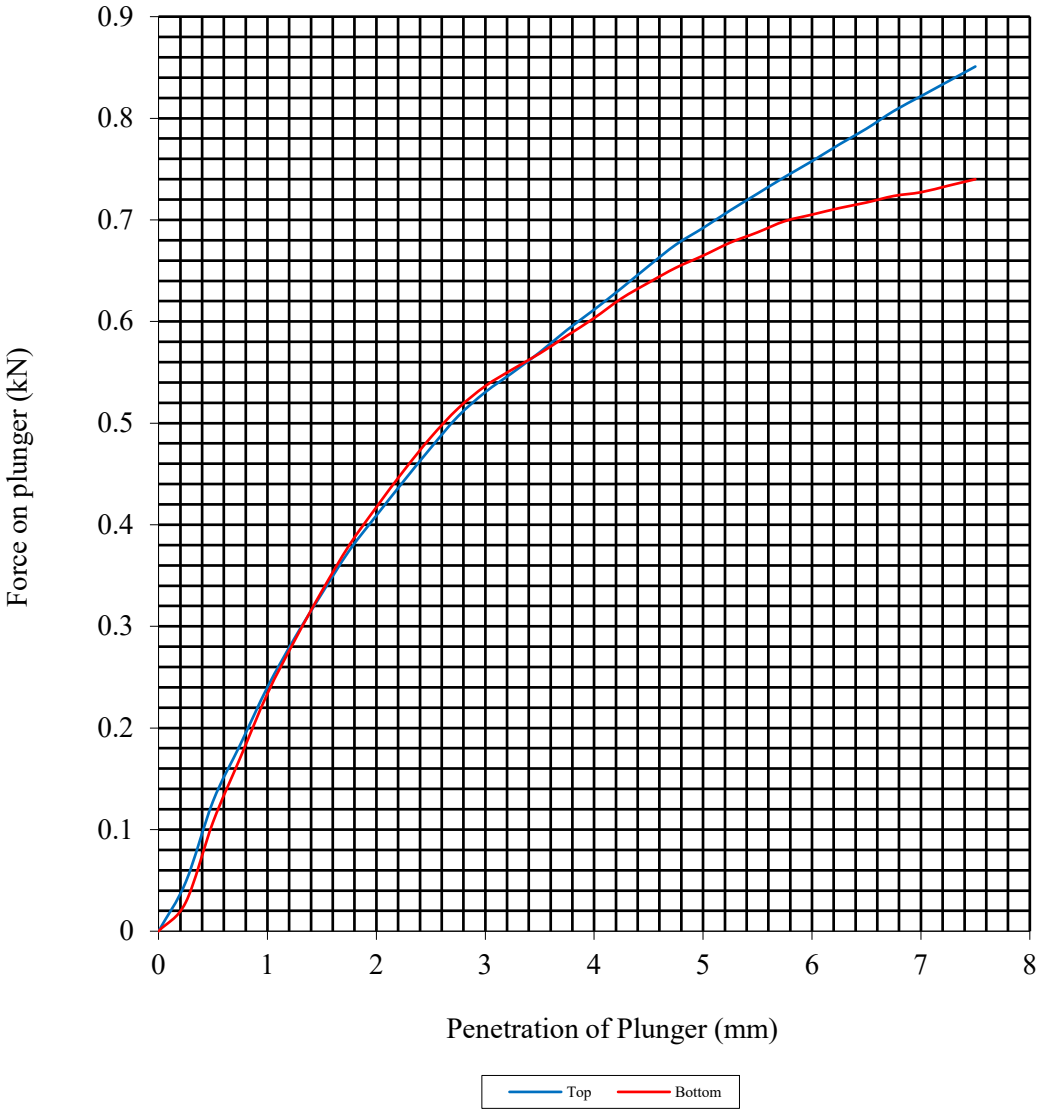
CALIFORNIA BEARING RATIO (CBR)

BS 1377 - Part 2 : Clause 15 : 2022

Hole Number: TP108 **Top Depth (m):** 2.80

Sample Number: **Base Depth (m):**

Sample Type: B+T



Initial Sample Conditions		Sample Preparation		Final Water Content %		C.B.R. Value %	
Water Content:	32.5	Surcharge Kg:	4.00	Sample Top	32.5	Sample Top	3.6
Bulk Density Mg/m3:	1.87	Soaking Time hrs	0	Sample Bottom	32.5	Sample Bottom	3.7
Dry Density Mg/m3:	1.41	Swelling mm:	0.00	Remarks : See Summary of Soil Descriptions.			
Percentage retained on 20mm BS test sieve:			0				
Compaction Conditions		2.5kg					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

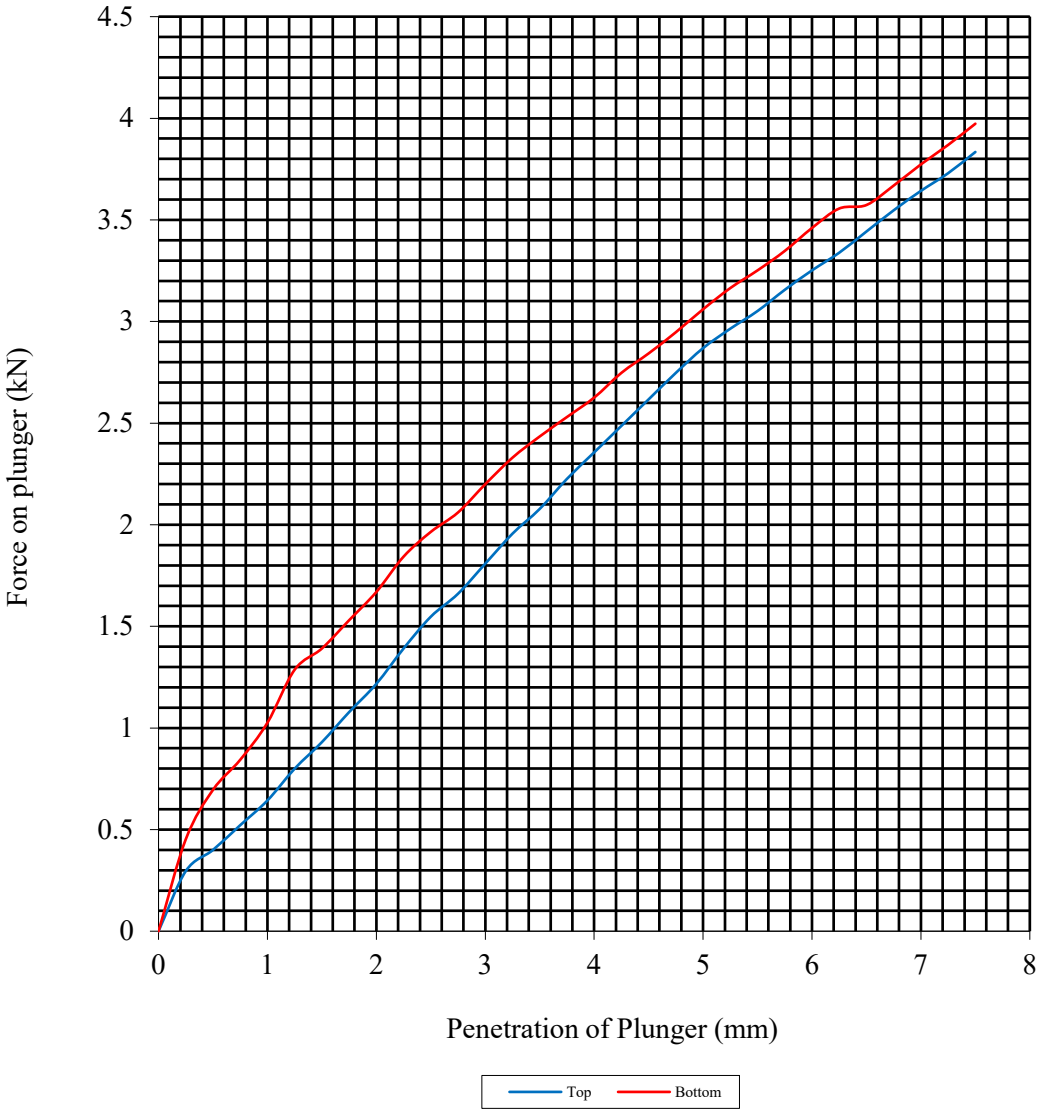
CALIFORNIA BEARING RATIO (CBR)

BS 1377 - Part 2 : Clause 15 : 2022

Hole Number: WS101 **Top Depth (m):** 0.20

Sample Number: **Base Depth (m):** 1.40

Sample Type: B+T



Initial Sample Conditions		Sample Preparation		Final Water Content %		C.B.R. Value %	
Water Content:	6.7	Surcharge Kg:	4.00	Sample Top	6.7	Sample Top	14.3
Bulk Density Mg/m3:	1.98	Soaking Time hrs	0	Sample Bottom	6.7	Sample Bottom	15.3
Dry Density Mg/m3:	1.86	Swelling mm:	0.00	Remarks : See Summary of Soil Descriptions.			
Percentage retained on 20mm BS test sieve:			25				
Compaction Conditions		2.5kg					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Whaley Road, Barugh Green

Contract No: PSL26/5185

Client Ref: 6709

ENVIRONMENTAL CHEMISTRY TESTING LABORATORIES
A PHENNA GROUP COMPANY

Analytical Test Report	**E26/09081/PSL/26-29432**	**Tested on Behalf of**
Clients Project Reference	PSL26/5185 Whaley Road, Barugh Green	Professional Soils Laboratory
Clients Order Number	PSL26/5185	5/7 Hexthorpe Road
Sample(s) Analysed	6	Hexthorpe
Sample(s) received / instructed	06/07/2026 / 06/07/2026	Doncaster
Sample(s) Tested	06/07/2026 to 13/07/2026	
Report issued	13/07/2026	DN4 0AR
Report issue number	1	

Signed

Emily Blissett
Report Manager

Notes:

General

This report shall not be reproduced except in full

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples were supplied by customer, results apply to the samples as received.

Samples will be retained for 14 days after issue of this report unless otherwise requested.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30˚C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

U = UKAS Accreditation, M = MCERTS Accreditation, N = Unaccredited, SC = Subcontracted

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Analytical Test Results - BRE Associated Analysis

Lab Reference					**825516**	**825517**	**825518**
Client Sample ID					-	-	-
Client Sample Location					TP101	TP103	TP105
Client Sample Type					B+T	B+T	B+T
Client Sample Number					-	-	-
Depth - Top (m)					2.5	0.4	1.5
Depth - Bottom (m)					2.6	0.5	1.8
Date of Sampling					-	-	-
Time of Sampling					-	-	-
Sample Matrix					Clay	Clay	Sand
Determinant	**Code**	**Units**	**LOD**	**Accreditation**			
Water Soluble Sulphate (as SO4)	ANIONSSBRE	mg/L	10	N	1200	1200	1800
Acid Soluble Sulphate	ASSO4SBRE	%	0.01	N	-	0.75	4.54
Total Sulphur Content (as S)	1377TS-EBR	%	0.01	U	-	0.41	3.33
pH	PHSBRE	pH units	1	M	4.3	8.5	6.6

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Analytical Test Results - BRE Associated Analysis

Lab Reference					**825519**	**825520**	**825521**
Client Sample ID					-	-	-
Client Sample Location					TP108	TP109	WS101
Client Sample Type					B+T	B+T	B+T
Client Sample Number					-	-	-
Depth - Top (m)					1.3	2	0.2
Depth - Bottom (m)					1.4	2	1.4
Date of Sampling					-	-	-
Time of Sampling					-	-	-
Sample Matrix					Sand	Clay	Other
Determinant	**Code**	**Units**	**LOD**	**Accreditation**			
Water Soluble Sulphate (as SO4)	ANIONSSBRE	mg/L	10	N	2000	720	1100
Acid Soluble Sulphate	ASSO4SBRE	%	0.01	N	4.70	-	0.33
Total Sulphur Content (as S)	1377TS-EBR	%	0.01	U	2.12	-	0.32
pH	PHSBRE	pH units	1	M	7.7	5.1	8.1

ENVIRONMENTAL CHEMISTRY TESTING LABORATORIES
A PHENNA GROUP COMPANY

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
825516	-	TP101	SOIL	-	Greyish brown silty clay with frequent mudstone	-	-	100
825517	-	TP103	SOIL	-	Dark greyish brown very gravelly sandy silty clay	-	-	100
825518	-	TP105	SOIL	-	Black gravelly clayey silty sand with frequent mudstone	-	-	100
825519	-	TP108	SOIL	-	Black gravelly clayey silty sand with frequent mudstone	-	-	88
825520	-	TP109	SOIL	-	Mottled brown grey silty clay	-	-	100
825521	-	WS101	SOIL	-	Made Ground- black sandy crushed rock with frequent bituminous material	-	-	100

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Analysis Methodologies - Please refer to sample comments page (if present) for any changes to methods Methods

Site addresses where testing is performed: Leicester - 7-11 Harding Street, Leicester, LE1 4DH

Poole - Unit D11, Admiralty Park, Station Road, Holton Heath, Poole, BH16 6HX & Unit 14B, Blackhill Road West, Holton Heath Trading Park, Poole, Dorset, BH16 6LE

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Site	Test Details
1377TS-EBR	BS1377 Total Sulphur Content by HTC	Oven dried	BS1377 : Part 1 : 2016	Leicester	Total Sulphur Content testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.10 (using Eltra CS-800 Analyser)
ANIONSSBRE	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Leicester	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
ASSO4SBRE	MS - CL - Acid Soluble Sulphate	Oven Dried	Passing 2mm test sieve	Leicester	Determination of total sulphate in soils by acid extraction followed by ICP analysis
PHSBRE	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Leicester	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Leicester	Preparation of samples (including determination of moisture content) to allow for subsequent analysis

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Sample Deviations

Deviations are listed below against each sample and associated test method, where deviation(s) are noted it means data may not be representative of the sample at the time of sampling and it is possible that results provided may be compromised.

Observations on receipt

A - No date of sampling provided
W - No time of sampling provided
C - Received in inappropriate container
H - Contains headspace
T - Temperature on receipt exceeds storage temperature
R - Sample(s) received outside standard identified timescales for testing to commence/complete, any result formally classed as deviating will be marked with an X against the applicable test (i.e. RX)

Observations whilst in laboratory

X - Exceeds sampling to extraction or analysis timescales

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Test	Deviations
825516		TP101				A
825517		TP103				A
825518		TP105				A
825519		TP108				A
825520		TP109				A
825521		WS101				A

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Additional Method Notes

Method	Notes
TRL 447 Suite	1. Sample preparation was in accordance with TRL 447 Appendix C. 2. Testing was carried out in accordance with methods 1, 2 and 4 of TRL 447 2001 (Updated 2005). 3. Oxidisable sulphides and total potential sulphate have been calculated in accordance with TRL 447, Appendix C Test 4. Values are reported against a dry mass of sample passing a 2mm test sieve after oven drying, where required material retained on the 2mm test sieve was recombined with the test portion prior to analysis.
BS1377 Acid Soluble Chloride	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016 2. Testing was in accordance with BS 1377 : Part 3 : 2018 + A1: 2021, acid soluble method. 3. Some information required by BS 1377 has not been reported. This information is available on request.
BS1377 Loss on Ignition	Testing was in accordance with BS 1377: Part 3: 2018 + A1: 2021 Clause 6. Determination of the mass loss on ignition. Some information required by BS1377: 2016: Part 1 has not been reported. This information is available on request.
BS1377 Organic Matter Content	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016 2. Testing was in accordance with BS 1377: Part 3: 2018 + A1: 2021 Clause 4. 3. The reported % organic content is the average organic matter content present in the soil fraction passing the 2mm test sieve to the nearest 0.1% of the original oven dry mass of soil. 4. Some information required by BS 1377 has not been reported. This information is available on request.
BS1377 pH Value	pH testing was in accordance with BS 1377 : Part 3 : 2018 + A1: 2021 Clause 12
BS1377 Sulphate (acid soluble)	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016. 2. Sulphate testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.9 & 7.5. 3. Some information required by BS 1377 has not been reported. This information is available on request.
BS1377 Total Dissolved Solids	Determination of TDS in accordance with BS 1377: Part 3
BS1377 Total Sulphur	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016.
BS1377 Water Soluble Chloride	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016 2. Testing was in accordance with BS 1377 : Part 3 : 2018 + A1: 2021, Clause 7.2, water soluble method. 3. Some information required by BS 1377 has not been reported. This information is available on request.
BS1377 Sulphate (water soluble) (ICP-OES)	1. Sample preparation was in accordance with BS 1377 : Part 1 : 2016. 2. Sulphate testing of Soil in accordance with BS 1377 : Part 3 : 2018 + A1 : 2021 Clause 7.3 & 7.5. 3. pH of the water extract was not recorded. 4. Some information required by BS 1377 has not been reported. This information is available on request.
EN1744 Acid Soluble Sulphate	Testing was in accordance with BS EN 1744-1:2009 + A1:2012 clause 12. Analysis subcontracted to a UKAS accredited laboratory
EN1744 Total Sulphur by HTC (Cl. 11.2)	Testing was in accordance with BS EN 1744-1:2009 + A1:2012 clause 11.2 Analysis subcontracted to a UKAS accredited laboratory
EN1744 Total Sulphur (Cl. 11.1)	Testing was in accordance with BS EN 1744-1:2009 + A1:2012 clause 11. Analysis subcontracted to a UKAS accredited laboratory
EN1744 Water Soluble Chloride	Testing was in accordance with BS EN 1744-1:2009 + A1:2012 clause 7 (Reference Method). Analysis subcontracted to a UKAS accredited laboratory

ENVIRONMENTAL CHEMISTRY TESTING LABORATORIES
A PHENNA GROUP COMPANY

E26/09081/PSL/26-29432

PSL26/5185 Whaley Road, Barugh Green

Additional Method Notes

Method	Notes
EN1744 Water Soluble Sulphate	Testing was in accordance with BS EN 1744-1:2009 + A1:2012 clause 10. Analysis subcontracted to a UKAS accredited laboratory
Oxidisable Sulphides Calculation (HTC)	Calculated in accordance with TRL 447 using results determined in accordance with EN1744
Oxidisable Sulphides Calculation (Grav)	Calculated in accordance with TRL 447 using results determined in accordance with EN1744
Total Potential Sulphate (Calc from 1744 Total S)	Derived from the Total sulphur concentration determined in accordance with EN1744.
BS1881 Alkali (Na2O + K2O)	1. Testing was in accordance with BS 1881: Part 124: 2015 Clause 12.3. 2. A concrete density of 2300kg/m3 was used in the calculation of equivalent sodium oxide content per m3 of concrete. 3. Samples received were smaller than required by Clause 4.1 of BS 1881 : Part 124 :2015. 4. Quality control samples are tested with each batch of samples.
BS1881 Calcium Oxide Content (EDTA Titration)	1. Testing was in accordance with BS 1881: Part 124: 2015 Clause 6.4. 2. Cement content (%m/m) has been calculated assuming the presence in the concrete of Ordinary Portland Cement, containing 64.5% by mass of Calcium Oxide. 3. Samples of the original constituents of the mix were not submitted. 4. Samples received were smaller than required by Clause 4.1 of BS 1881 : Part 124 :2015. 5. Quality control samples are tested with each batch of samples. 6. Samples were identified as being part of a batch and therefore the results are from a single analysis only.
BS1881 Cement Content (ICP method)	1. Testing was in accordance with BS 1881: Part 124: 2015 Clause 6.5 by ICP. 2. Cement content has been calculated assuming the presence in the concrete of Ordinary Portland Cement, containing 20.2% and 64.5% by mass of soluble silica and calcium oxide respectively. 3. Samples of the original constituents of the mix were not submitted. 4. Samples received were smaller than required by Clause 4.1 of BS 1881 : Part 124 :2015. 5. Quality control samples are tested with each batch of samples. 6. Samples were identified as being part of a batch
Chloride in Concrete by Aquakem (Acid Soluble)	1. Testing was in accordance with in house method statement MS - CL - Chloride in Hardened concrete by Aquakem. 2. Samples were not passed over the 125micron BS Test Sieve before testing. 3 Quality control samples are tested with each batch of samples.
Moisture Content of Grout Mortar & Concrete	1. Testing was in accordance with in house method statement MS Moisture Content of Grout, Mortar and Concrete
MS - Sulphate in Hardened Concrete by ICP	1. Testing undertaken in accordance with in house method statement MS - Sulphate in hardened concrete by ICP. 2. Samples received were smaller than required by Clause 4.1 of BS 1881 : Part 124 :2015. 3. Quality control samples are tested with each batch of samples.
BS1881 Water Cement Ratio	1 Testing was in accordance with BS 1881: Part 124: 2015+A1:2021. 2. Cement content was determined in accordance with BS 1881: Part 124: 2015+A1:2021 Clause 6.5 by ICP. 3. Samples of the original constituents of the mix was/was not submitted. 4. Original water/cement ratio has been calculated in accordance with BS 1881: Part 124: 2015+A1:2021 Clause 9.6. 5. Samples received were smaller than required by Clause 4.1 of BS 1881 : Part 124 :2015+A1:2021.

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Additional Method Notes

Method	Notes
BS4551 Mix Proportion	1.Sample preparation was in accordance with BS4551 2005 + A2:2013 Clause 7. 4.5. 2. Testing was in accordance with BS 4551: Part 2: 2005 + A2:2013 Clause 7.5.3 and 7.5.3.4. 3. Cement content has been calculated assuming the presence in the mix of Ordinary Portland Cement containing 20.2% and 64.5% by mass of soluble silica and calcium oxide respectively.
BS6463-102 Neutralizing Value	Testing was undertaken in accordance with an in house method statement based on BS6463-102
BS3882:2015 Specification for topsoil	Testing was undertaken in accordance with the methodologies within BS3882:2015
BS8601:2013 Specification for subsoil	Testing was undertaken in accordance with the methodologies within BS8601:2013
Depth of Carbonation (BS EN 14630:2006)	1. Testing was carried out in accordance with BS EN 14630:2006 Depth of Carbonation. 2. Testing was carried out in the laboratory. 3. Indicator Solution Used– 1g of Phenolphthalein powder dissolved in a solution of 50ml of Methylated Spirits and 100ml of deionised water
HAC	1. Testing was in accordance with BRE Information Sheet IS 15/74. 2. Contaminated samples may give a false result. 3. Samples taken from extensively carbonated concrete containing Portland Cement may give a false positive result. 4. If conclusive identification of the presence of High Alumina Cement is required this result should be confirmed by a more definitive test.
pH Value of Concrete	1. Testing was in accordance with in house method statement MS – pH Value of Hardened Concrete, Grout and Water from voids
Sub - EN1744 Sulphide	Analysis was in accordance with BS EN 1744-1 : 2009 + A1 : 2012, clause 13 and subcontracted to a UKAS accredited laboratory for this test

Appendix E Hazardous Ground Gas and Groundwater Monitoring Results

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green **Job No:** 6709 **Client:** Wordsworth Property Partnership

Visit No: 1 **Date:** 11.08.26

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	0.8	0.0	0.0	0.8	1	0	19.6	0.2	0.2	1.64	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	16.4	0.0	0.0	16.4	8	392	3.0	-2.8	-0.2	Dry	5.00
WS106	0.0	0.0	22.3	0.0	0.0	22.3	1	6	0.5	0.1	0.1	4.52	5.00
RO101A	0.0	0.0	1.1	0.0	0.0	1.1	2	0	17.2	0.2	0.2	2.51	3.00
RO102	40.0	2.0	12.2	40.0	2.0	12.2	2	5	0.4	0.3	0.3	2.53	4.00
RO103	0.0	0.0	0.2	0.0	0.0	0.1	2	1	18.5	0.1	0.1	1.53	2.50

Ambient Concentration (% volume): **CH_4** 0.2 %v/v **CO_2** 0.2 %v/v **O_2** 20.9 %v/v

Barometric Pressure: **Start** 1015 **End** 1016

Regional Barometric Pressure Trend: Rising.

Weather: Overcast.

Monitoring Equipment: GA5000

Serial Number of Equipment: G505491

Date of Last Calibration: 15/01/2026

Operator: DMH

Key	Remarks
NR - Not Recorded	WS102 could not be located.
	Checked: **Approved:**

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green **Job No:** 6709 **Client:** Wordsworth Property Partnership

Visit No: 2 **Date:** 18.08.26

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	1.2	0.0	0.0	1.1	0	0	19.2	0.0	0.0	1.75	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	17.3	0.0	0.0	17.3	1	2	2.9	0.0	0.0	NR	5.00
WS106	0.0	0.0	22.5	0.0	0.0	22.5	2	1	0.4	-0.1	0.0	4.42	5.00
RO101A	0.0	0.0	4.9	0.0	0.0	4.9	0	0	13.6	0.0	0.0	2.55	3.00
RO102	0.0	0.0	25.5	0.0	0.0	25.5	1	1	1.3	0.1	0.0	2.55	4.00
RO103	0.0	0.0	8.0	0.0	0.0	7.8	0	1	9.8	0.0	0.0	NR	2.50

Ambient Concentration (% volume): **CH_4** 0.0 %v/v **CO_2** 0.2 %v/v **O_2** 20.6 %v/v

Barometric Pressure: **Start** 999 **Monitoring Equipment:** GA5000

End 1000 **Serial Number of Equipment:** G505491

Regional Barometric Pressure Trend: Falling. **Date of Last Calibration:** 15/01/2026

Weather: Sunny **Operator:** EJS

Key	Remarks
NR - Not Recorded	WS102 could not be located.
	Checked: **Approved:**

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green
Visit No: 3
Job No: 6709
Date: 27.08.26
Client: Wordsworth Property Partnership

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	3.7	0.0	0.0	3.7	0	0	11.1	0.0	0.0	1.80	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	18.1	0.0	0.0	18.1	1	1	1.8	-0.1	-0.1	Dry	5.00
WS106	0.0	0.0	21.5	0.0	0.0	21.5	1	1	0.5	-0.1	-0.1	4.32	5.00
RO101A	0.0	0.0	4.7	0.0	0.0	4.7	0	0	15.7	-0.1	-0.1	2.60	3.00
RO102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
RO103	0.0	0.0	8.2	0.0	0.0	8.1	0	0	13.9	-0.1	-0.1	Dry	2.50

Ambient Concentration (% volume): **CH_4** 0.0 %v/v **CO_2** 0.2 %v/v **O_2** 20.9 %v/v

Barometric Pressure: **Start** 1000 **End** 1001
Regional Barometric Pressure Trend: Falling.
Weather: Overcast.

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 15/01/2026
Operator: EJS

Key	Remarks
NR - Not Recorded	WS102 and RO102 could not be located.
	Checked: **Approved:**

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green **Job No:** 6709 **Client:** Wordsworth Property Partnership

Visit No: 4 **Date:** 04.09.2026

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	2.8	0.0	0.0	1.0	0	0	14.7	0.0	0.0	0.60	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	19.7	0.0	0.0	19.7	0	0	0.5	0.0	0.0	Dry	5.00
WS106	0.0	0.0	21.4	0.0	0.0	21.4	0	0	0.6	0.0	0.0	3.30	5.00
RO101A	0.0	0.0	4.3	0.0	0.0	4.3	0	0	16.1	0.0	0.0	2.10	3.00
RO102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
RO103	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	2.50

Ambient Concentration (% volume): **CH_4** 0.0 %v/v **CO_2** 0.2 %v/v **O_2** 20.9 %v/v

Barometric Pressure: **Start** 997 **End** 998

Regional Barometric Pressure Trend: Rising.

Weather: Overcast.

Monitoring Equipment: GA5000

Serial Number of Equipment: G505491

Date of Last Calibration: 15/01/2026

Operator: EJS

Key	Remarks
NR - Not Recorded	WS102 and RO102 could not be located. RO103 flooded, unable to monitor.
	Checked: **Approved:**

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green
Visit No: 5
Job No: 6709
Date: 09.09.2026
Client: Wordsworth Property Partnership

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	0.3	0.0	0.0	0.3	1	0	20.5	0.0	0.0	1.06	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	16.6	0.0	0.0	16.6	1	5	2.6	0.1	0.1	DRY	5.00
WS106	0.0	0.0	20.1	0.0	0.0	20.1	2	30	0.8	0.0	0.0	4.20	5.00
RO101A	0.0	0.0	4.0	0.0	0.0	4.0	1	1	16.6	0.1	0.1	2.34	3.00
RO102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
RO103	0.0	0.0	4.1	0.0	0.0	4.1	1	0	15.8	0.0	0.0	DRY	2.50

Ambient Concentration (% volume): **CH_4** 0.0 %v/v **CO_2** 0.2 %v/v **O_2** 20.8 %v/v

Barometric Pressure: **Start** 1006 **End** 1007
Regional Barometric Pressure Trend: Rising.
Weather: Sunny.

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 15/01/2026
Operator: DMH

Key	Remarks
NR - Not Recorded	WS102 and RO102 could not be located.
	Checked: **Approved:**

GAS AND GROUNDWATER MONITORING RESULTS

Site: Whaley Road, Barugh Green
Visit No: 6
Job No: 6709
Date: 16.09.2026
Client: Wordsworth Property Partnership

Monitoring Location	Gas Concentration									Gas Emission Rate		GWL	Base of Standpipe
	Peak			Steady			Highest	Highest	Lowest				
BH	CH_4		CO_2	CH_4		CO_2	H_2S	CO	O_2	Litre/Hour			
	% lel	%v/v	%	% lel	%v/v	%	ppm	ppm	%	Peak	Steady	(m) bgl	
WS101	0.0	0.0	0.4	0.0	0.0	0.4	1	0	20.3	0.0	0.0	1.25	2.00
WS102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
WS105	0.0	0.0	17.1	0.0	0.0	17.1	1	13	1.7	0.0	0.0	DRY	5.00
WS106	0.0	0.0	19.9	0.0	0.0	19.9	3	109	0.5	0.1	0.1	4.21	5.00
RO101A	0.0	0.0	4.4	0.0	0.0	4.4	1	0	15.7	0.2	0.2	2.41	3.00
RO102	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	4.00
RO103	0.0	0.0	7.8	0.0	0.0	7.8	0	1	12.3	0.1	0.1	DRY	2.50

Ambient Concentration (% volume): **CH_4** 0.1 %v/v **CO_2** 0.2 %v/v **O_2** 20.8 %v/v

Barometric Pressure: **Start** 1008 **End** 1009
Regional Barometric Pressure Trend: Falling.
Weather: Sunny.

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 15/01/2026
Operator: DMH

Key	Remarks
NR - Not Recorded	WS102 and RO102 could not be located.
	Checked: **Approved:**

Appendix F BGS Radon Report

GeoReports

British Geological Survey

EMILY SYKES
J P G (LEEDS) LTD
5 JOHN CHARLES WAY
LEEDS
LS12 6QA
UNITED KINGDOM

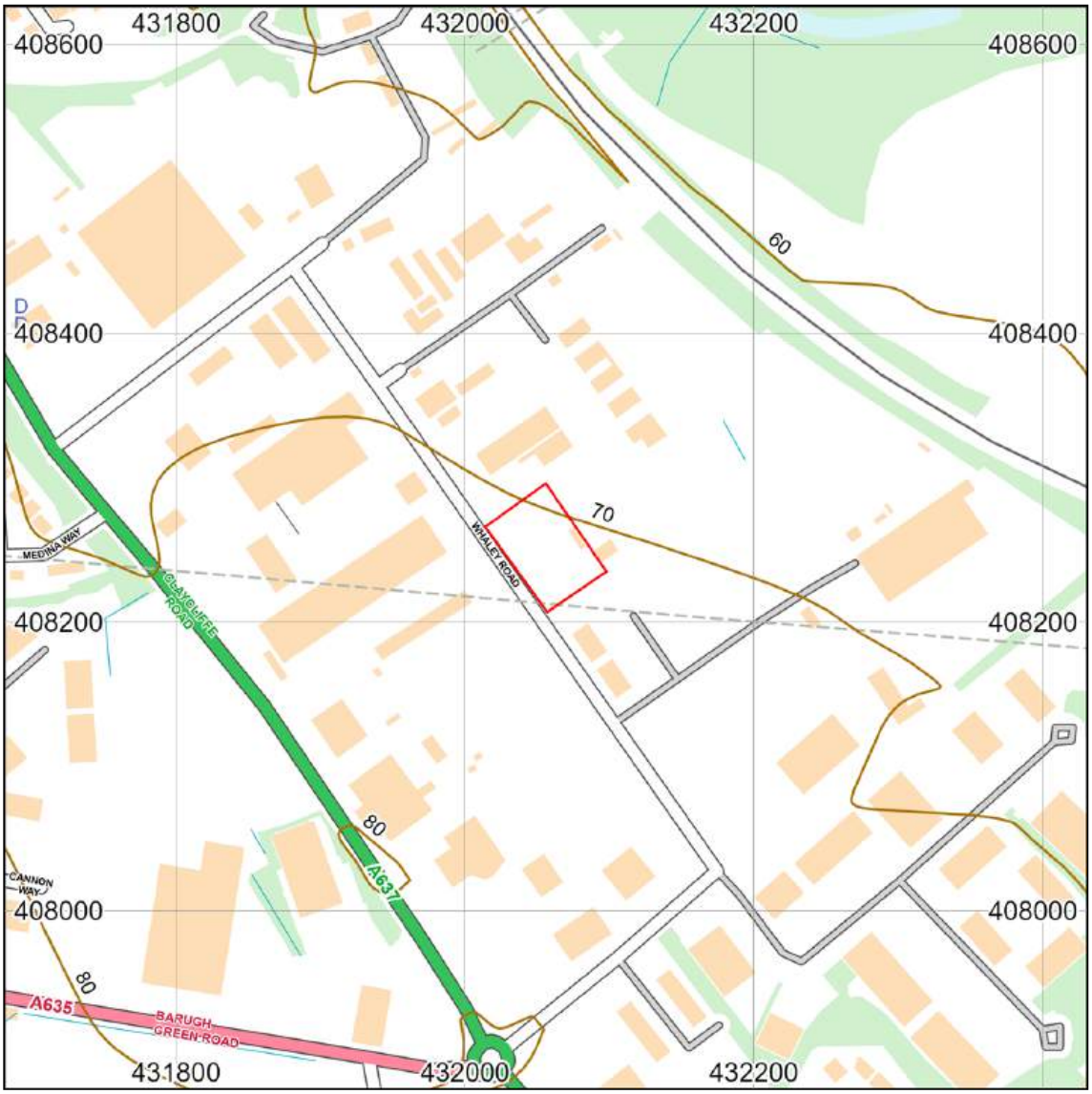
Radon Report

Advisory report on the requirement for radon protective measures in new buildings, conversions and extensions to existing buildings. The report also indicates whether a site is located within a radon Affected Area

Report Id: *BGS_350592/70740*

Client reference: 6709

Search location



Contains OS data © Crown Copyright and database right 2026. OS OpenMap Local:
Search location indicated in red

This report describes a site located at National Grid Reference 432056, 408252. Note that for sites of irregular shape, this point may lie outside the site boundary. Where the client has submitted a site plan the assessment will be based on the area given.

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Radon Report: UK

When extensions are made to existing buildings in high radon areas, or new buildings are constructed in these areas, the Building Regulations for England, Wales, Scotland and Northern Ireland require that protective measures are taken against radon entering the building.

This report provides information on whether radon protective measures are required. Depending on the probability of buildings having high radon levels, the Regulations may require either:

1. No protective measures
2. Basic protective measures
3. Full protective measures

This is an advisory report on the requirement for radon protective measures in new buildings, conversions and extensions. The report also indicates whether a site is located within a radon Affected Area

Requirement for radon protective measures

The determination below follows advice in *BR211 Radon: Guidance on protective measures for new buildings (2023 edition), which also provides guidance on what to do if the* result *indicates that protective measures are required.*

Is the property in an area where radon protective measures are required for new buildings or extensions to existing ones as described in publication BR211 (2023 edition) Radon: Guidance on protective measures for new buildings?

NO RADON PROTECTIVE MEASURES ARE REQUIRED FOR THE REPORT AREA.

More details of the protective measures required are available in *BR211 Radon: Guidance on protective measures for new buildings (2023 Edition)*.

Whether or not the radon level in a building is above or below the radon Action Level can only be established by having the building tested. The UKHSA provides a radon testing service which can be accessed at www.ukradon.org or by telephone (01235 822622).

If you require further information or guidance, you should contact your local authority building control officer or approved inspector.

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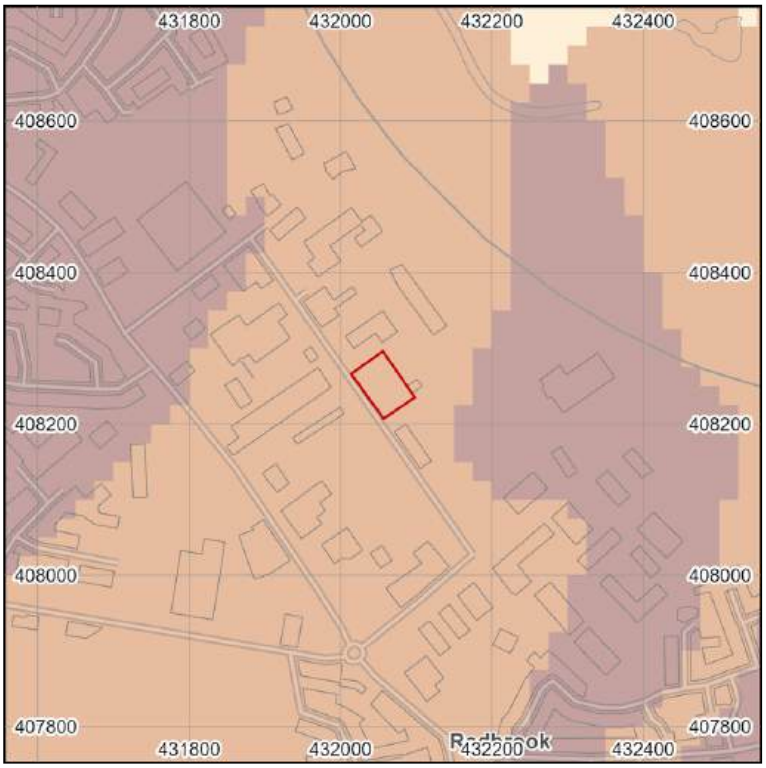
Radon Affected Area



	% Homes estimated to be at or above the action level
	0-1%
	1-3%
	3-5%
	5-10%
	10-30%
	30-100%

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Scale: 1:10 000 (1cm = 100 m)
Search area indicated in red

Is the property in a radon Affected Area as defined by the UK Health Security Agency (UKHSA) and if so what percentage of homes are estimated to be at or above the Action Level? YES

Additional Information

THE PROPERTY IS IN A RADON AFFECTED AREAS WHERE 1 TO 3% OF HOMES ARE ESTIMATED TO BE AT OR ABOVE THE ACTION LEVEL.

The UKHSA recommends a radon 'Action Level' of 200 Becquerels per cubic metre of air (Bq m^{-3}) for the annual average of the radon gas concentration in a home. Where 1% or more of homes are estimated to be at or above the Action Level the area should be regarded as a radon Affected Area.

This report informs you whether the property is in a radon Affected Area and the percentage of homes that are estimated to be at or above the radon Action Level at this location. Being in an Affected Area does not necessarily mean there is a high radon level within the property; the only way to determine the radon level is to carry out a radon measurement.

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The UKHSA advises that radon gas should be measured in all properties within radon Affected Areas and that homes with radon levels at or above the Action Level (200 Bq m^{-3}) should be remediated. Householders with levels between the Target Level (100 Bq m^{-3}) and Action Level should seriously consider reducing their radon level, especially if they are at greater risk, such as if they are current or ex smokers. Whether or not a home is in fact above or below the Action Level or Target Level can only be established by having the building tested. The UKHSA provides a validated radon testing service which can be accessed at www.ukradon.org.

The information in this report provides an answer to one of the standard legal enquiries on house purchase in England and Wales, known as Law Society CON29 Enquiries of the Local Authority (2016); 3.14 Radon Gas: Do records indicate that the property is in a “Radon Affected Area” as identified by the UKHSA. The data can also be used to advise house buyers and sellers in Scotland and Northern Ireland.

If you are buying a new build property in a Radon Affected Area, you should ask the builder whether radon protective measures were incorporated in the construction of the property.

If you are buying a currently occupied property in a radon Affected Area, you should ask the present owner whether radon levels have been measured in the property. If they have, ask whether the results were at or above the radon Action Level and if so, whether remedial measures were installed, radon levels were re-tested, and if the results of re-testing confirmed the effectiveness of the measures.

Further information on radon is available from the UKHSA at www.ukradon.org.

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What is radon?

Radon is a naturally occurring radioactive gas, which is produced by the radioactive decay of radium which, in turn, is derived from the radioactive decay of uranium. Uranium is found in small quantities in all soils and rocks, although the amount varies from place to place. Radon released from rocks and soils is quickly diluted in the atmosphere. Concentrations in the open air are normally very low and do not present a hazard. Radon that enters enclosed spaces such as some buildings (particularly basements), caves, mines, and tunnels may reach high concentrations in some circumstances. The construction method and degree of ventilation will influence radon levels in individual buildings. A person's exposure to radon will also vary according to how particular buildings and spaces are used.

Inhalation of the radioactive decay products of radon gas increases the chance of developing lung cancer. If individuals are exposed to high concentrations for significant periods of time, there may be cause for concern. In order to limit the risk to individuals, the Government has adopted an Action Level for radon in homes of 200 becquerels per cubic metre (Bq m^{-3}). The Government advises householders that, where the radon level is at or above the Action Level, measures should be taken to reduce the concentration.

Radon in workplaces

The Ionising Radiation Regulations 2017 require employers to take action when radon is present above a defined level in the workplace. Advice may be obtained from your local Health and Safety Executive Area Office or the Environmental Health Department of your local authority. The BRE publishes a guide (BR293)**: Radon in the workplace.** BRE publications may be obtained from the BRE Bookshop, Tel: 01923 664262, email: bookshop@bre.co.uk website: www.brebookshop.com

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- Although samples and records are maintained with all reasonable care, there may be some deterioration in the long term.
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Appendix G Notes on Limitations

General

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Phase I Desk Study Reports

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including any information provided by the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties where appropriate. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, JPG (Leeds) Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Geo-Environmental Investigations

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics and ground and groundwater conditions to allow a reasonable assessment of the environmental risks together with engineering and development implications.

The objectives of the investigation have been limited to establishing the risks associated with potential human receptors, building materials, the environment (including adjacent land) and controlled waters (surface water and groundwater).

The number of sampling points and the methods of sampling and testing do not preclude the existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance values relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

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