GEOENVIRONMENTAL GROUND INVESTIGATION

UK Greetings
Bretton Park
Dewsbury

Reference	**6359-JPG-XX-XX-RP-G-0603-S2-P01**
Date	**April 2025**
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CONFIDENTIALITY STATEMENT

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

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DOCUMENT HISTORY

Revision	Date	Revision Details	Status	Author(s)	Approved
P01	08.04.2025	First Issue	Information	EJS	JBW

EXECUTIVE SUMMARY

Site Address	**UK Greetings, Bretton Park, Dewsbury**
NGR	NGR 425278 420001.
Current Site Use	The site comprises a rectangular shaped parcel of land, located adjacent to the existing warehouse building to the northwest. The site measures approximately 18m along its northwest to southeast axis and approximately 60m along its northeast to southwest axis, occupying an area of 0.12 hectares. The site comprises a landscaped area with a strip of gravel along the side of the building. The site is flat and level. It is understood that as part of the previous adjacent development, vibro stone columns and potentially pad foundations were installed below the site for a then anticipated warehouse extension that was not built.
Proposals	It is proposed to develop the site for an office development associated with the existing warehouse and distribution centre located on the wider site.
Previous Report	A desk study report for the site has been prepared by JPG, which should be read in conjunction with this report.
Fieldwork	Fieldwork comprised two cable percussive with rotary cored follow-on boreholes to a depth of 23.50m bgl and five window sample boreholes to a maximum depth of 5.45m bgl. Soil, water and rock core 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 to depths of between 3.32m and 5.60m bgl. The made ground was found to be underlain by sandy clay in WS102 to 4.40m bgl. The made ground and clay soils where present were found to be underlain by sand and gravel (river terrace deposits) of at least medium dense conditions. Competent bedrock strata was proven in the two rotary boreholes at 13.50m bgl. The bedrock comprised interbedded mudstone and sandstone bedrock, proven to 23.50m bgl. Rock strength testing on the sandstone indicates strong rock, whereas testing on the mudstone indicates extremely weak to weak rock. Rock strength testing on the sandstone indicates strong rock, whereas testing on the mudstone indicates extremely weak to weak rock. During the investigation, groundwater was encountered in the rotary boreholes at depths of 5.50m and 5.00m bgl. During subsequent groundwater monitoring, the groundwater level varied between were recorded between 4.95m and 5.60m bgl.
Geotechnical and Engineering Assessment	**Foundations/Floor Slab** – The made ground in its current condition is unsuitable for the support of structural loads due to variations in material properties. If shallow spread foundations were to be used, these materials would become over-stressed, leading to significant settlements. In addition, due to the existing adjacent foundations and existing foundations below the proposed development footprint including vibro stone columns and possibly pad foundations, a shallow foundation solution would not be feasible. It is, therefore, recommended that foundations extend through the made ground via piles to bear into the underlying superficial and/or bedrock strata of suitable bearing capacity. The bearing capacity of piles depends on their size, the ground conditions and also on their method of installation. It is recommended that specialist piling contractors are consulted as to the suitability and bearing capacity in relation to the proven ground conditions on the site. The footprint of the proposed office has previously been treated by the installation of vibro stone columns, resulting in allowable bearing capacities much greater than that required for an office development. A stone blanket to act as a piling mat designed to an engineering specification will be required for the piling operation. On this basis, a ground-bearing floor slab will be appropriate for the proposed office development. **Earthworks** – 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 foundations that may conflict with the new foundation arrangements, the removal of unsuitable/surplus soils and the importation of a piling mat to facilitate the foundation solution. Any earthworks should be carried out in accordance with the Manual of Contract Documents for Highway Works, Volume 1 Specification for Highway Works, Series 600 Earthworks. **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 and 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, no significant obstructions are anticipated to be encountered on the site with the exception of possible existing foundations, which if encountered may require breaking out. 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, natural strata and mobile groundwater. Design Sulphate Class DS-3 and Aggressive Chemical Environment for Concrete (ACEC) Class AC-4 will therefore be appropriate for buried concrete.
Environmental Risk Assessment	The preliminary conceptual site model (CSM) has been revised following completion of this ground investigation, the chemical analysis results and the ground gas risk assessment carried out. The revised CSM has been developed for a commercial/industrial end use. This summarises the understanding of surface and sub-surface features, the potential contaminant sources, transport pathways and receptors, and attributes a risk rating for each pollutant linkage identified. Chemical testing indicates very low risk to human health and controlled waters. The ground gas regime has been classified as very low hazard potential (Characteristic Situation 1), indicative of very low hazard potential, and therefore no specific gas protection measures in new buildings or structures. No radon protective measures are required for new buildings. 12 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. The results indicate that 10 samples have been classified as non-hazardous and two samples as hazardous. Samples obtained from WS104 between 3.80m and 3.90m bgl and between 4.50m and 4.70m bgl were classified as hazardous due to the presence of TPH (C6 to C40). Both samples exhibited evidence of hydrocarbon-impact described as dark staining with a slight hydrocarbon odour.
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 Introduction

JPG (Leeds) Limited (JPG) has been instructed by UK Greetings Limited to carry out a Geoenvironmental Ground Investigation for a proposed office extension on the existing UK Greetings Warehouse, Dewsbury.

1.2 Objectives

The main objective of the Geoenvironmental Ground Investigation was to provide a geotechnical and environmental assessment and identify any potential constraints to the proposed development of the site.

1.3 Scope of Works

This report includes the following:

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

Interpretative reporting, which includes the following:

- Assessment of potential contaminants.
- A quantitative (Tier 2) screening assessment using source-pathway-receptor linkages.
- An assessment of the classification of materials for disposal off-site (not including WAC testing).
- Engineering assessment to include recommendations with respect to earthworks, foundations, ground floor and pavement design.
- Comments on the likely requirements for remedial measures on the site, to address potential contamination or ground gas issues.
- Recommendations for further work where appropriate; and
- Presentation of the findings in a tabular non-technical summary.

1.4 Location

The site is located approximately 1.5km south of Dewsbury town centre. The approximate centre of the site is located at NGR 425278 420001.

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

1.5 Site Description and Topography

The site comprises a rectangular shaped parcel of land, located adjacent to the existing warehouse building to the northwest. The site measures approximately 18m along its northwest to southeast axis and approximately 60m along its northeast to southwest axis, occupying an area of 0.12 hectares.

The site comprises a landscaped area with a strip of gravel along the side of the building. The site is flat and level.

The wider site area is accessed off Bretton Park Way through a gated access to the west.

The boundaries to the wider site area are formed by post and mesh fencing.

The site is located within an industrial estate. Land to the north comprises the existing UK Greetings warehouse and offices. Car parking associated with the existing warehouse building is located to the south and west. There is a large water tank located approximately 15m to the southeast. An engineering works is located approximately 65m to the southeast. The River Calder is located approximately 185m to the east.

A medium pressure gas main runs parallel to the building below the car park to the south before extending to the northeast. The location is marked on the edge of the wider site perimeter by a gas marker. The gas main does not encroach onto the development site.

It is understood that as part of the previous adjacent development, vibro stone columns and potentially pad foundations were installed below the site for a then anticipated warehouse extension that was not built.

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

1.6 Summary of Site History

The Dewsbury Corporation Gas Works was located on the wider site from the late nineteenth century. The gasworks was extended in the 1960s before being cleared of buildings and structures by 2002. No buildings or structures associated with the gasworks were located on the site except for a tank that was historically located in the centre-north.

Following demolition and remediation, the wider site was developed as an industrial estate with the site proposed for the office extension remaining adjacent landscaping to an industrial unit.

1.7 Development Proposals

It is proposed to develop the site for an office development associated with the existing warehouse and distribution centre located on the wider site.

A proposed site layout plan showing the location of the proposed extension is referenced below, a copy of which is presented in Appendix A of this report.

- KPP Architects. Proposed Site Plan. Bretton Park. Job no. 2157-01. Project 2003. Dated January 2025.

1.8 Previous Reports

A Desk Study Report for the site has been prepared by JPG, which is referenced below:

- JPG (Leeds) Limited. Geoenvironmental Desk Study Report. UK Greetings, Bretton Park, Dewsbury. Report Ref. 6359-JPG-XX-XX-RP-G-0602-S2-P01. Dated 11 February 2025.

This report should be read in conjunction with the above Desk Study Report, which also incorporates a review of pertinent information for the wider site area.

1.9 Limitations

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

2.0 FIELDWORK

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

Window sample boreholes and rotary-cored boreholes were positioned to target the footprint of the proposed development.

2.1 Fieldwork

The fieldwork was carried between 14 to 22 January 2025. 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
Cable Percussive with Rotary Core (Follow-on)	2	23.50	2	GG, GL
Window Sample Boreholes (WS201 to WS205 inclusive)	5	5.45	3	GG, GL

bgl – below ground level
GG – ground gas monitoring (methane, carbon dioxide, oxygen, 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 guidance contained within the Environment Agency's Land Contamination: Risk Management (June 2019), which is available on-line, and the techniques outlined in BS5930: 2015 Code of Practice for Site Investigations.

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

The investigation was carried out under the supervision of an engineer from JPG.

2.2 Surveying

Exploratory locations were surveyed by using Leica GPS equipment (accuracy +/- 10mm). The surveyed positions were transferred onto the survey drawing.

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.
- Provide information on the solubility of contaminants and therefore the potential for impact on controlled waters.
- Provide information on the quality of shallow groundwater beneath the site.

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	VOC's
		SVOC's
Speciated Poly Aromatic Hydrocarbons (PAH)		
Sulphate (water soluble) and pH		TPH(CWG)
Asbestos Screen		Ammoniacal Nitrogen
Soil Organic Matter		Asbestos Quantification

Samples of soil, leachate and groundwater 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		
TPH(CWG) and VOCs – Groundwater only		

3.2 Geotechnical Testing

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

- Particle size distribution (PSD)/sedimentations to confirm the field descriptions of the soils encountered and inform any earthworks design.
- pH and 2:1 water extract soluble sulphate to inform the concrete design.
- Moisture content and Atterberg Limit tests to classify the plasticity and volume change potential of the cohesive soils.
- Rock strength testing to include point load indices (PLI) and unconfined compressive strength (UCS).

The geotechnical testing was carried out in accordance with BS 1377:1990, "Methods of Test for Soils for Civil Engineering Purposes". The results of the geotechnical testing are contained in Appendix D.

4.0 GROUND AND GROUNDWATER CONDITIONS

4.1 Introduction

The ground conditions encountered during the investigation were generally consistent with the anticipated sequence of strata indicated by the desk study and adjacent previous site investigation records.

An exploratory hole location plan is included in Appendix A. Exploratory hole logs are provided in Appendix B.

4.2 Ground Conditions

Made Ground

Made ground topsoil comprising a firm dark brown slightly gravelly sandy clay was encountered in all exploratory holes from ground level to depths of between 0.17m and 0.26m bgl, with an average thickness of 0.20m.

Granular made ground was generally found to be present below the made ground topsoil to depths of between approximately 0.52m (WS105) and 3.47m bgl (WS101). This granular made ground was generally described as light orangish brown and greyish brown slightly sandy clayey gravel with the gravel component generally comprising sandstone.

Granular made ground including ash, clinker and other man-made debris was generally encountered below the above-referenced made ground. The ash and clinker made ground was absent in WS101 with cohesive made ground present below approximately 3.47m bgl. The cohesive made ground was also present in the other boreholes except for WS102 and WS105 where natural clay soils (possible alluvium) were present. The cohesive made ground was described as soft to firm greyish brown sandy slightly silty clay.

The base of the made ground was proven at depths of between approximately 3.32m and 5.60m bgl.

Superficial Deposits

Natural clay soils were encountered in WS102 to 4.40m bgl and in WS105 to >5.44m bgl. The clay soils were described as dark orangish brown slightly silty sandy clay. Based on BGS mapping, the clay soils may represent alluvium, with the cohesive made ground referenced above representing reworked alluvium.

The superficial deposits were generally found to comprise sands and gravels, predominantly of sandstone. These granular soils are considered to be representative of river terrace deposits. The river terrace deposits were found to extend to 13.50m bgl in BHRC101 and to 12.40m bgl in BHRC102. The base of the river terrace deposits was not proven in the window sample boreholes.

Bedrock Strata

Competent bedrock strata was proven in the two rotary boreholes at 13.50m bgl. The bedrock comprised interbedded mudstone and sandstone bedrock, proven to 23.50m bgl. The bedrock strata represent the Pennine Lower Coal Measures. No coal seams were proven below the site.

In-Situ Testing

The results of the Standard Penetration Tests (SPTs), which were carried out in the window sample and cable percussive boreholes, have been plotted against level (m AOD) for the made ground and natural soils. The results have also 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 contained in Appendix B.

It can be seen that SPT N values are variable in the made ground but generally increase with depth. The SPT N values for the natural granular strata also increase with depth, with values indicative of medium dense soils. Generally SPT refusals (N >50 blows) were recorded in the bedrock strata, indicative of at least extremely weak rock.

4.3 Geotechnical Laboratory Testing

Geotechnical laboratory testing was carried out on samples of made ground and natural soils as summarised below.

Moisture Content and Atterberg Limits

One sample of cohesive made ground obtained from BHRC102 at 5.00m bgl was 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 Clay	1	30.8	1	10.3

The Plasticity Index reported has been modified based on the percentage of particles smaller than 425µm. The liquid limit result indicates that the made ground is classified as being of low plasticity. Based on the modified Plasticity Index, the made ground clay is deemed to be of low volume change potential.

Particle Size Distribution

Particle size distribution/sedimentation testing was carried out on one sample of natural granular soil (river terrace deposits) to confirm the field descriptions of the materials, inform earthworks classification and determine the proportion of silt/clay minerals. The results are summarised in Table 4.3.2 below.

Table 4.3.2 – Summary of Particle Side Distribution/Sedimentation Testing

Exp Hole	Depth (m bgl)	Material Description	Cobbles (%)	Gravel (%)	Sand (%)	Silt/Clay (%)
BHRC101	5.00 – 5.50	Gravelly sand	0	56	36	8
BHRC101	12.50 – 13.00	Sand and gravel	0	72	27	1
BHRC102	7.00 – 7.50	Sandy gravel	17	56	25	2
BHRC102	8.50 – 9.00	Sandy gravel	0	93	6	1

The testing summarised above confirms the material description to be a sandy gravel with low cobble content.

Undrained Shear Strength

One sample of made ground clay, obtained using a thin-walled sample tube, was submitted to the laboratory in order to determine their undrained shear strength in triaxial compression. The results are summarised in Table 4.3.3 below.

Table 4.3.3 – Summary of Quick Undrained Triaxial Tests

Exp. Hole	Depth (m bgl)	Material	Cell Pressure (kPa)	Shear Strength (kPa)	Mean Shear Strength
BHRC101	4.00 – 4.45	MADE GROUND: Soft dark greyish brown and greyish brown slightly sandy silty CLAY	50 100 200	36 37 39	37.3

One-Dimensional Consolidation Testing

One sample of made ground clay, obtained using a thin-walled sample tubes, was submitted for one-dimensional consolidation testing. The results are summarised in Table 4.3.4 below.

Table 4.3.4 – Summary of One-Dimensional Consolidation Tests

Exp. Hole	Depth (m bgl)	Material	Pressure Range (kPa)	Mv (m2/MN)	Cv (m2/yr)
BHRC101	4.00 – 4.45	MADE GROUND: Soft dark greyish brown and greyish brown slightly sandy silty CLAY	0 – 25 25 – 50 50 – 100 100 – 200 200 - 25	0.849 0.294 0.178 0.118 0.005	4.677 5.059 6.730 10.670 52.701

The results indicate that the made ground clay has an Mv of 0.22m2/MN at a pressure equivalent to the overburden, equivalent to medium compressibility.

Rock Strength Testing

Rock strength testing was carried out by Professional Soils Laboratory. 15 samples of rock were tested for Point Load Index and one sample was tested for Uniaxial Compressive Strength (UCS).

A summary of the laboratory unconfined compression strength (UCS) test is presented in Table 4.3.5.

Table 4.3.5 – Summary of Laboratory Uniaxial Compression Strength (UCS) Test

Exp. Hole	Depth (m bgl)	Rock Type	Unconfined Compressive Strength (MPa)	Strength Term*
BHRC101	14.75 – 15.12	Light greyish brown very thinly laminated fine grained SANDSTONE	176	Very strong

* In accordance with BS EN ISO 14689 (table 5)

It should be noted that the sample of rock core tested above was a sandstone interbed and is not representative of the general bedrock present.

The results of the point load index (PLI) tests have been corrected in accordance with Broch & Franklin (1972). The Is50 value has been multiplied by a factor of 24 in order to obtain an approximate UCS. The equivalent UCS values based on PLI tests and strength terms are presented in Table 4.3.6.

Table 4.3.6 – Summary of Laboratory PLI Tests with Equivalent UCS

Exp. Hole	Top Depth (m bgl)	Rock Type	Point Load Index (PLI)	Unconfined Compressive Strength (MPa)	Rock Strength Term*
BHRC101	13.86	Mudstone	0.03	0.72	Extremely Weak
BHRC101	15.55	Mudstone	0.04	0.96	Extremely Weak
BHRC101	17.00	Sandstone	2.55	61.2	Strong
BHRC101	17.89	Mudstone	0.9	21.6	Weak
BHRC101	19.00	Sandstone	3.93	94.3	Strong
BHRC101	20.23	Mudstone	0.40	9.6	Weak
BHRC101	21.89	Mudstone	0.22	5.28	Weak
BHRC101	22.00	Mudstone	0.42	10.1	Weak
BHRC101	23.09	Mudstone	0.37	8.88	Weak
BHRC102	13.71	Mudstone	0.02	0.48	NA
BHRC102	15.50	Mudstone	0.03	0.72	Extremely Weak
BHRC102	17.40	Sandstone	2.95	70.8	Strong
BHRC102	19.77	Mudstone	0.18	4.32	Very weak
BHRC102	21.39	Mudstone	0.61	14.64	Weak
BHRC102	22.66	Mudstone	0.53	12.72	Weak

* In accordance with BS EN ISO 14689 (table 5)
NA – Not applicable

The equivalent UCS tests based on PLIs for the sandstone indicates strong rock, whereas the equivalent UCSs for the mudstone indicates extremely weak to weak rock.

The results for all the UCS tests including equivalent UCS tests based on PLIs have been plotted against elevation (m AOD) and are presented as Figure 4 in Appendix A. The plot illustrates the variability in rock strength below the site.

4.4 Groundwater

During the investigation, groundwater was encountered in BHRC101 and BHRC102 at depths of 5.50m and 5.00m bgl respectively. Groundwater was encountered within BHRC101 within the natural granular strata and within BHRC102 within the made ground.

Monitoring wells were installed to the base of five boreholes on site and subsequently monitored for groundwater level. A summary of the monitored groundwater levels is presented in Table 4.4.

Table 4.4 – Summary of Monitored Groundwater Levels

Location	Water level during monitoring (m bgl)					
	27/01/2025	04/02/2025	12/02/2025	21/02/2025	26/02/2025	06/03/2025
BHRC101	5.10	5.30	5.60	5.60	5.60	5.59
BHRC102	4.95	5.15	5.20	5.40	5.45	5.47
WS102	Dry	Dry	Dry	Dry	Dry	Dry
WS103	Dry	Dry	Dry	Dry	Dry	Dry
WS104	Dry	Dry	Dry	Dry	Dry	Dry

Groundwater levels were generally steady in BHRC101 and BHRC102 during the period of monitoring. Water levels were recorded between 4.95m and 5.60m bgl in these wells. Wells installed in WS102, WS103 and WS104 were found to be dry during the monitoring visits.

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, hydrogen sulphide, gas flows and atmospheric pressure. The results of the gas monitoring are presented in Appendix E and discussed in Section 6 of this report.

4.6 Obstructions

No subsurface manmade obstructions were encountered during the intrusive investigation works.

4.7 Stability

As the ground investigation was limited to boreholes it is not possible to comment on the stability of excavations.

4.8 Visual and Olfactory Evidence of Hydrocarbon Contamination

Slight hydrocarbon odour and staining was observed in the made ground at 4.50m bgl in BHRC102, at 3.30m bgl in WS102, at 3.80m bgl in WS103, at 3.80m and 4.50m bgl in WS104 and at 3.50m bgl in WS105.

5.0 GEOTECHNICAL AND ENGINEERING ASSESSMENT

5.1 Development Proposals

It is proposed to develop the site for an office development associated with the existing warehouse and distribution centre located on the wider site.

A proposed site layout plan showing the location of the proposed extension is referenced below, a copy of which is presented in Appendix A of this report.

- KPP Architects. Proposed Site Plan. Bretton Park. Job no. 2157-01. Project 2003. Dated January 2025.

5.2 Coal Mining

The site lies within a Mining Remediation Authority Coal Mining Reporting Area. A CON29 mining report has been obtained as part of the JPG Desk Study Report.

The CON29 mining report states:

'The property is in a surface area that could be affected by underground mining in 1 seam of coal at 250m depth and last worked in 1947. Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.'

'The property is not within a surface area that could be affected by present underground mining.'

'The property is not in an area where the Coal Authority has received an application for and is currently considering whether to grant a licence to remove or work coal by underground methods.'

'There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres of the boundary of the property.'

'The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.'

In addition, the Mining Remediation Authority Interactive Map does not indicate that the site lies within a development high risk area.

5.3 Foundations and Ground Floor Construction

The selection of foundation type is governed by the thickness of made ground, strength of natural strata, depth to bedrock and presence of any coal seams.

Made ground was encountered to depths of between 3.32m and 5.60m bgl. The made ground was found to be underlain by sandy clay in WS102 to 4.40m bgl. The made ground and clay soils where present were found to be underlain by sand and gravel (river terrace deposits) of at least medium dense conditions. Competent bedrock strata was proven in the two rotary boreholes at 13.50m bgl. The bedrock comprised interbedded mudstone and sandstone bedrock, proven to 23.50m bgl. Rock strength testing on the sandstone indicates strong rock, whereas testing on the mudstone indicates extremely weak to weak rock.

During the investigation, groundwater was encountered in the rotary boreholes at depths of 5.50m and 5.00m bgl. During subsequent groundwater monitoring, the groundwater level varied between were recorded between 4.95m and 5.60m bgl.

The made ground in its current condition is unsuitable for the support of structural loads due to variations in material properties. If shallow spread foundations were to be used, these materials would become over-stressed, leading to significant settlements. In addition, due to the existing adjacent foundations and existing foundations below the proposed development footprint including vibro stone columns and possibly pad foundations, a shallow foundation solution would not be feasible.

It is, therefore, recommended that foundations extend through the made ground via piles to bear into the underlying superficial and/or bedrock strata of suitable bearing capacity.

The bearing capacity of piles depends on their size, the ground conditions and also on their method of installation. It is recommended that specialist piling contractors are consulted as to the suitability and bearing capacity in relation to the proven ground conditions on the site.

The footprint of the proposed office has previously been treated by the installation of vibro stone columns, resulting in allowable bearing capacities much greater than that required for an office development. A stone blanket to act as a piling mat designed to an engineering specification will be required for the piling operation. On this basis, a ground-bearing floor slab will be appropriate for the proposed office development.

5.4 Earthworks

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 foundations that may conflict with the new foundation arrangements, the removal of unsuitable/surplus soils and the importation of a piling mat to facilitate the foundation solution.

Any earthworks should be carried out in accordance with the Manual of Contract Documents for Highway Works, Volume 1 Specification for Highway Works, Series 600 Earthworks.

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 and 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

Based on the findings of the ground investigation, no significant obstructions are anticipated to be encountered on the site with the exception of possible existing foundations, which if encountered may require breaking out. It is recommended that an allowance is made for the removal of hardstanding and obstructions where necessary.

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.

In total, 10 samples of made ground were tested. Laboratory testing reported water-soluble sulphate contents ranging between 19mg/l and 2,030mg/l, and pH values of between 7.0 and 10.4.

Nine samples of natural ground were tested. Laboratory testing reported water-soluble sulphate contents ranging between 22mg/l and 540mg/l, and pH values of between 4.8 and 8.9.

Groundwater testing of samples obtained from BHRC101 and BHRC102 recorded sulphate concentrations of 651mg/l and 381mg/l respectively with pH values of 7.

Foundations will come into contact with made ground, natural strata and mobile groundwater.

Design Sulphate Class DS-3 and Aggressive Chemical Environment for Concrete (ACEC) Class AC-4 will therefore 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 and reported as Geoenvironmental Desk Study Report, UK Greetings, Bretton Park, Dewsbury, under reference 6359-JPG-XX-XX-RP-G-0601-S2-P01 and dated 11 February 2025.

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 groundwater/leachate chemical test results have been compared against Generic Assessment Criteria (GAC) threshold values based on Drinking Water Standards and/or Environmental Quality Standards (EQS).

An exceedance of a threshold value does not directly imply there is an unacceptable risk, however; but indicates that the exceedance should be further assessed via the qualitative source-pathway-receptor (S-P-R) 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

12 samples of made ground were submitted for chemical analysis for a standard suite of determinands. In addition, petroleum hydrocarbons (TPHCWG) and VOCs were tested for on selected samples. Asbestos quantification testing was carried out on two samples in which asbestos fibres were detected.

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

Table 6.3 – Summary of Chemical Analysis for Samples of Made Ground

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)	30.0	4.7 - 71	No
Cadmium	190(1)	0.7	<0.2 – 2	No
Chromium	8600(1)	30.9	13 – 78	No
Copper	68,000(1)	70.3	14 – 250	No
Lead	2,330(2)	87.1	14 – 280	No
Mercury (Inorganic)	1,100 (1)	0.8	<0.3 – 1.5	No
Nickel	980(1)	31.2	15 – 66	No
Selenium	12,000(1)	1.4	<1.0 – 1.6	No
Zinc	730,000(1)	184.8	70 – 590	No
Phenols				
Total Phenols	440*(1)	1.4	<1.0 – 1.6	No
PAHs				
Naphthalene	190*(1)	1.2	0.06 – 3.8	No
Acenaphthylene	83,000*(1)	0.08	<0.05 – 3.5	No
Acenaphthene	84,000*(1)	0.06	<0.05 – 15	No
Fluorene	63,000*(1)	2.9	<0.05 – 14	No
Phenanthrene	22,000*(1)	12.2	0.11 – 62	No
Anthracene	520,000*(1)	4.0	<0.05 – 17	No
Fluoranthene	23,000*(1)	11.2	0.12 – 41	No
Pyrene	54,000*(1)	10.0	0.11 – 38	No
Benz(a)anthracene	170*(1)	4.2	0.05 – 14	No
Chrysene	350*(1)	0.40	<0.05 – 14	No
Benzo(b)fluoranthene	44*(1)	5.7	<0.05 – 19	No
Benzo(k)fluoranthene	1,200*(1)	2.5	<0.05 – 8.1	No
Benzo(a)pyrene	35*(1)	0.17	<0.05 – 18	No
Indeno(123-cd) pyrene	500*(1)	2.7	<0.05 – 10	No
Dibenzo(ah)anthracene	3.5*(1)	0.08	<0.05 – 2.4	No
Benzo(ghi)perylene	3,900*(1)	0.12	<0.05 – 12	No
Asbestos				
Asbestos	0.001%	NAD	NAD - <0.001%	No
Others				
Cyanide (free)	20(2)	1.4	< 0.1 – 1.7	No

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

Asbestos containing material (ACM) was detected in made ground obtained from WS103 between 1.80m and 1.90m bgl and from WS105 at 1.90m bgl. The ACM in WS103 was described as loose fibres and fibrous debris of amosite and chrysotile and in WS105 as loose fibres of amosite. The made ground in both locations was described as granular including ash, clinker and other manmade debris.

In order to more accurately assess the percentage of asbestos by mass, the sample was 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 recorded in the samples was <0.001%. Based on this result, it is considered unlikely that there is the potential for the airborne exposure limit to be exceeded.

No other determinands, including hydrocarbons (TPHCWG), VOCs and SVOCs were recorded at concentrations in excess of their respective GAC.

6.4 Evaluation of Controlled Waters Analysis

Four samples of made ground were scheduled for leachability analysis. The results for each determinand were compared directly with their respective GAC. The results are summarised in Table 6.4.1.

Table 6.4.1 – Summary of Leachability Results

Determinand	GAC (µg/l)	WS101 1.50 – 1.60m	WS103 0.60 – 0.80m	WS103 1.80 – 1.90	WS104 3.80 – 3.90
Arsenic	10 (1)	<1.0	5.5	<1.0	1.4
Cadmium	5 (1)	<0.08	<0.08	<0.08	<0.08
Chromium	50 (1)	1.5	3	0.4	0.6
Copper	2000 (1)	9.6	22	8.7	19
Lead	10 (1)	3.3	14	1.9	1.5
Mercury	1 (1)	<0.5	0.6	<0.5	<0.5
Nickel	20 (1)	1.1	3.7	0.9	1.3
Selenium	10 (1)	<4.0	<4.0	<4.0	<4.0
Zinc	5000 (1)*	9.7	37	18	11
Cyanide Free	50 (1)	<1	<10	<1	<10
Naphthalene	4.24 (2)	<0.01	0.38	<0.01	7.4
Anthracene	0.193 (2)	<0.01	0.11	<0.01	<0.01
Fluoranthene	0.0122 (2)	<0.01	0.22	0.03	0.65
Benzo(a)pyrene	0.01 (1)	<0.01	0.12	<0.01	<0.01
Sum of: Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, and Benzo(g,h,i)perylene	0.1 (1)	<0.04	0.19	<0.04	<0.04
Total Phenols	14.9 (2)	5.6	<10	<1.0	<10

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

An exceedance of leachable naphthalene was recorded in one made ground sample. A concentration of 7.4µg/l was recorded in the sample obtained from WS104.

Exceedances of leachable fluoranthene were recorded in three made ground samples. A maximum leachable concentration of 0.65µg/l was recorded in the sample obtained from WS104.

An exceedance of leachable benzo(a)pyrene was recorded in one made ground sample. A concentration of 0.12µg/l was recorded in the sample obtained from WS103 at 0.60m to 0.80m bgl.

Sum of benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-c,d)pyrene and benzo(g,h,i)perylene was recorded in one sample. A concentration of 0.19µg/l was recorded in the sample obtained from WS103 at 0.60m to 0.80m bgl.

No other concentrations of leachable determinands were found to exceed the GAC.

Groundwater samples were obtained from BHRC101 and BHRC102. The results for each determinand were compared directly with their respective GAC. No/limited groundwater was present in the monitoring wells installed in the window sample boreholes, so no groundwater samples could be obtained.

The results are summarised in Table 6.4.2 below.

Table 6.4.2 – Summary of Groundwater Test Results

Determinand	GAC (µg/l)	BHRC101	BHRC102	Do any samples exceed the GAC?
Metals and Metalloids				
Arsenic	50(1)	6.22	1.77	No
Cadmium	5(1)	<0.02	<0.02	No
Chromium	50(1)	<0.2	<0.2	No
Copper	2000(1)	2	0.7	No
Lead	10(1)	<0.2	<0.2	No
Mercury	1(1)	<0.05	<0.05	No
Nickel	20(1)	4.1	8.6	No
Selenium	10(1)	2.4	1.4	No
Zinc	5000(1)*	2.3	4.4	No
Inorganics				
pH	6.5-9.5 (1)	7	7	No
Cyanide free	50 (1)	<10	<10	No
Sulphate as SO4	250,000(1)	651	381	No
PAHs				
Naphthalene	4.24(2)	<0.01	<0.01	No
Anthracene	0.193(2)	0.12	<0.01	No
Fluoranthene	0.0122(2)	0.52	<0.01	Yes
Sum of: Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3-c,d)pyrene, and Benzo(g,h,i)perylene	0.1(1)	0.55	<0.04	Yes
Benzo(a)pyrene	0.01(1)	0.18	<0.01	Yes
Phenols				
Total Phenols	14.9(2)	<10	<10	No
Total Petroleum Hydrocarbons (TPH)				
Aliphatic >EC5 - EC6	15,000(3)	<1.0	<1.0	No
Aliphatic >EC5 - EC6	15,000(3)	<1.0	<1.0	No
Aliphatic >EC8 - EC10	300(3)	<1.0	<1.0	No
Aliphatic >EC10 - EC12	300(3)	25	<10	No
Aliphatic >EC12 - EC16	300(3)	160	<10	No
Aliphatic >EC16 - EC21	No GAC	380	<10	No
Aliphatic >EC21 - EC35	No GAC	76	<10	No
Aliphatic >EC5 - EC6	10(3)	<1.0	<1.0	No
Aromatic >EC5 - EC7	700(3)	<1.0	<1.0	No
Aromatic >EC7 - EC8	300/500(3)	<1.0	<1.0	No
Aromatic >EC8 - EC10	90(3)	<10	<10	No
Aromatic >EC10 - EC12	90(3)	<10	<10	No
Aromatic >EC12 - EC16	90(3)	20	<1.0	No
Aromatic >EC16 - EC21	No GAC	10	<10	NO
Aromatic >EC21 - EC35	No GAC	<10	<10	No

1 – Water Supply (Water Quality) Regulations * Historical 1989 Threshold Value.
2 – Water Framework Directive 2015, Surface Water, Maximum Threshold Value.
3 – World Health Organization (WHO) Guide Values for TPHCWG Fraction in Drinking Water (WHO, 2008).

Exceedances of fluoranthene, benzo(a)pyrene and sum of benzo(b)fluoranthene, benzo(k)fluoranthene, indeno(1,2,3-c,d)pyrene and benzo(g,h,i)perylene were recorded in the groundwater obtained from BHRC101.

Testing was also undertaken for VOCs. No concentrations above the laboratory limit of detection of 3.0µg/l were recorded.

Ammoniacal nitrogen as NH3 was recorded at concentrations of 86,000µg/l and 18,000µg/l in the groundwater obtained from BHRC101 and BHRC102 respectively.

No other determinand was found to be in exceedance of the GAC.

6.5 Evaluation of Hazardous Gases

Based on the desk study information, i.e. potential for made ground both below and adjacent to the site including a historical landfill located approximately 36m northeast, it was considered that there was the potential for the presence of hazardous ground gases on the site.

In order to assess the potential risks posed to the proposed development from hazardous ground gases, monitoring wells were installed in both rotary boreholes (BHRC101 and BHRC102) and window sample boreholes WS102 to WS104 inclusive.

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, hydrogen sulphide, gas flows and atmospheric pressure.

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

- A maximum peak concentration of methane of 0.2% v/v was recorded.
- Maximum peak and steady concentrations of carbon dioxide of 4.2% v/v were recorded.
- A minimum oxygen concentration of 14.9% v/v has been recorded.
- Peak and steady positive flows of 0.5 l/h and have been recorded.

Barometric pressures during the monitoring period ranged between 968mB and 1,009mB. The monitoring took place during periods of atmospheric pressure rising locally but rising and falling regionally.

6.6 Requirements for Gas Protection Measures

The results of the 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, a Gas Screening Value (GSV) of 0.001 l/hr has been calculated for methane and 0.021 l/hr for carbon dioxide. Concentrations of methane were all below 1.0% v/v and concentrations of carbon dioxide were all below 5% v/v.

Characteristic Situation (CS) 1 is, therefore, considered applicable to the site. CS1 is indicative of a very low hazard potential, and so no specific gas protection measures in new buildings or structures are required.

6.7 Radon Risks

The site is not in a radon affected area as defined by Public Health England with less than 1% 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.

6.8 Summary of Potential Sources, Pathways and Receptors

Based on the results of the analysis carried out, the following potential sources of contamination may be present on the site:

- Elevated concentrations of potentially leachable PAH compounds in made ground including benzo(a)pyrene, fluoranthene and naphthalene.
- Elevated concentrations of PAH compounds including fluoranthene, and benzo(a)pyrene in groundwater.
- Ammoniacal nitrogen as NH3 recorded at concentrations of 86,000µg/l and 18,000µg/l in the groundwater.

Potential Pathways
Based on the available information and the proposed development on the site for an office development, the following potential exposure pathways will require consideration, both during the development works and on completion of the construction:

- Leaching/migration of potential contaminants from soil into groundwater and surface water via surface infiltration, drainage and/or groundwater flow.

Potential Receptors
The potential receptors considered are:

- Controlled waters, i.e. Calder & Hebble Navigation and River Calder and the underlying Secondary A Aquifers.

6.9 Source – Pathway – Receptor Linkages

Based on the above potential source, pathway and receptors, the following linkage assessments have been considered.

- The underlying Secondary A Aquifers could become contaminated due to the leaching and migration of ammonia and PAH in the made ground.
- Controlled waters, i.e. Calder & Hebble Navigation and River Calder, could become contaminated due to leaching and migration of ammonia and PAH from the made ground.

This assessment is based on current site conditions (unless stated) and does not consider exposure pathways following any development works on the site.

An assessment of risks to controlled waters should consider the results of the chemical analysis and the environmental setting of the site/conceptual site model. Both of these are discussed below.

- The threshold concentrations provided in the Water Supply (Water Quality) Regulations and by the World Health Organisation (WHO), from which the majority of the GAC for leachate/groundwater have been derived, are based on the concentrations of potential contaminants at the point of use, i.e. consumers' taps. The adoption of this assessment criteria is considered to be conservative when applied to an assessment of risks to controlled waters.
- The Desk Study Report indicates there are no active licenced groundwater abstractions within 500m of the site. There are no active potable water abstraction licences within 2km of the site. The site does not lie within 500m of an Environment Agency Groundwater Source Protection Zone (SPZ). There are no active licenced surface water abstractions within 500m of the site.
- The proposed development comprises a three-storey office building with limited soft landscaping. The building will be impermeable; therefore, the extent and permeability of the external areas will be reduced. This will reduce infiltration and limit the potential for the generation of leachate and mobilisation of potential contaminants.
- Ammonia in drinking-water is not of immediate health relevance, which is why no health-based guideline value for ammonia in drinking water is provided by the WHO.

Based on the above factors, it is concluded that there are no plausible linkages to controlled water receptors based on the elevated concentrations of PAH and ammonia recorded in leachate and groundwater. Therefore, the risk to controlled waters is considered to be negligible.

6.10 Conceptual Site Model & Risk Rating

The preliminary conceptual site model (CSM) has been revised following completion of the ground investigation, the chemical analysis results and the ground gas risk assessment presented above.

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

Chemical testing indicates negligible risk to human health or controlled waters.

In addition, the ground gas regime has been classified as very low hazard potential (Characteristic Situation 1).

The updated conceptual model is summarised in Table 6.10 below.

Table 6.10 Updated Conceptual Model

Source	Pathway	Receptor	Risk Rating	Comments
On-site Sources Residual contamination within the made ground associated with former and current land uses. Contamination from off-site historical industry. Spills/leaks from historical tanks/ vehicles on and off site. **Off-site Sources** Made ground associated with off-site sources.	Inhalation. Ingestion. Dermal contact.	**Future Site Users.** **Development Workers.**	Very Low	The ground investigation has confirmed that levels of contaminants on the site present a very low risk to future site users and development workers.
	Leaching of mobilised contaminants. Migration via surface water and groundwater flow.	**Controlled Waters.** **Surface Water.** Calder and Hebble Navigation & River Calder. **Groundwater.** Secondary A Aquifers.	Very Low	The ground investigation has confirmed that levels of contaminants within made ground and shallow groundwater poses a very low risk to controlled waters.
Hazardous Ground Gases/Soil Vapours.	Inhalation.	**Future End Users.** **Development Workers.** **Built Environment**	Very Low	Gas monitoring has confirmed that levels of hazardous ground gases on the site pose a very low risk to end users, development workers and the built environment. Appropriate health and safety procedures to be in place during the construction phase of the development.
Areas of Phytotoxic Contamination.	Root uptake.	**Vegetation.** Landscaping.	Very Low	The ground investigation has confirmed that levels of contaminants on the site present a very low phytotoxic risk to future landscaping.
Aggressive Contaminants in Soil/Water.	Direct contact.	**Construction Materials.** Concrete and Services.	Very Low	The ground investigation has confirmed that the sulphate content and acidity of the soils and rock present a very low risk to concrete and buried services as long as appropriate precautionary measures are put into place. Buried concrete should be designated DS-3 and ACEC Class AC-4.

6.11 Risk Classification

Based on the updated conceptual site model, the site should be considered **very low risk** with respect to contamination and hazardous ground gases.

6.12 Classification of Materials for Disposal Off-Site

In total 12 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.

The results indicate that 10 samples have been classified as non-hazardous and two samples as hazardous.

Samples obtained from WS104 between 3.80m and 3.90m bgl and between 4.50m and 4.70m bgl were classified as hazardous due to the presence of TPH (C6 to C40). Both samples exhibited evidence of hydrocarbon-impact described as dark staining with a slight hydrocarbon odour.

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

Appendix A Figures & Drawings

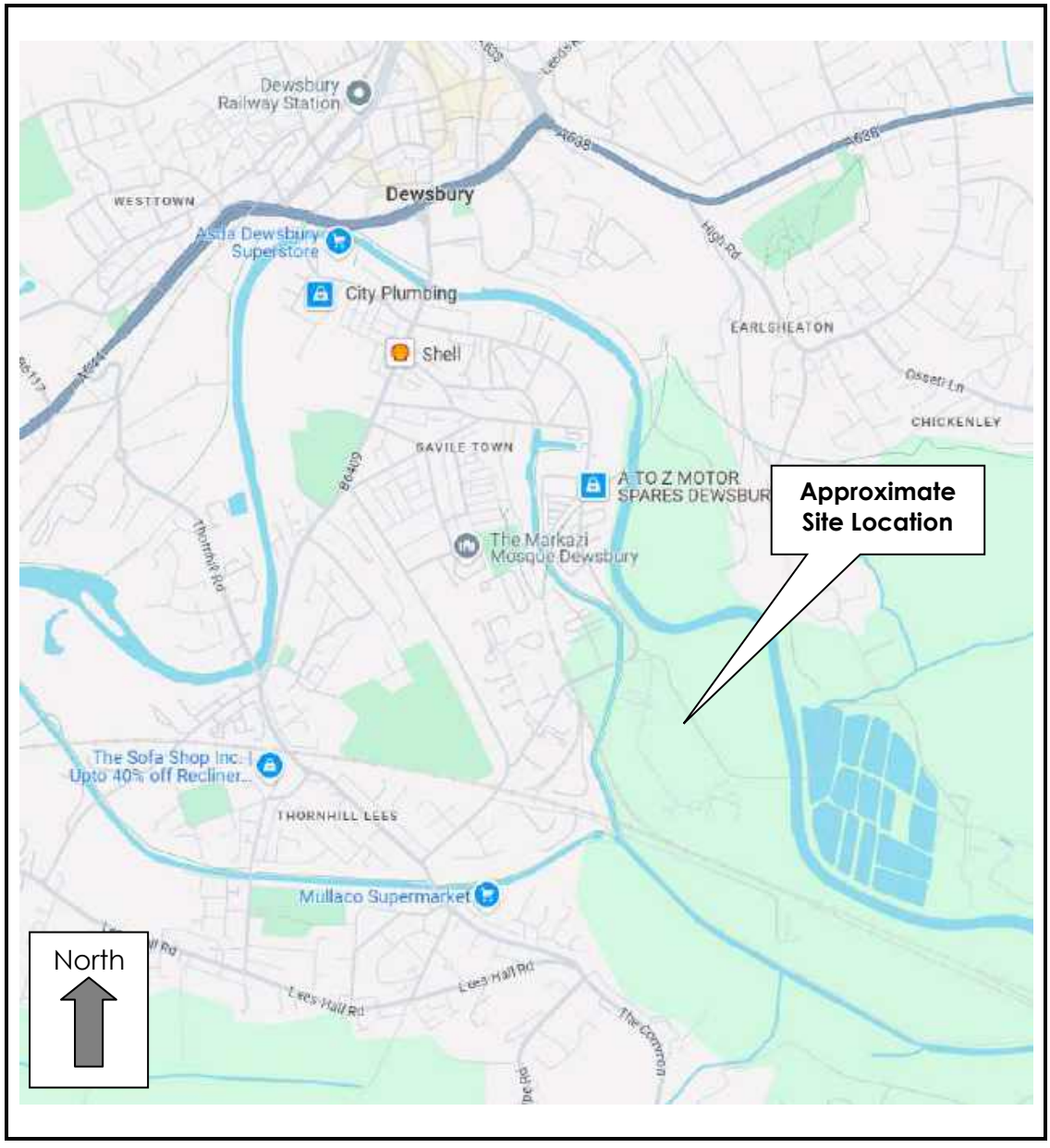


Figure 1 – Site Location Plan	
Site	**UK Greetings, Bretton Park, Dewsbury**
Client	**UK Greetings Limited**
Job Number	**6359**
Scale	**NTS**

Figure 2 – Aerial Photograph	
Site	**UK Greetings, Bretton Park, Dewsbury**
Client	**UK Greetings Limited**
Job Number	**6359**
Scale	**NTS**

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

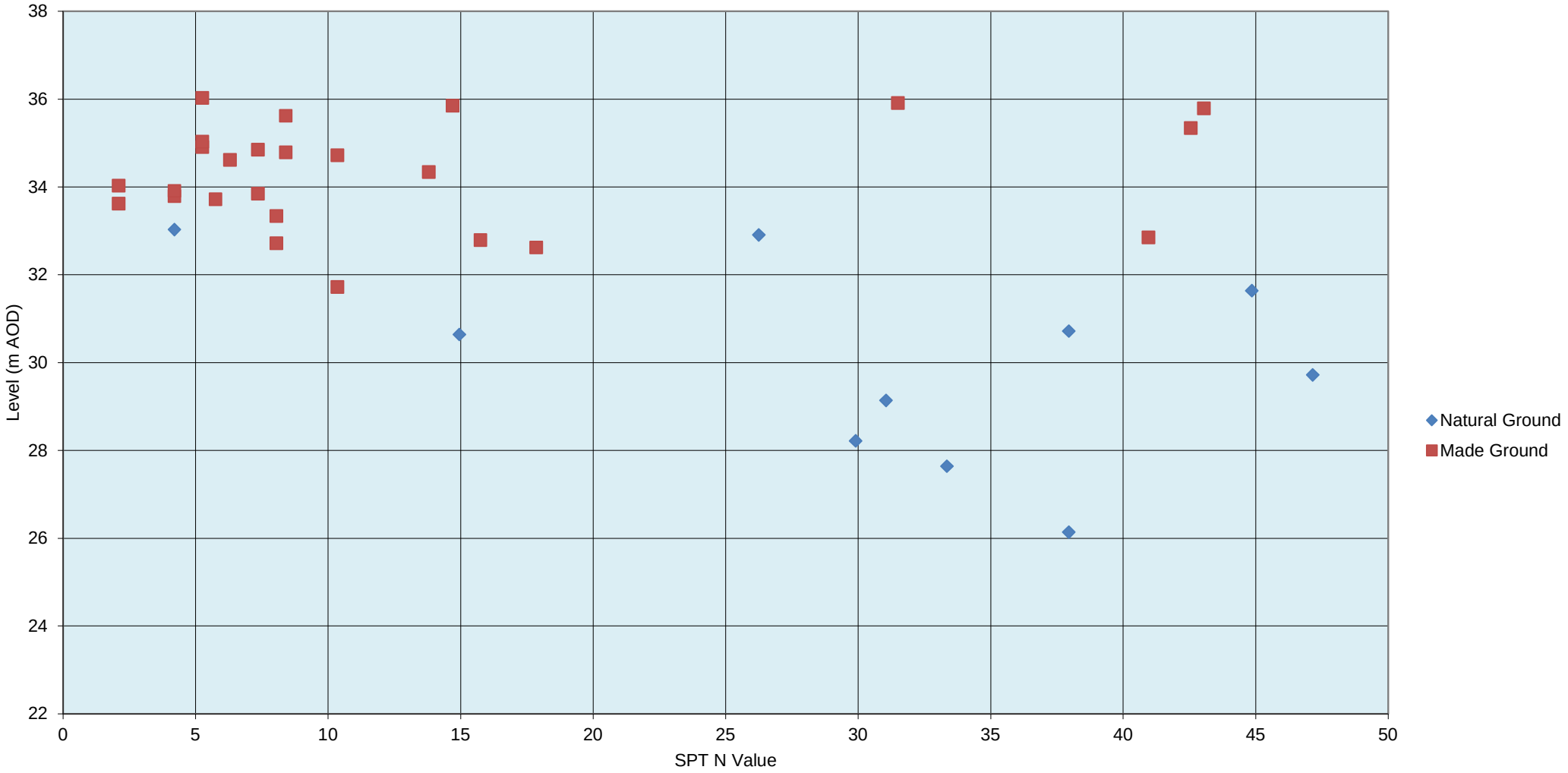
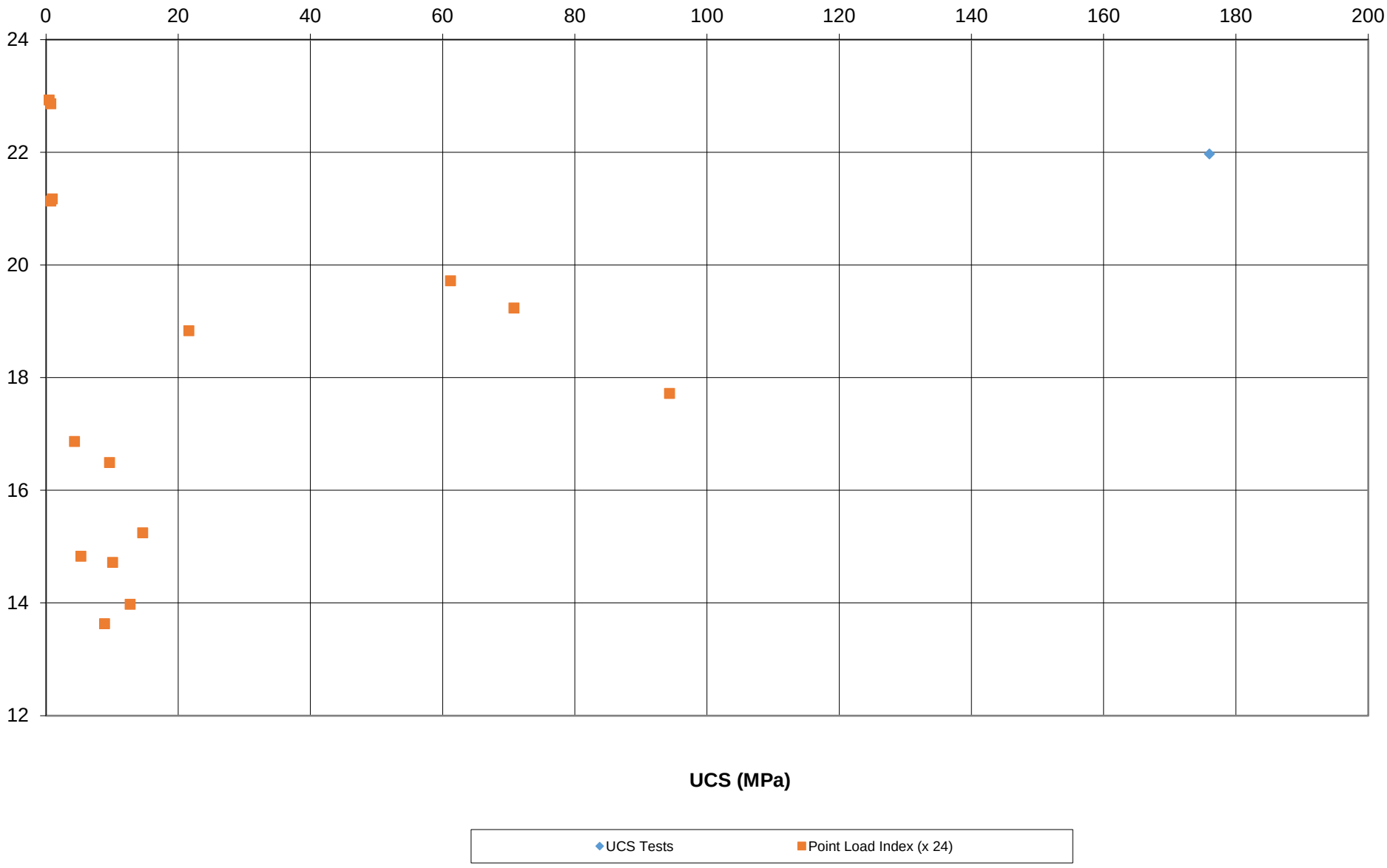


Figure 4 - Unconfined Compressive Strength vs. Elevation



DO NOT SCALE (A1)

NOTES

EHLP LEGEND

- WS — WINDOW SAMPLE BOREHOLE
- BHRC — CABLE PERCUSSIVE BOREHOLE WITH ROTARY CORED FOLLOW ON
- GAS MAIN (MEDIUM PRESSURE)
- 3M EASEMENT
- INSITU PAD FOUNDATIONS

0m 3.125m 6.25m

SCALE 1:125

REV	DESCRIPTION	DATE	CHK	BY
P02	AS BUILT	25.02.25	JBW	EJS
P01	FIRST ISSUE	09.01.25	JBW	EJS

Project
UK GREETINGS, EXTENSION TO UNIT 800
BRETTON PARK
DEWSBURY

Drawing Title
EXPLORATORY HOLE LOCATION PLAN

INFORMATION

JPG
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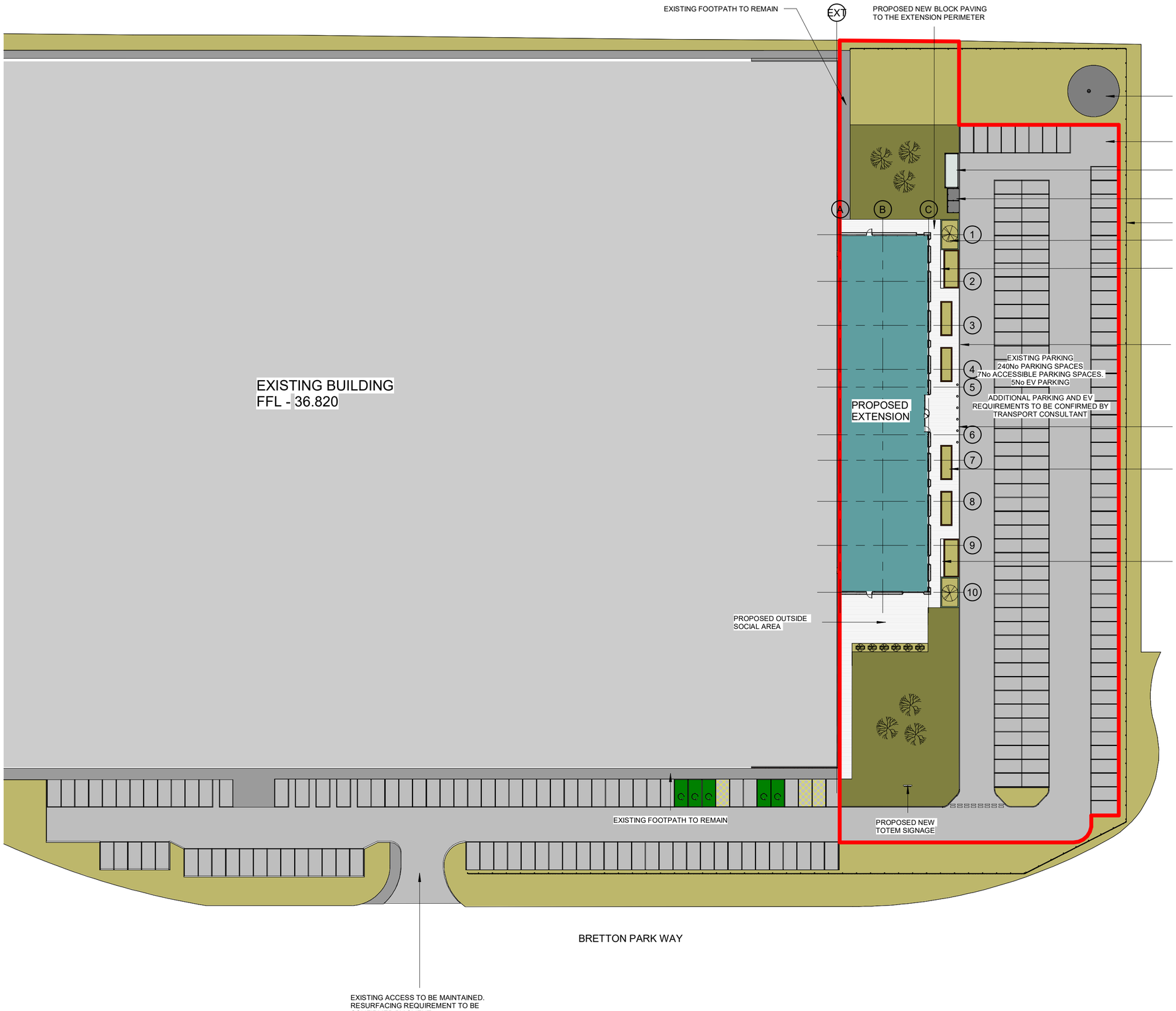
6359-JPG-ZZ-ZZ-DR-G-1100	S2	**P02**



TOTAL SITE AREA - 1.88 ACRES

PROPOSED EXTENSION:

GROUND FLOOR 10,000sq.ft

FIRST FLOOR 10,000sq.ft

SECOND FLOOR 10,000sq.ft

TOTAL - 30,000sq.ft

Rev	Description	By	Chkd	Date

Client

UK GREETINGS

Project Title

BRETTON PARK

Drawing Title

PROPOSED SITE PLAN

KPP ARCHITECTS

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12 Town Street
Horsforth, Leeds LS18 4RJ

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W : www.kpp-leeds.co.uk

Scale	Size	Date	Drawn	Checked
1 : 500	A2	JAN'25	JB	DR

Status

PLANNING

KPP Job No. **2467** | Revision

Project	Originator	Level	Type	Role	Class	Number
2002						

Appendix B Exploratory Hole Logs

JPG	5 John Charles Leeds LS12 6QA	**Rotary Core Log**

Project Name: UK Greetings	Client: UK Greetings	Date: 13/01/2025 - 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425262.05 N419985.21
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC101	RC	36.64m AoD	E.Sykes	1:33	Sheet 1 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.05 - 0.20	B					0.20	36.44		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets and low cobble content of sandstone. Gravel is fine, subangular to angular of sandstone. (Topsoil)
		0.40 - 0.80	B								
		0.90 - 1.20	B					0.80	35.84		MADE GROUND: Dark orangish brown sandy slightly clayey GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.30	B				(37)				MADE GROUND: Dark greyish brown and black sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone, ash and clinker.
		1.30 - 1.80	D					1.60	35.04		MADE GROUND: Orangish brown and dark greyish brown sandy slightly gravelly CLAY. Gravel is fine to coarse, subangular to angular of sandstone, ash and clinker.
		2.30	B				(12)				
		2.30 - 2.80	D								
		3.30	B				(7)				
		3.30 - 3.80	D					3.50	33.14		MADE GROUND: Soft dark greyish brown and greyish brown slightly sandy silty CLAY.
		4.00 - 4.45	U								
								4.40	32.24		Yellowish brown and orangish brown gravelly SAND. Gravel is fine to coarse, subangular to angular of sandstone.
	▼	5.00	B				(39)				
		5.00 - 5.50	D								
		6.00	B				(13)				
		6.00 - 6.50	D								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	14.50	140	13.00	13.40	01:00		0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.50m bgl. No visual or olfactory evidence of hydrocarbon contamination encountered.

AGS

JPG	5 John Charles Leeds LS12 6QA	**Rotary Core Log**

Project Name: UK Greetings	Client: UK Greetings	Date: 13/01/2025 - 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425262.05 N419985.21
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC101	RC	36.64m AoD	E.Sykes	1:33	Sheet 2 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		7.00	D					7.00	29.64		Yellowish brown and orangish brown gravelly SAND. Gravel is fine to coarse, subangular to angular of sandstone.
		7.50 7.50 - 8.00	B D				(27)				Dark greyish brown slightly clayey SAND & GRAVEL. Gravel is fine to coarse, subangular to subrounded of sandstone, mudstone and limestone.
		8.50	D								
		9.00	D				(29)				
		10.00	D								
		10.50	D				(33)				
		11.50	D								
		11.85	D								
		12.50 12.50 - 13.00	B D				50 (8,10/50 for 200mm)				

7 8 9 10 11 12 13

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	14.50	140	13.00	13.40	01:00		0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.50m bgl. No visual or olfactory evidence of hydrocarbon contamination encountered.

AGS

JPG 5 John Charles Leeds LS12 6QA	**Rotary Core Log**	
Project Name: UK Greetings	Client: UK Greetings	Date: 13/01/2025 - 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425262.05 N419985.21
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC101	RC	36.64m AoD	E.Sykes	1:33	Sheet 3 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								13.50	23.14		Dark greyish brown slightly clayey SAND & GRAVEL. Gravel is fine to coarse, subangular to subrounded of sandstone, mudstone and limestone.
		13.86 - 13.95	PL								Extremely weak, extremely weathered grey MUDSTONE. Recovered as stiff clayey gravel of mudstone.
		13.50 - 14.50		100	42	24					
		14.75 - 15.12	UCS					14.75	21.89		Very strong light greyish brown very thinly laminated fine grained SANDSTONE.
								15.12	21.52		Subvertical fracture between 15.04m and 15.12m bgl, sand infill.
		14.50 - 16.00		83	33	19					Very weak partially weathered, thickly laminated grey MUDSTONE. Heavily fractured and non intact, clay infill in fractures and laminations.
		15.55 - 15.68	PL								Two very closely spaced horizontal planar fractures, infilled with grey clay.
		16.00 - 17.50		78	10	10					
		17.00 - 17.14	PL					17.00	19.64		Strong light greyish brown very thinly laminated fine grained SANDSTONE.
											Extremely fractured between 17.5 and 17.72, non intact.
		17.89 - 18.09	PL					17.72	18.92		Very weak partially weathered, thickly laminated grey MUDSTONE. Heavily fractured and partially non intact, clay infill in laminations.
		17.50 - 19.00		45	7	7					Horizontal fracture at 18.09m bgl, rough planar, clay infill.
		~~19.00 - 19.18~~	PL					18.82	17.82		Strong light greyish brown very thinly laminated fine grained SANDSTONE.
		19.00 - 20.50		87	37	10					Subvertical fracture between 15.04 and 15.12m bgl, sand infill.

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush				
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	14.50	140	13.00	13.40	01:00		0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.50m bgl. No visual or olfactory evidence of hydrocarbon contamination encountered.

AGS

5 John Charles
Leeds
LS12 6QA

Rotary Core Log

Project Name: UK Greetings	Client: UK Greetings	Date: 13/01/2025 - 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425262.05 N419985.21
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC101	RC	36.64m AoD	E.Sykes	1:33	Sheet 4 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								19.80	16.84		Strong light greyish brown very thinly laminated fine grained SANDSTONE. Weak thinly laminated grey MUDSTONE.
		20.23 - 20.29	PL 300 400 700				50 (25 for 50mm/ 50 for 45mm)				Fracture set: Fractures are very close to closely spaced, horizontal panar and infilled with clay.
											Non intact between 20.90m and 21.00m bgl.
								21.04	15.60		Extremely strong very thinly laminated light grey fine grained SANDSTONE.
		20.50 - 22.00		100	20	0		21.43	15.21		Weak thinly laminated grey MUDSTONE. Non intact between 21.43m to 21.62m bgl. Recovered as clayey gravel.
		21.89 - 22.00	PL								
		~~22.00 - 22.16~~	PL								
		22.00 - 23.50		27	25	19					
		23.09 - 23.17	PL								Fracture set: Fractures are very close to closely spaced, horizontal panar and infilled with clay.
								23.50	13.14		End of Borehole at 23.50m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	14.50	140	13.00	13.40	01:00		0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.50m bgl. No visual or olfactory evidence of hydrocarbon contamination encountered.

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JPG 5 John Charles Leeds LS12 6QA	**Rotary Core Log**	

Project Name: UK Greetings	Client: UK Greetings	Date: 16/01/2025 - 21/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425304.70 N420013.34
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC102	RC	36.72m AoD	E.Sykes	1:33	Sheet 1 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.05 - 0.25	B					0.26	36.46		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil)
		0.50 - 1.00	B								MADE GROUND: Dark orangish brown sandy slightly clayey GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.30 1.30 - 1.80	B D				50 (25 for 105mm /50 for 60mm)	1.30	35.42		MADE GROUND: Dark greyish brown and occasionally yellow sandy GRAVEL with low cobble content of sandstone. Gravel is fine to coarse, subangular to angular of sandstone, ash and clinker.
		2.00 2.00 - 2.50	B D				(9)				
		3.00	D				(5)				
		4.00 4.00 - 4.50	B D				(7)	4.00	32.72		MADE GROUND: Dark greyish black slightly silty sandy CLAY. At 4.50m bgl: Slight hydrocarbon odour and staining.
	▼	5.00	D				(9)				
		5.60	D					5.60	31.12		Dark orangish brown and greyish brown sandy GRAVEL. Gravel is fine to coarse, subangular to rounded of sandstone, mudstone and limestone.
		6.00 6.00 - 6.50	B D				(33)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush				
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	13.50	140					0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.00m bgl.

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5 John Charles
Leeds
LS12 6QA

Rotary Core Log

Project Name: UK Greetings	Client: UK Greetings	Date: 16/01/2025 - 21/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425304.70 N420013.34
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC102	RC	36.72m AoD	E.Sykes	1:33	Sheet 2 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		7.00 - 7.50	B				(41)				Dark orangish brown and greyish brown sandy GRAVEL. Gravel is fine to coarse, subangular to rounded of sandstone, mudstone and limestone.
		8.00	D								At 8.00m bgl: Increasingly sandy
		8.50 - 9.00	B				(26)				
		9.50	D								
		10.00	D				50 (8,10/50 for 220mm)	10.00	26.72		Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone. Rare coal fragments encountered.
		11.00	D								At 11.00m bgl: Very sandy with fine gravels.
		11.40	D								At 11.40m bgl: Coarse sandy gravel and cobbles.
		11.50 - 12.00	B				50 (6,8/50 for 190mm)				
		12.40	D					12.40	24.32		Stiff light grey slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.
											At 12.40m bgl: Very clayey

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush				
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	13.50	140					0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.00m bgl.

AGS

JPG 5 John Charles Leeds LS12 6QA	**Rotary Core Log**	
Project Name: UK Greetings	Client: UK Greetings	Date: 16/01/2025 - 21/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425304.70 N420013.34
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC102	RC	36.72m AoD	E.Sykes	1:33	Sheet 3 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								13.50	23.22		Stiff light grey slightly sandy gravelly CLAY. Gravel is fine to coarse, subangular to angular of mudstone.
		13.71 - 13.85	PL								Extremely weak, completely weathered greyish brown MUDSTONE.
		13.50 - 14.50		100	63	63					
		14.50 - 16.00		100	90	90					
		15.50 - 15.72	PL								
											Non intact between 16.00m and 16.25m. Possibly drilling induced.
		16.00 - 17.50		100	13	7					
								17.18	19.54		Very strong light greyish brown very thinly laminated fine grained SANDSTONE.
		17.40 - 17.50	PL								
								17.55	19.17		Recovered as gravel between 17.25m and 17.35m bgl.
		17.50 - 19.00		100	0	0					Very weak, extremely weathered greyish brown MUDSTONE.
		19.00 - 20.50		67	7	7					
		19.77 - 19.89	PL								

14 15 16 17 18 19

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	13.50	140					0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.00m bgl.

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JPG
5 John Charles
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LS12 6QA

Rotary Core Log

Project Name: UK Greetings	Client: UK Greetings	Date: 16/01/2025 - 21/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425304.70 N420013.34
Project No. : 6359	Crew Name: Geotron	Drilling Equipment: Comacchio 205

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
BHRC102	RC	36.72m AoD	E.Sykes	1:33	Sheet 4 of 4

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Very weak, extremely weathered greyish brown MUDSTONE.
		20.50 - 22.00 21.39 - 21.50	400 500 PL 800	67	34	9					Recovered as gravel between 20.90m and 21.00m bgl. Fracture set: Fractures are close to medium spaced, horizontal planar and infilled with clay.
		22.66 - 22.72 22.00 - 23.50	200 400 600 PL	67	19	0					Fracture set: Fractures are very close to closely spaced, horizontal panar and infilled with clay. Recovered as clayey gravel between 22.70m and 22.90m bgl.
								23.50	13.22		End of Borehole at 23.50m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
23.50	140	13.50	140					0.00	23.50	90		0.00	23.50	Water			

Remarks

Well installed to 23.50m bgl. Ground water encountered from 5.00m bgl.

AGS

ROCK CORE PHOTOGRAPHIC RECORD

Project: 6359 UK Greetings		**BHRC101**
Location: UK Greetings, Bretton Park, Dewsbury		
Client: UK Greetings Limited	Drilling date: 13.01.2025 – 17.01.2025	Sheet: 1 of 2

13.50m – 16.00m bgl

16.00m – 19.00m bgl

ROCK CORE PHOTOGRAPHIC RECORD

Project: 6359 UK Greetings		**BHRC101**
Location: UK Greetings, Bretton Park, Dewsbury		
Client: UK Greetings Limited	Drilling date: 13.01.2025 – 17.01.2025	Sheet: 2 of 2

19.00m – 22.00m bgl

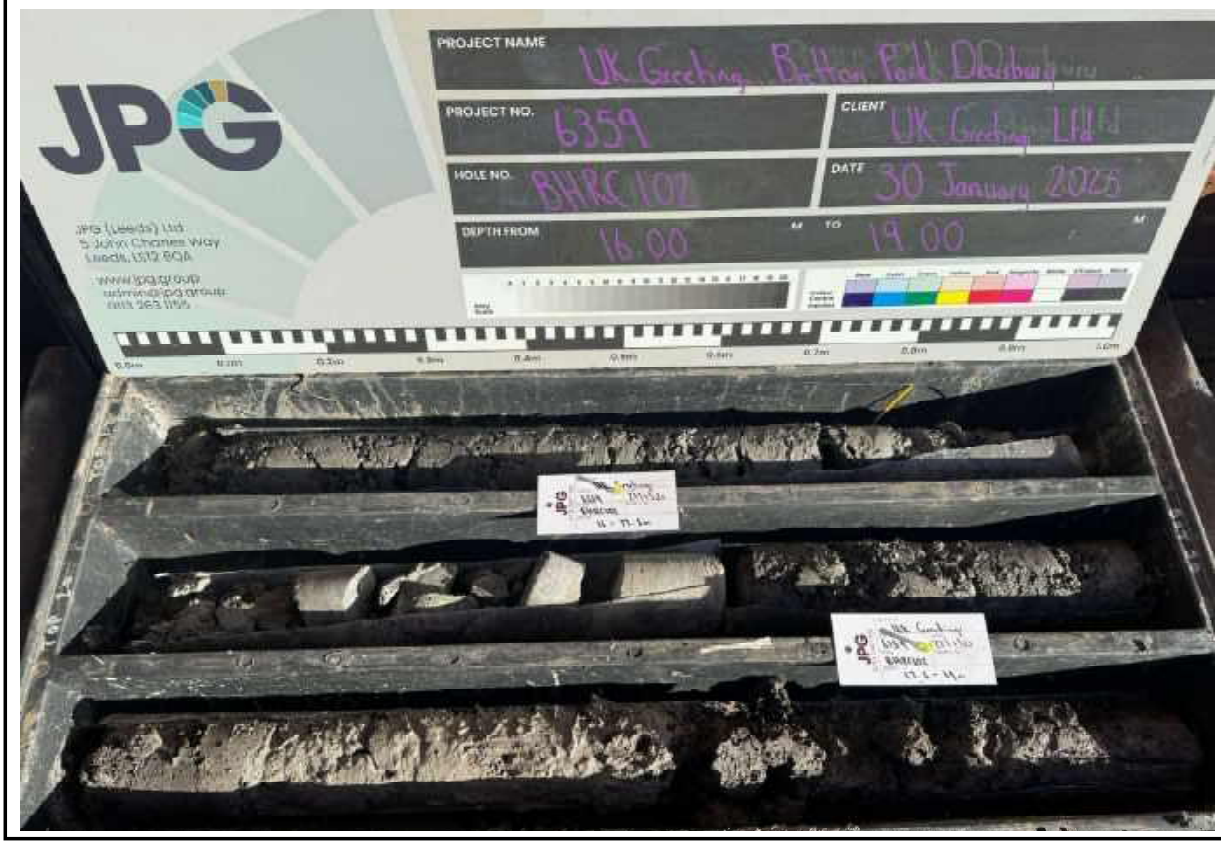
22.00m to 23.50m bgl

ROCK CORE PHOTOGRAPHIC RECORD

Project: 6359 UK Greetings		BHRC102
Location: UK Greetings, Bretton Park, Dewsbury		
Client: UK Greetings Limited	Drilling date: 16.01.2025 – 21.01.2025	Sheet: 1 of 2

13.50m – 16.00m bgl

16.00m to 19.00m bgl



ROCK CORE PHOTOGRAPHIC RECORD

Project: 6359 UK Greetings		BHRC102
Location: UK Greetings, Bretton Park, Dewsbury		
Client: UK Greetings Limited	Drilling date: 16.01.2025 – 21.01.2025	Sheet: 2 of 2

19.00m – 22.00m bgl

5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: UK Greetings	Client: UK Greetings	Date: 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425299.28 N420024.26
Project No. : 6359	Crew Name: RP Drilling	Drilling Equipment: Window Sample Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS101	WS	36.79m AoD	E.Sykes	1:33	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	ES		0.18	36.61		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil)
					0.52	36.27		MADE GROUND: Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.00	SPT	N=41 (3,3/12,10,10,9)	1.17	35.62		MADE GROUND: Orangish brown slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.50 - 1.60	ES					MADE GROUND: Orangish brown gravelly fine to coarse SAND with frequent cobble content of sandstone. Gravel is fine to coarse, subangular to angular of sandstone.
		2.00	SPT	N=8 (1,3/2,2,2,2)	2.42	34.37		MADE GROUND: Orangish brown slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		3.00	SPT	N=4 (2,2/1,0,1,2)	3.47	33.32		MADE GROUND: Dark orangish brown slightly silty sandy CLAY.
		4.00	SPT	N=15 (1,1/2,3,4,6)	4.62	32.17		Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		5.00	SPT	50 (11,14/50 for 180mm)	5.33	31.46		End of Borehole at 5.33m

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
5.33	150							0.00	5.33	90	

Remarks

Backfilled with arisings on completion. No groundwater encountered.

AGS

JPG
5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: UK Greetings	Client: UK Greetings	Date: 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425288.76 N420016.52
Project No. : 6359	Crew Name: RP Drilling	Drilling Equipment: Window Sample Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS102	WS	36.91m AoD	E.Sykes	1:33	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.17	36.74		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil)
					0.58	36.33		MADE GROUND: Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		0.70 - 0.80	ES					MADE GROUND: Orangish brown slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.00	SPT	N=30 (3,3/2,2,6,20)				
					1.65	35.26		MADE GROUND: Greyish black sandy GRAVEL. Gravel is fine to coarse, subangular to angular of ash, clinker, brick, concrete and sandstone.
		2.00	SPT	N=5 (2,2/1,1,2,1)				
		3.00	SPT	N=4 (3,2/1,1,1,1)				
					3.32	33.59		At 3.30m bgl: Slight hydrocarbon odour and staining.
		3.40 - 3.50	ES					Dark orangish brown slightly silty sandy CLAY.
		4.00	SPT	N=25 (0,0/1,6,8,10)				
					4.40	32.51		Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		4.80	SPT	50 (25 for 100mm/50 for 150mm)				
					5.05	31.86		End of Borehole at 5.05m

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
5.05	150	4.00	150					0.00	5.05	90	

Remarks

Well installed to 5.00m bgl. No groundwater encountered.

AGS

JPG
5 John Charles Way
Leeds
LS12 6QA

Window Sampler Log

Project Name: UK Greetings	Client: UK Greetings	Date: 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425287.85 N420002.78
Project No. : 6359	Crew Name: RP Drilling	Drilling Equipment: Window Sample Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS103	WS	36.85m AoD	E.Sykes	1:33	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.19	36.66		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil)
					0.42	36.43		MADE GROUND: Orangish brown sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		0.60 - 0.80	ES					MADE GROUND: Orangish brown slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.00	SPT	N=14 (4,4/6,3,3,2)				
					1.70	35.15		MADE GROUND: Black slightly sandy GRAVEL. Gravel is fine to coarse, subangular to angular of ash and clinker.
		1.80 - 1.90	ES					
		2.00	SPT	N=7 (2,2/1,1,2,3)				
					2.28	34.57		MADE GROUND: Orangish brown and greyish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone, mudstone, clinker and brick.
		3.00	SPT	N=7 (2,1/2,2,1,2)				
					3.19	33.66		MADE GROUND: Soft to firm greyish brown sandy slightly silty CLAY.
								At 3.80m bgl: Slight hydrocarbon odour and staining.
		4.00	SPT	N=39 (0,0/3,8,13,15)				
		4.50	SPT	50 (25 for 145mm/50 for 125mm)				
					4.78	32.07		Greyish brown sandy GRAVEL. Gravel is fine to coarse, subangular to subrounded
					5.27	31.58		End of Borehole at 5.27m

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
5.27	150	4.00	150					0.00	5.27	90	

Remarks

Well installed to 4.50m bgl. No groundwater encountered.

AGS

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Window Sampler Log

Project Name: UK Greetings	Client: UK Greetings	Date: 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425287.97 N420002.53
Project No. : 6359	Crew Name: RP Drilling	Drilling Equipment: Window Sample Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS104	WS	36.62m AoD	E.Sykes	1:33	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 - 0.20	ES		0.25	36.37		MADE GROUND: Firm dark brown slightly gravelly sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil) At 0.10m bgl: Rare cobble of sandstone encountered.
					0.62	36.00		MADE GROUND: Light orangish brown and greyish brown slighlty sandy clayey GRAVEL. Gravel is fine to coarse, subangular to angular of sandstone.
		1.00	SPT	N=8 (2,2/2,2,2,2)				MADE GROUND: Firm dark orangish brown and greyish brown slightly sandy gravelly CLAY with high cobble content. Gravel is fine to coarse, subangular to angular of sandstone, mudstone, coal and concrete. Cobbles are subangular to angular of sandstone.
					1.84	34.78		
		2.00	SPT	N=6 (2,1/1,2,2,1)				MADE GROUND: Greyish black sandy GRAVEL. Gravel is fine to coarse, subangular to angular of ash, clinker and tarmac.
		3.00	SPT	N=2 (1,1/1,0,1,0)				
					3.47	33.15		MADE GROUND: Soft dark greyish black slightly sandy silty CLAY.
		3.80 - 3.90	ES					At 3.80m bgl: Slight hydrocarbon odour and staining.
		4.00	SPT	N=17 (1,2/1,1,4,11)				
					4.41	32.21		MADE GROUND: Black slightly sandy GRAVEL with frequent cobbles of sandstone and mudstone. Gravel is fine to coarse, subangular to angular of ash and clinker.
		4.50 - 4.70	ES					At 4.50m bgl: Slight hydrocarbon odour and staining.
		5.00	SPT	50 (25 for 125mm/50 for 175mm)				
					5.30	31.32		End of Borehole at 5.30m

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
5.30	150	4.00	150					0.00	5.30	90	

Remarks

Well installed to 4.80m bgl. No groundwater encountered.

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Window Sampler Log

Project Name: UK Greetings	Client: UK Greetings	Date: 17/01/2025
Location: Bretton Park, Dewsbury	Contractor:	Co-ords: E425253.61 N419992.02
Project No. : 6359	Crew Name: RP Drilling	Drilling Equipment: Window Sample Rig

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS105	WS	37.03m AoD	E.Sykes	1:33	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.17	36.86		MADE GROUND: Firm dark brown slightly gravely sandy CLAY with rootlets. Gravel is fine, subangular to angular of sandstone. (Topsoil)
					0.52	36.51		MADE GROUND: Orangish brown sandy GRAVEL with high cobble content. Gravel is fine to coarse, subangular to angular of sandstone. Cobbles are subangular to angular of brick.
		0.70	ES					MADE GROUND: Firm orangish brown sandy slightly gravelly CLAY. Gravel is fine to coarse, subangular to angular of sandstone.
		1.00	SPT	N=5 (2,2/2,1,1,1)	1.00	36.03		MADE GROUND: Dark greyish sandy slightly clayey GRAVEL with high cobble content. Gravel is fine to coarsre, subangular to angular of ash, clinker, brick, ceramics, sandstone and mudstone. Cobbles are angular of sandstone.
		1.90	ES					
		2.00	SPT	N=5 (3,2/1,2,1,1)				
		3.00	SPT	N=2 (1,1/1,0,1,0)				
								At 3.50m bgl: Slight hydrocarbon odour and staining.
					3.65	33.38		Soft dark greyish black slightly silty sandy CLAY.
		4.00	SPT	N=4 (1,1/1,1,1,1)				
		4.20	ES					
		5.00	SPT	N=50 (2,1/50 for 285mm)				
					5.44	31.59		End of Borehole at 5.44m

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
5.44	150							0.00	5.44	90	

Remarks

Backfilled with arisings on completion. No groundwater encountered.

AGS

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 : 25-002450

Replaces Analytical Report Number: 25-002450, issue no. 1
Additional analysis undertaken.
Asbestos Quantification added to samples 429521 & 27 as per client's request

Project / Site name:	UK Greetings Dewsbury	**Samples received on:**	20/01/2025
Your job number:	6359	**Samples instructed on/ Analysis started on:**	20/01/2025
Your order number:		**Analysis completed by:**	03/02/2025
Report Issue Number:	2	**Report issued on:**	05/02/2025
Samples Analysed:	12 soil samples - 4 leachate samples		

Signed:

Trevor Hill
Customer Service Advisor
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.

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429517	429518	429519	429520	429521
Sample Reference				WS104	WS104	WS104	WS103	WS103
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)				0.10-0.20	3.80-3.90	4.50-4.70	0.60-0.80	1.80-1.90
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1000	1015	1000	1200	1200
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	59.4	< 0.1	< 0.1	43.1	60.7
Moisture Content	%	0.01	NONE	16	19	21	16	11
Total mass of sample received	kg	0.1	NONE	1.4	1.5	1.4	1.4	1.5
Asbestos								
Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	KMC	KMC	KMC	KMC	SPU
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	-	-	-	-	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, Loose Fibrous Debris
General Inorganics								
pH (L099)	pH Units	N/A	MCERTS	7.4	7.9	8	8	8.1
Free Cyanide	mg/kg	1	MCERTS	< 1.0	1.1	1.7	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	670	1100	1800	2000	2000
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	190	740	1700	300	810
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	97.3	368	842	149	403
Sulphide	mg/kg	1	MCERTS	5.5	160	110	12	31
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	14	170	330	8.4	6.4
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	11	38	< 0.5	< 0.5
Organic Matter (automated)	%	0.1	MCERTS	5.2	4.5	7.7	5	3.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	1.6	1.4	< 1.0	< 1.0

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429517	429518	429519	429520	429521
Sample Reference				WS104	WS104	WS104	WS103	WS103
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)				0.10-0.20	3.80-3.90	4.50-4.70	0.60-0.80	1.80-1.90
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1000	1015	1000	1200	1200
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	0.31	1.2	3.8	2.9	0.23
Acenaphthylene	mg/kg	0.05	MCERTS	0.08	0.94	3.5	3.5	0.13
Acenaphthene	mg/kg	0.05	MCERTS	0.38	5.1	15	1	0.11
Fluorene	mg/kg	0.05	MCERTS	0.34	5.3	14	2.2	0.2
Phenanthrene	mg/kg	0.05	MCERTS	2.1	20	62	19	1.7
Anthracene	mg/kg	0.05	MCERTS	0.45	5.1	17	6.6	0.36
Fluoranthene	mg/kg	0.05	MCERTS	2.6	12	41	28	1.3
Pyrene	mg/kg	0.05	MCERTS	2.3	10	38	25	1.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.3	2.2	9.9	14	1.4
Chrysene	mg/kg	0.05	MCERTS	1.4	2.6	11	14	1.5
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	1.6	2.4	12	19	1.1
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.48	0.95	4.6	8.1	0.53
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.3	2.1	10	18	0.83
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.63	1	5.5	10	0.81
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.14	0.21	1.2	2.4	0.28
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.75	1.2	6.7	12	1
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	16	72	255	186	12.6
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	40	9	6.8	71	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	0.5	2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	35	25	21	78	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	42	18	54	250	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	110	19	100	280	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	1.5	0.8	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	21	27	28	66	32
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	1.3	< 1.0	< 1.0	1.6	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	95	70	91	590	90
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	-	1	0.14	-	-
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	-	2	0.22	-	-
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	7	25	-	-
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	390	1200	-	-
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	2700	9000	-	-
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	500	1800	-	-
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-	3600	12000	-	-
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	-	0.29	< 0.010	-	-
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	-	0.14	< 0.010	-	-
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	-	1.1	< 0.020	-	-
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	7	28	-	-
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	220	870	-	-
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	1800	5700	-	-
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	410	1600	-	-
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-	2400	8200	-	-

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429517	429518	429519	429520	429521
Sample Reference				WS104	WS104	WS104	WS103	WS103
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)				0.10-0.20	3.80-3.90	4.50-4.70	0.60-0.80	1.80-1.90
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1000	1015	1000	1200	1200
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429517	429518	429519	429520	429521
Sample Reference				WS104	WS104	WS104	WS103	WS103
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)				0.10-0.20	3.80-3.90	4.50-4.70	0.60-0.80	1.80-1.90
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1000	1015	1000	1200	1200
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
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	-	270	< 5.0	-	-
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	-	< 5.0	< 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	-	85	< 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	-	270	< 5.0	-	-
Isopropylbenzene	µg/kg	5	MCERTS	-	480	53	-	-
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	-	270	38	-	-
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	-	< 5.0	< 5.0	-	-
tert-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	-	3000	560	-	-
sec-Butylbenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,3-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
p-Isopropyltoluene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-
1,4-Dichlorobenzene	µg/kg	5	MCERTS	-	< 5.0	< 5.0	-	-

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Lab Sample Number				429517	429518	429519	429520	429521
Sample Reference				WS104	WS104	WS104	WS103	WS103
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)				0.10-0.20	3.80-3.90	4.50-4.70	0.60-0.80	1.80-1.90
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1000	1015	1000	1200	1200
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
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	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
1,3-Dichlorobenzene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	< 0.05	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.1	0.5	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-	-
2,4-Dinitrotoluene	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	3.2	9	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Azobenzene	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.30	< 0.30	-	-
Carbazole	mg/kg	0.3	MCERTS	-	1.8	4	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	< 0.3	-	-

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

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Lab Sample Number				429522	429523	429524	429525	429526
Sample Reference				WS102	WS102	WS101	WS101	WS105
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)				0.70-0.80	3.40-3.50	0.10	1.50-1.60	0.70
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1330	1330	1500	1500	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	30.6	< 0.1
Moisture Content	%	0.01	NONE	15	18	25	6.5	16
Total mass of sample received	kg	0.1	NONE	1.4	1.5	1.4	1.5	1.3

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	KMC	JSW	JSW	JSW	JSW
Actinolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Amosite detected	Type	N/A	ISO 17025	-	-	-	-	-
Anthophyllite detected	Type	N/A	ISO 17025	-	-	-	-	-
Chrysotile detected	Type	N/A	ISO 17025	-	-	-	-	-
Crocidolite detected	Type	N/A	ISO 17025	-	-	-	-	-
Tremolite detected	Type	N/A	ISO 17025	-	-	-	-	-

Asbestos % by hand picking/weighing	%	0.001	ISO 17025	-	-	-	-	-

Asbestos Containing Material Types Detected (ACM)	Type	N/A	ISO 17025	-	-	-	-	-

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.3	7.4	7.7	10.4	7
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	1400	720	560	750	4700
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	700	470	38	280	3900
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	350	235	19	139	1970
Sulphide	mg/kg	1	MCERTS	94	< 1.0	2.2	7.8	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	49	14	7.6	23	2
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	5.5	< 0.5	< 0.5	< 0.5	< 0.5
Organic Matter (automated)	%	0.1	MCERTS	4.2	1.6	6.2	1.6	1.9

Total Phenols

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

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Lab Sample Number				429522	429523	429524	429525	429526
Sample Reference				WS102	WS102	WS101	WS101	WS105
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)				0.70-0.80	3.40-3.50	0.10	1.50-1.60	0.70
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1330	1330	1500	1500	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	2.6	0.07	0.25	0.27	0.06
Acenaphthylene	mg/kg	0.05	MCERTS	2.4	< 0.05	0.09	0.16	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	2.1	< 0.05	0.43	0.06	< 0.05
Fluorene	mg/kg	0.05	MCERTS	4.2	< 0.05	0.32	0.08	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	25	0.11	2.2	0.81	0.16
Anthracene	mg/kg	0.05	MCERTS	6.1	< 0.05	0.49	0.23	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	29	0.12	2.9	1.4	0.24
Pyrene	mg/kg	0.05	MCERTS	25	0.11	2.5	1.3	0.21
Benzo(a)anthracene	mg/kg	0.05	MCERTS	13	0.05	1.4	0.8	0.14
Chrysene	mg/kg	0.05	MCERTS	11	< 0.05	1.6	0.77	0.13
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	15	< 0.05	1.6	1.1	0.2
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	5.8	< 0.05	0.67	0.34	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	14	< 0.05	1.4	0.95	0.17
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	6.8	< 0.05	0.65	0.56	0.11
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.5	< 0.05	0.15	0.11	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	8.2	< 0.05	0.75	0.67	0.12
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	171	< 0.80	17.4	9.58	1.54
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	36	4.7	37	13	8.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.4	< 0.2	< 0.2	0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	62	20	20	13	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	14	33	48	26
Lead (aqua regia extractable)	mg/kg	1	MCERTS	180	14	99	50	26
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	0.5	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	48	29	15	18	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	560	77	74	80	130
Petroleum Hydrocarbons								
TPHCWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	-	< 0.010	-	-	-
TPHCWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	-	< 0.010	-	-	-
TPHCWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.01	MCERTS	-	< 0.010	-	-	-
TPHCWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	-	< 10	-	-	-
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	-	< 0.010	-	-	-
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	-	< 0.010	-	-	-
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	-	< 0.020	-	-	-
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	< 10	-	-	-
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	< 10	-	-	-
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	-	< 10	-	-	-

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Lab Sample Number				429522	429523	429524	429525	429526
Sample Reference				WS102	WS102	WS101	WS101	WS105
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)				0.70-0.80	3.40-3.50	0.10	1.50-1.60	0.70
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1330	1330	1500	1500	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					

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Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429522	429523	429524	429525	429526
Sample Reference				WS102	WS102	WS101	WS101	WS105
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)				0.70-0.80	3.40-3.50	0.10	1.50-1.60	0.70
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1330	1330	1500	1500	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
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	-	-	-
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	-	-	-

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Lab Sample Number				429522	429523	429524	429525	429526
Sample Reference				WS102	WS102	WS101	WS101	WS105
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)				0.70-0.80	3.40-3.50	0.10	1.50-1.60	0.70
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1330	1330	1500	1500	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**					
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	-	-	-
SVOCs								
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
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	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	ISO 17025	-	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
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	-	< 0.3	-	-	-
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	-	< 0.1	-	-	-
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	-	< 0.2	-	-	-
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	-	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	NONE	-	< 0.3	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	NONE	-	< 0.3	-	-	-

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

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429527	429528
Sample Reference				WS105	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.90	4.20
Date Sampled				17/01/2025	17/01/2025
Time Taken				1600	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Stone Content	%	0.1	NONE	50.3	< 0.1
Moisture Content	%	0.01	NONE	13	37
Total mass of sample received	kg	0.1	NONE	1.4	1.5

Asbestos

Asbestos in Soil Detected/Not Detected	Type	N/A	ISO 17025	Detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW
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	10.4	7.6
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Total Sulphate as SO_4	mg/kg	50	MCERTS	12000	1100
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	4100	490
Water Soluble SO_4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2030	247
Sulphide	mg/kg	1	MCERTS	14	73
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	41	83
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	8
Organic Matter (automated)	%	0.1	MCERTS	2.6	4.2

Total Phenols

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

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429527	429528
Sample Reference				WS105	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.90	4.20
Date Sampled				17/01/2025	17/01/2025
Time Taken				1600	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	2.3	0.44
Acenaphthylene	mg/kg	0.05	MCERTS	0.78	0.34
Acenaphthene	mg/kg	0.05	MCERTS	1.9	0.23
Fluorene	mg/kg	0.05	MCERTS	1.7	0.5
Phenanthrene	mg/kg	0.05	MCERTS	12	1
Anthracene	mg/kg	0.05	MCERTS	3.3	0.55
Fluoranthene	mg/kg	0.05	MCERTS	14	2.1
Pyrene	mg/kg	0.05	MCERTS	12	2.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	5.5	0.68
Chrysene	mg/kg	0.05	MCERTS	6.3	0.83
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	7.4	0.93
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	3.1	0.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	6.4	0.68
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	3.4	0.66
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.81	0.08
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.9	0.73
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	84.6	12.6
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	33	27
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.9
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	30	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	93	45
Lead (aqua regia extractable)	mg/kg	1	MCERTS	94	47
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	28	40
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	1.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	240	120
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	< 0.010	< 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	< 1.0	< 1.0
TPHCWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	110
TPHCWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	430
TPHCWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	130
TPHCWG - Aliphatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	NONE	< 10	680
TPHCWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.01	MCERTS	< 0.010	< 0.010
TPHCWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.02	MCERTS	< 0.020	< 0.020
TPHCWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	2.2	< 1.0
TPHCWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	16	67
TPHCWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	56	340
TPHCWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	64	100
TPHCWG - Aromatic >EC5 - EC35 $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	NONE	140	510

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429527	429528
Sample Reference				WS105	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.90	4.20
Date Sampled				17/01/2025	17/01/2025
Time Taken				1600	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429527	429528
Sample Reference				WS105	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.90	4.20
Date Sampled				17/01/2025	17/01/2025
Time Taken				1600	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
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	< 5.0	< 5.0
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	< 5.0	< 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	< 8.0	< 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	< 5.0	< 5.0
Isopropylbenzene	µg/kg	5	MCERTS	< 5.0	< 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	< 5.0	< 5.0
tert-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,2,4-Trimethylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
sec-Butylbenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,3-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0
p-Isopropyltoluene	µg/kg	5	MCERTS	< 5.0	< 5.0
1,4-Dichlorobenzene	µg/kg	5	MCERTS	< 5.0	< 5.0

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429527	429528
Sample Reference				WS105	WS105
Sample Number				None Supplied	None Supplied
Water Matrix				N/A	N/A
Depth (m)				1.90	4.20
Date Sampled				17/01/2025	17/01/2025
Time Taken				1600	1545
Analytical Parameter (Soil Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
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
SVOCs					
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	NONE	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	NONE	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	NONE	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	1	0.2
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	NONE	< 0.1	< 0.1
2,4-Dinitrotoluene	mg/kg	0.2	NONE	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	1.4	0.3
4-Chlorophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	NONE	< 0.2	< 0.2
Azobenzene	mg/kg	0.3	NONE	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.30	< 0.30
Carbazole	mg/kg	0.3	MCERTS	1.1	< 0.3
Dibutyl phthalate	mg/kg	0.2	NONE	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	NONE	0.7	< 0.3
Butyl benzyl phthalate	mg/kg	0.3	NONE	< 0.3	< 0.3

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

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury
Your Order No:

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
429521	WS103	1.80-1.90	138	Loose Fibres, Loose Fibrous Debris	**Amosite & Chrysotile**	< 0.001	**< 0.001**
429527	WS105	1.90	149	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

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

Analytical Report Number: 25-002450
Project / Site name: UK Greetings Dewsbury

Lab Sample Number				429518	429520	429521	429525
Sample Reference				WS104	WS103	WS103	WS101
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Water Matrix				N/A	N/A	N/A	N/A
Depth (m)				3.80-3.90	0.60-0.80	1.80-1.90	1.50-1.60
Date Sampled				17/01/2025	17/01/2025	17/01/2025	17/01/2025
Time Taken				1015	1200	1200	1500
Analytical Parameter (Leachate Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**				
General Inorganics							
pH (automated)	pH Units	N/A	ISO 17025	7.7	7.9	7.6	7.5
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	-	-
Free Cyanide (Low Level 1 µg/l)	µg/l	1	NONE	-	-	< 1	< 1
Sulphate as SO_4	mg/l	0.045	ISO 17025	73.3	8.97	30.3	4.16
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	-	-
Total Phenols (monohydric) low level	µg/l	1	NONE	-	-	< 1.0	5.6
Speciated PAHs							
Naphthalene	µg/l	0.01	NONE	7.4	0.38	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	NONE	0.21	0.17	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	NONE	13	0.16	0.04	0.03
Fluorene	µg/l	0.01	NONE	7.4	0.17	0.04	0.02
Phenanthrene	µg/l	0.01	NONE	9.5	0.36	0.1	0.05
Anthracene	µg/l	0.01	NONE	< 0.01	0.11	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	NONE	0.65	0.22	0.03	< 0.01
Pyrene	µg/l	0.01	NONE	< 0.01	0.2	0.02	< 0.01
Benzo(a)anthracene	µg/l	0.01	NONE	< 0.01	0.09	< 0.01	< 0.01
Chrysene	µg/l	0.01	NONE	< 0.01	0.1	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	NONE	< 0.01	0.12	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	NONE	< 0.01	0.08	< 0.01	< 0.01
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	0.11	< 0.01	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	NONE	38.2	2.26	0.22	< 0.16
Heavy Metals / Metalloids							
Arsenic (dissolved)	µg/l	1	ISO 17025	1.4	5.5	< 1.0	< 1.0
Cadmium (dissolved)	µg/l	0.08	ISO 17025	< 0.08	< 0.08	< 0.08	< 0.08
Chromium (dissolved)	µg/l	0.4	ISO 17025	0.6	3	0.4	1.5
Copper (dissolved)	µg/l	0.7	ISO 17025	19	22	8.7	9.6
Lead (dissolved)	µg/l	1	ISO 17025	1.5	14	1.9	3.3
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	0.6	< 0.5	< 0.5
Nickel (dissolved)	µg/l	0.3	ISO 17025	1.3	3.7	0.9	1.1
Selenium (dissolved)	µg/l	4	ISO 17025	< 4.0	< 4.0	< 4.0	< 4.0
Zinc (dissolved)	µg/l	0.4	ISO 17025	11	37	18	9.7

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

Analytical Report Number : 25-002450
Project / Site name: UK Greetings Dewsbury

* 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 *
429517	WS104	None Supplied	0.10-0.20	Brown clay and sand with vegetation and stones
429518	WS104	None Supplied	3.80-3.90	Brown clay and sand with gravel
429519	WS104	None Supplied	4.50-4.70	Brown clay and sand with gravel and vegetation
429520	WS103	None Supplied	0.60-0.80	Brown clay and sand with stones
429521	WS103	None Supplied	1.80-1.90	Brown loam and sand with stones
429522	WS102	None Supplied	0.70-0.80	Brown clay and sand with gravel
429523	WS102	None Supplied	3.40-3.50	Brown clay and sand with gravel
429524	WS101	None Supplied	0.1	Brown clay and sand with gravel and vegetation
429525	WS101	None Supplied	1.50-1.60	Brown loam and sand with stones
429526	WS105	None Supplied	0.7	Brown clay and sand with gravel
429527	WS105	None Supplied	1.9	Brown loam and clay with stones
429528	WS105	None Supplied	4.2	Brown clay and sand with gravel

Analytical Report Number : 25-002450
Project / Site name: UK Greetings Dewsbury

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
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
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	Moisture content, determined gravimetrically (up to 30°C)	In-house method	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
Total petroleum hydrocarbons with carbon banding by GC-FID/GC-MS HS in soil	Determination of total petroleum hydrocarbons in soil by GC-FID/GC-MS HS with carbon banding aliphatic and aromatic	In-house method	L076B/L088-PL	D/W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry	In-house method	L080-PL	W	MCERTS
Free cyanide 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	ISO 17025
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 : 25-002450
Project / Site name: UK Greetings Dewsbury

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 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	ISO 17025
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
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	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

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 : 25-005310

Project / Site name:	UK Greeting	**Samples received on:**	05/02/2025
Your job number:	6359	**Samples instructed on/ Analysis started on:**	05/02/2025
Your order number:	6359	**Analysis completed by:**	11/02/2025
Report Issue Number:	1	**Report issued on:**	11/02/2025
Samples Analysed:	2 water samples		

Signed:

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

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

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

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

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

Analytical Report Number: 25-005310
Project / Site name: UK Greeting

Lab Sample Number				444185	444186
Sample Reference				BHRC101	BHRC102
Sample Number				None Supplied	None Supplied
Water Matrix				Ground water	Ground water
Depth (m)				5.30	5.15
Date Sampled				04/02/2025	04/02/2025
Time Taken				1130	1130
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
General Inorganics					
pH (L099)	pH Units	N/A	ISO 17025	7	7
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO_4	mg/l	0.045	ISO 17025	651	381
Ammoniacal Nitrogen as NH_3	µg/l	15	ISO 17025	86000	18000
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	0.15	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	0.35	0.07
Fluorene	µg/l	0.01	ISO 17025	0.27	0.06
Phenanthrene	µg/l	0.01	ISO 17025	0.64	0.07
Anthracene	µg/l	0.01	ISO 17025	0.12	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	0.52	< 0.01
Pyrene	µg/l	0.01	ISO 17025	0.47	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	0.19	< 0.01
Chrysene	µg/l	0.01	ISO 17025	0.16	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	0.21	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	0.1	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	0.18	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	0.1	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	0.14	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	3.61	0.2
Heavy Metals / Metalloids					
Arsenic (dissolved)	µg/l	0.15	ISO 17025	6.22	1.77
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Copper (dissolved)	µg/l	0.5	ISO 17025	2	0.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Mercury (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	4.1	8.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	2.4	1.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	2.3	4.4

Analytical Report Number: 25-005310
Project / Site name: UK Greeting

Lab Sample Number				444185	444186
Sample Reference				BHRC101	BHRC102
Sample Number				None Supplied	None Supplied
Water Matrix				Ground water	Ground water
Depth (m)				5.30	5.15
Date Sampled				04/02/2025	04/02/2025
Time Taken				1130	1130
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
Petroleum Hydrocarbons					
TPH - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aliphatic >EC10 - EC12 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	25	< 10
TPH - Aliphatic >EC12 - EC16 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	160	< 10
TPH - Aliphatic >EC16 - EC21 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	380	< 10
TPH - Aliphatic >EC21 - EC35 $_{EH\_1D\_AL\_MS}$	µg/l	10	NONE	76	< 10
TPH - Aliphatic >EC5 - EC35 $_{HS+EH\_1D\_AL\_MS}$	µg/l	10	NONE	640	< 10
TPH - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH - Aromatic >EC10 - EC12 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC12 - EC16 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	20	< 10
TPH - Aromatic >EC16 - EC21 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	10	< 10
TPH - Aromatic >EC21 - EC35 $_{EH\_1D\_AR\_MS}$	µg/l	10	NONE	< 10	< 10
TPH - Aromatic >EC5 - EC35 $_{HS+EH\_1D\_AR\_MS}$	µg/l	10	NONE	30	< 10

Analytical Report Number: 25-005310
Project / Site name: UK Greeting

Lab Sample Number				444185	444186
Sample Reference				BHRC101	BHRC102
Sample Number				None Supplied	None Supplied
Water Matrix				Ground water	Ground water
Depth (m)				5.30	5.15
Date Sampled				04/02/2025	04/02/2025
Time Taken				1130	1130
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
VOCs					
Chloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Vinyl Chloride	µg/l	3	NONE	< 3.0	< 3.0
Trichlorofluoromethane	µg/l	3	NONE	< 3.0	< 3.0
1,1-Dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans 1,2-dichloroethylene	µg/l	3	ISO 17025	< 3.0	< 3.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
2,2-Dichloropropane	µg/l	3	NONE	< 3.0	< 3.0
Chloroform	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1-Dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,2-dichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Benzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Carbontetrachloride	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Trichloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromomethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromodichloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Cis-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Trans-1,3-dichloropropene	µg/l	3	ISO 17025	< 3.0	< 3.0
Toluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2-Trichloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
Dibromochloromethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Tetrachloroethene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromoethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Chlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,1,2-Tetrachloroethane	µg/l	3	ISO 17025	< 3.0	< 3.0
Ethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p & m-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Styrene	µg/l	3	ISO 17025	< 3.0	< 3.0
Bromoform	µg/l	3	ISO 17025	< 3.0	< 3.0
o-xylene	µg/l	3	ISO 17025	< 3.0	< 3.0
Isopropylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,1,2,2-Tetrachloroethane	µg/l	3	NONE	< 3.0	< 3.0
Bromobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
n-Propylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
2-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
4-Chlorotoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3,5-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
tert-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trimethylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
sec-Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,3-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
p-Isopropyltoluene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,4-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

Analytical Report Number: 25-005310
Project / Site name: UK Greeting

Lab Sample Number				444185	444186
Sample Reference				BHRC101	BHRC102
Sample Number				None Supplied	None Supplied
Water Matrix				Ground water	Ground water
Depth (m)				5.30	5.15
Date Sampled				04/02/2025	04/02/2025
Time Taken				1130	1130
Analytical Parameter (Water Analysis)	**Units**	**Test Limit of detection**	**Test Accreditation Status**		
1,2-Dichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Butylbenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2-Dibromo-3-chloropropane	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,4-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0
Hexachlorobutadiene	µg/l	3	ISO 17025	< 3.0	< 3.0
1,2,3-Trichlorobenzene	µg/l	3	ISO 17025	< 3.0	< 3.0

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

Analytical Report Number : 25-005310
Project / Site name: UK Greeting

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
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited matrices: SW, PW, GW, except B - SW,GW, Hg - SW,PW, Al - SW,PW	In-house method based on USEPA Method 6020 & 200.8 for the determination of trace elements in water by ICP-MS	L012B	W	ISO 17025
Total Petroleum Hydrocarbons with carbon banding in water by GC-MS	Determination of total petroleum hydrocarbons in water by GC-MS with carbon banding aliphatic and aromatic	In-house method	L070B	W	NONE
BTEX and/or Volatile Organic Compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method based on USEPA 8260	L073B	W	ISO 17025
Free cyanide in water	Determination of free cyanide in water by distillation followed by colorimetry. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Ammonia as NH3 in water	Determination of ammonium/ammonia/ammoniacal nitrogen by the colorimetric salicylate/nitroprusside method using discrete analyser. Accredited matrices: SW, PW, GW, FSE, LL	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082B	W	ISO 17025
Total Petroleum Hydrocarbons in water by HS-GC-MS	Determination of total petroleum hydrocarbons in water by headspace GC-MS. Accredited matrices: SW, PW, GW	In-house method	L088-PL	W	ISO 17025
pH of water at 20°C (automated)	Determination of pH of water by electrochemical measurement. Accredited matrices: SW, PW, GW, FSE, LL	In-house method	L099-PL	W	ISO 17025
Speciated PAHs and/or Semi-volatile organic compounds in water	Determination of semi-volatile organic compounds (including PAHs) in water by extraction in dichloromethane followed by GC-MS. Accredited matrices (PAHs): SW, PW, GW	In-house method based on USEPA 8270	L102B	W	ISO 17025

Analytical Report Number : 25-005310
Project / Site name: UK Greeting

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
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited matrices: SW, PW, GW, PrW, DI PrW, FSE, LL	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil	L039B	W	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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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

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

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.

JX9YG-3G7FK-99B66

Report is invalid if pages are removed.

Job name

UK Greetings, Bretton Park

Description/Comments

Project

6359

Site

Dewsbury

Classified by

Name:
Dominic Horne
Date:
21 Mar 2025 14:04 GMT
Telephone:
0113 263 1155

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	11 Mar 2020
Most recent 3 year Refresher	05 Aug 2025 *

Next 3 year Refresher due by Dec 2025
* training course booked

Purpose of classification

2 - Material Characterisation

Address of the waste

302 Bretton Park Way, Dewsbury **Post Code** WF12 9BS

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Redevelopment of brownfield land, adjacent to existing commercial building.

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

Waste created during excavation for foundations.

Description of the waste

Made ground comprising grey and orangish brown sands and gravels with isolated bands of clay.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS104	0.10-0.20	Non Hazardous		3
2	WS104[2]	3.80-3.90	Hazardous	HP 7, HP 11	5
3	WS104[3]	4.50-4.70	Hazardous	HP 7, HP 11	8
4	WS103	0.60-0.80	Non Hazardous		11
5	WS103[2]	1.80-1.90	Non Hazardous		13
6	WS102	0.70-0.80	Non Hazardous		15
7	WS102[2]	3.40-3.50	Non Hazardous		17
8	WS101	0.10	Non Hazardous		19
9	WS101[2]	1.50-1.60	Non Hazardous		21
10	WS105	0.70	Non Hazardous		23
11	WS105[2]	1.90	Non Hazardous		25
12	WS105[3]	4.20	Non Hazardous		28

Related documents

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

Report

Created by: Dominic Horne

Created date: 21 Mar 2025 14:04 GMT

Classification of sample: WS104

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

Sample details

Sample name:
WS104
Sample Depth:
0.10-0.20 m
Moisture content:
16%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		40	mg/kg	1.32	44.363	mg/kg	0.00444 %	✓	
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 chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35	mg/kg	1.462	42.97	mg/kg	0.0043 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42	mg/kg	1.126	39.721	mg/kg	0.00397 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	110	mg/kg	1.56	144.127	mg/kg	0.00924 %	✓	
7	mercury { * mercury(II) sulfide }		215-696-3	1344-48-5		0.5	mg/kg	1.16	0.487	mg/kg	0.0000487 %	✓	
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21	mg/kg	2.976	52.501	mg/kg	0.00525 %	✓	
9	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	1.534	mg/kg	0.000153 %	✓	
10	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		95	mg/kg	2.469	197.05	mg/kg	0.0197 %	✓	
11	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		355	mg/kg		298.2	mg/kg	0.0298 %	✓	
12	* pH		PH			7.4	pH		7.4	pH	7.4 pH		
13	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides,					<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5											
14	naphthalene	601-052-00-2	202-049-5	91-20-3		0.31	mg/kg		0.26	mg/kg	0.000026 %	✓	
15	acenaphthylene		205-917-1	208-96-8		0.08	mg/kg		0.0672	mg/kg	0.00000672 %	✓	
16	acenaphthene		201-469-6	83-32-9		0.38	mg/kg		0.319	mg/kg	0.0000319 %	✓	
17	fluorene		201-695-5	86-73-7		0.34	mg/kg		0.286	mg/kg	0.0000286 %	✓	
18	phenanthrene		201-581-5	85-01-8		2.1	mg/kg		1.764	mg/kg	0.000176 %	✓	
19	anthracene		204-371-1	120-12-7		0.45	mg/kg		0.378	mg/kg	0.0000378 %	✓	
20	fluoranthene		205-912-4	206-44-0		2.6	mg/kg		2.184	mg/kg	0.000218 %	✓	
21	pyrene		204-927-3	129-00-0		2.3	mg/kg		1.932	mg/kg	0.000193 %	✓	
22	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.3	mg/kg		1.092	mg/kg	0.000109 %	✓	
23	chrysene	601-048-00-0	205-923-4	218-01-9		1.4	mg/kg		1.176	mg/kg	0.000118 %	✓	
24	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.6	mg/kg		1.344	mg/kg	0.000134 %	✓	
25	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.48	mg/kg		0.403	mg/kg	0.0000403 %	✓	
26	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.3	mg/kg		1.092	mg/kg	0.000109 %	✓	
27	indeno[123-cd]pyrene		205-893-2	193-39-5		0.63	mg/kg		0.529	mg/kg	0.0000529 %	✓	
28	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.14	mg/kg		0.118	mg/kg	0.0000118 %	✓	
29	benzo[ghi]perylene		205-883-8	191-24-2		0.75	mg/kg		0.63	mg/kg	0.000063 %	✓	
30	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
										Total:	0.0789 %		

Key

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

Supplementary Hazardous Property Information

HP 3(l): 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 threshold of: 21000 mg/kg (2.1%) because: Unlikely to be flammable due to the natural moisture content of the soils.

Hazard Statements hit:

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

Because of determinand:

xylene (conc.: 0.0298%)

Classification of sample: WS104[2]

⚠ Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS104[2]
Sample Depth:
3.80-3.90 m
Moisture content:
19%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.486%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.486%)

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9	mg/kg	1.32	9.625	mg/kg	0.000963 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.37	mg/kg	0.000037 %	✓	
3	chromium in chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		25	mg/kg	1.462	29.597	mg/kg	0.00296 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		18	mg/kg	1.126	16.415	mg/kg	0.00164 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	19	mg/kg	1.56	24.006	mg/kg	0.00154 %	✓	
7	mercury { * mercury(II) sulfide }		215-696-3	1344-48-5		<0.3	mg/kg	1.16	<0.348	mg/kg	<0.0000348 %		<LOD

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		27	mg/kg	2.976	65.091	mg/kg	0.00651 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		70	mg/kg	2.469	140.009	mg/kg	0.014 %	✓	
11	TPH (C6 to C40) petroleum group			TPH		6000	mg/kg		4860	mg/kg	0.486 %	✓	
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		0.27	mg/kg		0.219	mg/kg	0.0000219 %	✓	
14	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	mg/kg		<8	mg/kg	<0.0008 %		<LOD
17	pH			PH		7.9	pH		7.9	pH	7.9 pH		
18	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				1.1	mg/kg	1.884	1.679	mg/kg	0.000168 %	✓	
19	naphthalene	601-052-00-2	202-049-5	91-20-3		1.2	mg/kg		0.972	mg/kg	0.0000972 %	✓	
20	acenaphthylene		205-917-1	208-96-8		0.94	mg/kg		0.761	mg/kg	0.0000761 %	✓	
21	acenaphthene		201-469-6	83-32-9		5.1	mg/kg		4.131	mg/kg	0.000413 %	✓	
22	fluorene		201-695-5	86-73-7		5.3	mg/kg		4.293	mg/kg	0.000429 %	✓	
23	phenanthrene		201-581-5	85-01-8		20	mg/kg		16.2	mg/kg	0.00162 %	✓	
24	anthracene		204-371-1	120-12-7		5.1	mg/kg		4.131	mg/kg	0.000413 %	✓	
25	fluoranthene		205-912-4	206-44-0		12	mg/kg		9.72	mg/kg	0.000972 %	✓	
26	pyrene		204-927-3	129-00-0		10	mg/kg		8.1	mg/kg	0.00081 %	✓	
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		2.2	mg/kg		1.782	mg/kg	0.000178 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		2.6	mg/kg		2.106	mg/kg	0.000211 %	✓	
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		2.4	mg/kg		1.944	mg/kg	0.000194 %	✓	
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.95	mg/kg		0.77	mg/kg	0.000077 %	✓	
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.1	mg/kg		1.701	mg/kg	0.00017 %	✓	
32	indeno[123-cd]pyrene		205-893-2	193-39-5		1	mg/kg		0.81	mg/kg	0.000081 %	✓	

#	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
33	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.21	mg/kg		0.17	mg/kg	0.000017 %	✓	
34	benzo[ghi]perylene		205-883-8	191-24-2		1.2	mg/kg		0.972	mg/kg	0.0000972 %	✓	
35	phenol	604-001-00-2	203-632-7	108-95-2		1.6	mg/kg		1.296	mg/kg	0.00013 %	✓	
										Total:	0.523 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 threshold of: 21000 mg/kg (2.1%) because: Unlikely to be flammable due to the natural moisture content of the soils.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

benzene (conc.: 0.00002%)

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.486%)

Classification of sample: WS104[3]

⚠ Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:
WS104[3]
Sample Depth:
4.50-4.70 m
Moisture content:
21%
(wet weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 1.596%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 1.596%)

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.8	mg/kg	1.32	7.093	mg/kg	0.000709 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.5	mg/kg	1.142	0.451	mg/kg	0.0000451 %	✓	
3	chromium in chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21	mg/kg	1.462	24.247	mg/kg	0.00242 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		54	mg/kg	1.126	48.03	mg/kg	0.0048 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	100	mg/kg	1.56	123.225	mg/kg	0.0079 %	✓	
7	mercury { * mercury(II) sulfide }		215-696-3	1344-48-5		1.5	mg/kg	1.16	1.374	mg/kg	0.000137 %	✓	

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		28	mg/kg	2.976	65.835	mg/kg	0.00658 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		91	mg/kg	2.469	177.518	mg/kg	0.0178 %	✓	
11	TPH (C6 to C40) petroleum group			TPH		20200	mg/kg		15958	mg/kg	1.596 %	✓	
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	mg/kg		<8	mg/kg	<0.0008 %		<LOD
17	pH			PH		8	pH		8	pH	8pH		
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				1.7	mg/kg	1.884	2.53	mg/kg	0.000253 %	✓	
19	naphthalene	601-052-00-2	202-049-5	91-20-3		3.8	mg/kg		3.002	mg/kg	0.0003 %	✓	
20	acenaphthylene		205-917-1	208-96-8		3.5	mg/kg		2.765	mg/kg	0.000276 %	✓	
21	acenaphthene		201-469-6	83-32-9		15	mg/kg		11.85	mg/kg	0.00119 %	✓	
22	fluorene		201-695-5	86-73-7		14	mg/kg		11.06	mg/kg	0.00111 %	✓	
23	phenanthrene		201-581-5	85-01-8		62	mg/kg		48.98	mg/kg	0.0049 %	✓	
24	anthracene		204-371-1	120-12-7		17	mg/kg		13.43	mg/kg	0.00134 %	✓	
25	fluoranthene		205-912-4	206-44-0		41	mg/kg		32.39	mg/kg	0.00324 %	✓	
26	pyrene		204-927-3	129-00-0		38	mg/kg		30.02	mg/kg	0.003 %	✓	
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		9.9	mg/kg		7.821	mg/kg	0.000782 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		11	mg/kg		8.69	mg/kg	0.000869 %	✓	
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		12	mg/kg		9.48	mg/kg	0.000948 %	✓	
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		4.6	mg/kg		3.634	mg/kg	0.000363 %	✓	
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		10	mg/kg		7.9	mg/kg	0.00079 %	✓	
32	indeno[123-cd]pyrene		205-893-2	193-39-5		5.5	mg/kg		4.345	mg/kg	0.000435 %	✓	

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
33	dibenz[a,h]anthracene				1.2	mg/kg		0.948	mg/kg	0.0000948 %	✓	
	601-041-00-2	200-181-8	53-70-3									
34	benzo[ghi]perylene				6.7	mg/kg		5.293	mg/kg	0.000529 %	✓	
		205-883-8	191-24-2									
35	phenol				1.4	mg/kg		1.106	mg/kg	0.000111 %	✓	
	604-001-00-2	203-632-7	108-95-2									
									Total:	1.66 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 threshold of: 21000 mg/kg (2.1%) because: Unlikely to be flammable due to the natural moisture content of the soils.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 1.596%)

Classification of sample: WS103

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

Sample details

Sample name:
WS103
Sample Depth:
0.60-0.80 m
Moisture content:
16%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		71	mg/kg	1.32	78.744	mg/kg	0.00787 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		2	mg/kg	1.142	1.919	mg/kg	0.000192 %	✓	
3	chromium in chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		78	mg/kg	1.462	95.761	mg/kg	0.00958 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		250	mg/kg	1.126	236.437	mg/kg	0.0236 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	280	mg/kg	1.56	366.869	mg/kg	0.0235 %	✓	
7	mercury { * mercury(II) sulfide }		215-696-3	1344-48-5		0.8	mg/kg	1.16	0.779	mg/kg	0.0000779 %	✓	
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		66	mg/kg	2.976	165.004	mg/kg	0.0165 %	✓	
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.6	mg/kg	1.405	1.888	mg/kg	0.000189 %	✓	
10	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		590	mg/kg	2.469	1223.783	mg/kg	0.122 %	✓	
11	* pH			PH		8	pH		8	pH	8pH		
12	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		2.9	mg/kg		2.436	mg/kg	0.000244 %	✓	

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
14	acenaphthylene	205-917-1	208-96-8		3.5	mg/kg		2.94	mg/kg	0.000294 %	✓	
15	acenaphthene	201-469-6	83-32-9		1	mg/kg		0.84	mg/kg	0.000084 %	✓	
16	fluorene	201-695-5	86-73-7		2.2	mg/kg		1.848	mg/kg	0.000185 %	✓	
17	phenanthrene	201-581-5	85-01-8		19	mg/kg		15.96	mg/kg	0.0016 %	✓	
18	anthracene	204-371-1	120-12-7		6.6	mg/kg		5.544	mg/kg	0.000554 %	✓	
19	fluoranthene	205-912-4	206-44-0		28	mg/kg		23.52	mg/kg	0.00235 %	✓	
20	pyrene	204-927-3	129-00-0		25	mg/kg		21	mg/kg	0.0021 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	14	mg/kg		11.76	mg/kg	0.00118 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	14	mg/kg		11.76	mg/kg	0.00118 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	19	mg/kg		15.96	mg/kg	0.0016 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	8.1	mg/kg		6.804	mg/kg	0.00068 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	18	mg/kg		15.12	mg/kg	0.00151 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		10	mg/kg		8.4	mg/kg	0.00084 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	2.4	mg/kg		2.016	mg/kg	0.000202 %	✓	
28	benzo[ghi]perylene	205-883-8	191-24-2		12	mg/kg		10.08	mg/kg	0.00101 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2	<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
									Total:	0.22 %		

Key

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

Classification of sample: WS103[2]

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

Sample details

Sample name:
WS103[2]
Sample Depth:
1.80-1.90 m
Moisture content:
11%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14	mg/kg	1.32	16.451	mg/kg	0.00165 %	✓	
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 chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	20.813	mg/kg	0.00208 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		100	mg/kg	1.126	100.204	mg/kg	0.01 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	27	mg/kg	1.56	37.482	mg/kg	0.0024 %	✓	
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		32	mg/kg	2.976	84.764	mg/kg	0.00848 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		90	mg/kg	2.469	197.791	mg/kg	0.0198 %	✓	
11	* pH			PH		8.1	pH		8.1	pH	8.1 pH		
12	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		0.23	mg/kg		0.205	mg/kg	0.0000205 %	✓	

#	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
14	acenaphthylene		205-917-1	208-96-8		0.13	mg/kg		0.116	mg/kg	0.0000116 %	✓	
15	acenaphthene		201-469-6	83-32-9		0.11	mg/kg		0.0979	mg/kg	0.00000979 %	✓	
16	fluorene		201-695-5	86-73-7		0.2	mg/kg		0.178	mg/kg	0.0000178 %	✓	
17	phenanthrene		201-581-5	85-01-8		1.7	mg/kg		1.513	mg/kg	0.000151 %	✓	
18	anthracene		204-371-1	120-12-7		0.36	mg/kg		0.32	mg/kg	0.000032 %	✓	
19	fluoranthene		205-912-4	206-44-0		1.3	mg/kg		1.157	mg/kg	0.000116 %	✓	
20	pyrene		204-927-3	129-00-0		1.1	mg/kg		0.979	mg/kg	0.0000979 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.4	mg/kg		1.246	mg/kg	0.000125 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9		1.5	mg/kg		1.335	mg/kg	0.000133 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.1	mg/kg		0.979	mg/kg	0.0000979 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.53	mg/kg		0.472	mg/kg	0.0000472 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.83	mg/kg		0.739	mg/kg	0.0000739 %	✓	
26	indeno[123-cd]pyrene		205-893-2	193-39-5		0.81	mg/kg		0.721	mg/kg	0.0000721 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.28	mg/kg		0.249	mg/kg	0.0000249 %	✓	
28	benzo[ghi]perylene		205-883-8	191-24-2		1	mg/kg		0.89	mg/kg	0.000089 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
30	asbestos	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		10	mg/kg		8.9	mg/kg	0.00089 %	✓	
										Total:	0.0472 %		

Key

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

Classification of sample: WS102

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

Sample details

Sample name:
WS102
Sample Depth:
0.70-0.80 m
Moisture content:
15%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		36	mg/kg	1.32	40.402	mg/kg	0.00404 %	✓	
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 chromium(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 chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		62	mg/kg	1.462	77.024	mg/kg	0.0077 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		120	mg/kg	1.126	114.841	mg/kg	0.0115 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	180	mg/kg	1.56	238.652	mg/kg	0.0153 %	✓	
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		48	mg/kg	2.976	121.432	mg/kg	0.0121 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		560	mg/kg	2.469	1175.385	mg/kg	0.118 %	✓	
11	pH		PH			8.3	pH		8.3	pH	8.3 pH		
12	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		2.6	mg/kg		2.21	mg/kg	0.000221 %	✓	

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
14	acenaphthylene	205-917-1	208-96-8		2.4	mg/kg		2.04	mg/kg	0.000204 %	✓	
15	acenaphthene	201-469-6	83-32-9		2.1	mg/kg		1.785	mg/kg	0.000179 %	✓	
16	fluorene	201-695-5	86-73-7		4.2	mg/kg		3.57	mg/kg	0.000357 %	✓	
17	phenanthrene	201-581-5	85-01-8		25	mg/kg		21.25	mg/kg	0.00213 %	✓	
18	anthracene	204-371-1	120-12-7		6.1	mg/kg		5.185	mg/kg	0.000519 %	✓	
19	fluoranthene	205-912-4	206-44-0		29	mg/kg		24.65	mg/kg	0.00246 %	✓	
20	pyrene	204-927-3	129-00-0		25	mg/kg		21.25	mg/kg	0.00213 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	13	mg/kg		11.05	mg/kg	0.00111 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	11	mg/kg		9.35	mg/kg	0.000935 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	15	mg/kg		12.75	mg/kg	0.00128 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	5.8	mg/kg		4.93	mg/kg	0.000493 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	14	mg/kg		11.9	mg/kg	0.00119 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		6.8	mg/kg		5.78	mg/kg	0.000578 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	1.5	mg/kg		1.275	mg/kg	0.000127 %	✓	
28	benzo[ghi]perylene	205-883-8	191-24-2		8.2	mg/kg		6.97	mg/kg	0.000697 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2	<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
									Total:	0.184 %		

Key

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

Classification of sample: WS102[2]

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

Sample details

Sample name:
WS102[2]
Sample Depth:
3.40-3.50 m
Moisture content:
18%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.7	mg/kg	1.32	5.089	mg/kg	0.000509 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.375	mg/kg	0.0000375 %	✓	
3	chromium in chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20	mg/kg	1.462	23.97	mg/kg	0.0024 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14	mg/kg	1.126	12.925	mg/kg	0.00129 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	14	mg/kg	1.56	17.907	mg/kg	0.00115 %	✓	
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	70.776	mg/kg	0.00708 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		77	mg/kg	2.469	155.911	mg/kg	0.0156 %	✓	
11	* TPH (C6 to C40) petroleum group			TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	mg/kg		<8	mg/kg	<0.0008 %		<LOD
17	pH			PH		7.4	pH		7.4	pH	7.4 pH		
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
19	naphthalene	601-052-00-2	202-049-5	91-20-3		0.07	mg/kg		0.0574	mg/kg	0.00000574 %	✓	
20	acenaphthylene		205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
21	acenaphthene		201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
22	fluorene		201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
23	phenanthrene		201-581-5	85-01-8		0.11	mg/kg		0.0902	mg/kg	0.00000902 %	✓	
24	anthracene		204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
25	fluoranthene		205-912-4	206-44-0		0.12	mg/kg		0.0984	mg/kg	0.00000984 %	✓	
26	pyrene		204-927-3	129-00-0		0.11	mg/kg		0.0902	mg/kg	0.00000902 %	✓	
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.05	mg/kg		0.041	mg/kg	0.0000041 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
32	indeno[123-cd]pyrene		205-893-2	193-39-5		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
33	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
34	benzo[ghi]perylene		205-883-8	191-24-2		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
35	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
										Total:	0.0328 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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:
0.10 m
Moisture content:
25%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 25% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		37	mg/kg	1.32	36.639	mg/kg	0.00366 %	✓	
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 chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20	mg/kg	1.462	21.923	mg/kg	0.00219 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33	mg/kg	1.126	27.866	mg/kg	0.00279 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	99	mg/kg	1.56	115.816	mg/kg	0.00743 %	✓	
7	mercury { * mercury(II) sulfide }		215-696-3	1344-48-5		0.5	mg/kg	1.16	0.435	mg/kg	0.0000435 %	✓	
8	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15	mg/kg	2.976	33.483	mg/kg	0.00335 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		74	mg/kg	2.469	137.046	mg/kg	0.0137 %	✓	
11	* pH			PH		7.7	pH		7.7	pH	7.7 pH		
12	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		0.25	mg/kg		0.188	mg/kg	0.0000187 %	✓	

#	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
14	acenaphthylene		205-917-1	208-96-8		0.09	mg/kg		0.0675	mg/kg	0.00000675 %	✓	
15	acenaphthene		201-469-6	83-32-9		0.43	mg/kg		0.323	mg/kg	0.0000322 %	✓	
16	fluorene		201-695-5	86-73-7		0.32	mg/kg		0.24	mg/kg	0.000024 %	✓	
17	phenanthrene		201-581-5	85-01-8		2.2	mg/kg		1.65	mg/kg	0.000165 %	✓	
18	anthracene		204-371-1	120-12-7		0.49	mg/kg		0.368	mg/kg	0.0000368 %	✓	
19	fluoranthene		205-912-4	206-44-0		2.9	mg/kg		2.175	mg/kg	0.000217 %	✓	
20	pyrene		204-927-3	129-00-0		2.5	mg/kg		1.875	mg/kg	0.000188 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		1.4	mg/kg		1.05	mg/kg	0.000105 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9		1.6	mg/kg		1.2	mg/kg	0.00012 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.6	mg/kg		1.2	mg/kg	0.00012 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.67	mg/kg		0.502	mg/kg	0.0000502 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		1.4	mg/kg		1.05	mg/kg	0.000105 %	✓	
26	indeno[123-cd]pyrene		205-893-2	193-39-5		0.65	mg/kg		0.488	mg/kg	0.0000488 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.15	mg/kg		0.113	mg/kg	0.0000113 %	✓	
28	benzo[ghi]perylene		205-883-8	191-24-2		0.75	mg/kg		0.563	mg/kg	0.0000563 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
										Total:	0.0353 %		

Key

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

Classification of sample: WS101[2]

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

Sample details

Sample name:
WS101[2]
Sample Depth:
1.50-1.60 m
Moisture content:
6.5%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 6.5% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	16.049	mg/kg	0.0016 %	✓	
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 chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13	mg/kg	1.462	17.765	mg/kg	0.00178 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		48	mg/kg	1.126	50.53	mg/kg	0.00505 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	50	mg/kg	1.56	72.921	mg/kg	0.00468 %	✓	
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	50.091	mg/kg	0.00501 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		80	mg/kg	2.469	184.703	mg/kg	0.0185 %	✓	
11	* pH			PH		10.4	pH		10.4	pH	10.4 pH		
12	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		0.27	mg/kg		0.252	mg/kg	0.0000252 %	✓	

#	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
14	acenaphthylene		205-917-1	208-96-8		0.16	mg/kg		0.15	mg/kg	0.000015 %	✓	
15	acenaphthene		201-469-6	83-32-9		0.06	mg/kg		0.0561	mg/kg	0.00000561 %	✓	
16	fluorene		201-695-5	86-73-7		0.08	mg/kg		0.0748	mg/kg	0.00000748 %	✓	
17	phenanthrene		201-581-5	85-01-8		0.81	mg/kg		0.757	mg/kg	0.0000757 %	✓	
18	anthracene		204-371-1	120-12-7		0.23	mg/kg		0.215	mg/kg	0.0000215 %	✓	
19	fluoranthene		205-912-4	206-44-0		1.4	mg/kg		1.309	mg/kg	0.000131 %	✓	
20	pyrene		204-927-3	129-00-0		1.3	mg/kg		1.216	mg/kg	0.000122 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.8	mg/kg		0.748	mg/kg	0.0000748 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9		0.77	mg/kg		0.72	mg/kg	0.000072 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		1.1	mg/kg		1.029	mg/kg	0.000103 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.34	mg/kg		0.318	mg/kg	0.0000318 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.95	mg/kg		0.888	mg/kg	0.0000888 %	✓	
26	indeno[123-cd]pyrene		205-893-2	193-39-5		0.56	mg/kg		0.524	mg/kg	0.0000524 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.11	mg/kg		0.103	mg/kg	0.0000103 %	✓	
28	benzo[ghi]perylene		205-883-8	191-24-2		0.67	mg/kg		0.626	mg/kg	0.0000626 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
										Total:	0.0383 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
✓	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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:
0.70 m
Moisture content:
16%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 16% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.2	mg/kg	1.32	9.094	mg/kg	0.000909 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.192	mg/kg	0.0000192 %	✓	
3	chromium in chromium(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 chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21	mg/kg	1.462	25.782	mg/kg	0.00258 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		26	mg/kg	1.126	24.589	mg/kg	0.00246 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	26	mg/kg	1.56	34.066	mg/kg	0.00218 %	✓	
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		22	mg/kg	2.976	55.001	mg/kg	0.0055 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		130	mg/kg	2.469	269.647	mg/kg	0.027 %	✓	
11	pH		PH			7	pH		7	pH	7pH		
12	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
13	naphthalene	601-052-00-2	202-049-5	91-20-3		0.06	mg/kg		0.0504	mg/kg	0.00000504 %	✓	

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
14	acenaphthylene	205-917-1	208-96-8		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
15	acenaphthene	201-469-6	83-32-9		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
16	fluorene	201-695-5	86-73-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
17	phenanthrene	201-581-5	85-01-8		0.16	mg/kg		0.134	mg/kg	0.0000134 %	✓	
18	anthracene	204-371-1	120-12-7		<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
19	fluoranthene	205-912-4	206-44-0		0.24	mg/kg		0.202	mg/kg	0.0000202 %	✓	
20	pyrene	204-927-3	129-00-0		0.21	mg/kg		0.176	mg/kg	0.0000176 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	0.14	mg/kg		0.118	mg/kg	0.0000118 %	✓	
22	chrysene	601-048-00-0	205-923-4	218-01-9	0.13	mg/kg		0.109	mg/kg	0.0000109 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2	0.2	mg/kg		0.168	mg/kg	0.0000168 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	0.17	mg/kg		0.143	mg/kg	0.0000143 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		0.11	mg/kg		0.0924	mg/kg	0.00000924 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		0.12	mg/kg		0.101	mg/kg	0.0000101 %	✓	
29	phenol	604-001-00-2	203-632-7	108-95-2	<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
									Total:	0.0416 %		

Key

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

Classification of sample: WS105[2]

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

Sample details

Sample name:
WS105[2]
Sample Depth:
1.90 m
Moisture content:
13%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 13% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		33	mg/kg	1.32	37.907	mg/kg	0.00379 %	✓	
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 chromium(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 chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30	mg/kg	1.462	38.147	mg/kg	0.00381 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		93	mg/kg	1.126	91.096	mg/kg	0.00911 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	94	mg/kg	1.56	127.562	mg/kg	0.00818 %	✓	
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	72.502	mg/kg	0.00725 %	✓	
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 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		240	mg/kg	2.469	515.589	mg/kg	0.0516 %	✓	
11	TPH (C6 to C40) petroleum group			TPH		150	mg/kg		130.5	mg/kg	0.0131 %	✓	
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	mg/kg		<8	mg/kg	<0.0008 %		<LOD
17	pH			PH		10.4	pH		10.4	pH	10.4 pH		
18	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
19	naphthalene	601-052-00-2	202-049-5	91-20-3		2.3	mg/kg		2.001	mg/kg	0.0002 %	✓	
20	acenaphthylene		205-917-1	208-96-8		0.78	mg/kg		0.679	mg/kg	0.0000679 %	✓	
21	acenaphthene		201-469-6	83-32-9		1.9	mg/kg		1.653	mg/kg	0.000165 %	✓	
22	fluorene		201-695-5	86-73-7		1.7	mg/kg		1.479	mg/kg	0.000148 %	✓	
23	phenanthrene		201-581-5	85-01-8		12	mg/kg		10.44	mg/kg	0.00104 %	✓	
24	anthracene		204-371-1	120-12-7		3.3	mg/kg		2.871	mg/kg	0.000287 %	✓	
25	fluoranthene		205-912-4	206-44-0		14	mg/kg		12.18	mg/kg	0.00122 %	✓	
26	pyrene		204-927-3	129-00-0		12	mg/kg		10.44	mg/kg	0.00104 %	✓	
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		5.5	mg/kg		4.785	mg/kg	0.000479 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		6.3	mg/kg		5.481	mg/kg	0.000548 %	✓	
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		7.4	mg/kg		6.438	mg/kg	0.000644 %	✓	
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		3.1	mg/kg		2.697	mg/kg	0.00027 %	✓	
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		6.4	mg/kg		5.568	mg/kg	0.000557 %	✓	
32	indeno[123-cd]pyrene		205-893-2	193-39-5		3.4	mg/kg		2.958	mg/kg	0.000296 %	✓	
33	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.81	mg/kg		0.705	mg/kg	0.0000705 %	✓	
34	benzo[ghi]perylene		205-883-8	191-24-2		3.9	mg/kg		3.393	mg/kg	0.000339 %	✓	
35	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
36	asbestos	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		10	mg/kg		8.7	mg/kg	0.00087 %	✓	
										Total:	0.109 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 threshold of: 21000 mg/kg (2.1%) because: Unlikely to be flammable due to the natural moisture content of the soils.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0131%)

Classification of sample: WS105[3]

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

Sample details

Sample name:
WS105[3]
Sample Depth:
4.20 m
Moisture content:
37%
(wet weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 37% Wet Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		27	mg/kg	1.32	22.459	mg/kg	0.00225 %	✓	
2	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.9	mg/kg	1.142	0.648	mg/kg	0.0000648 %	✓	
3	chromium in chromium(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 chromium(III) compounds { * chromium(III) oxide (worst case) }		215-160-9	1308-38-9		30	mg/kg	1.462	27.623	mg/kg	0.00276 %	✓	
5	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		45	mg/kg	1.126	31.919	mg/kg	0.00319 %	✓	
6	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	47	mg/kg	1.56	46.186	mg/kg	0.00296 %	✓	
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		40	mg/kg	2.976	75.002	mg/kg	0.0075 %	✓	
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	1.239	mg/kg	0.000124 %	✓	
10	zinc { zinc sulphate }	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		120	mg/kg	2.469	186.679	mg/kg	0.0187 %	✓	
11	* TPH (C6 to C40) petroleum group			TPH		1190	mg/kg		749.7	mg/kg	0.075 %	✓	
12	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
13	benzene	601-020-00-8	200-753-7	71-43-2		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
14	toluene	601-021-00-3	203-625-9	108-88-3		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
15	ethylbenzene	601-023-00-4	202-849-4	100-41-4		<5	mg/kg		<5	mg/kg	<0.0005 %		<LOD
16	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<8	mg/kg		<8	mg/kg	<0.0008 %		<LOD
17	pH			PH		7.6	pH		7.6	pH	7.6 pH		
18	cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
19	naphthalene	601-052-00-2	202-049-5	91-20-3		0.44	mg/kg		0.277	mg/kg	0.0000277 %	✓	
20	acenaphthylene		205-917-1	208-96-8		0.34	mg/kg		0.214	mg/kg	0.0000214 %	✓	
21	acenaphthene		201-469-6	83-32-9		0.23	mg/kg		0.145	mg/kg	0.0000145 %	✓	
22	fluorene		201-695-5	86-73-7		0.5	mg/kg		0.315	mg/kg	0.0000315 %	✓	
23	phenanthrene		201-581-5	85-01-8		1	mg/kg		0.63	mg/kg	0.000063 %	✓	
24	anthracene		204-371-1	120-12-7		0.55	mg/kg		0.347	mg/kg	0.0000347 %	✓	
25	fluoranthene		205-912-4	206-44-0		2.1	mg/kg		1.323	mg/kg	0.000132 %	✓	
26	pyrene		204-927-3	129-00-0		2.5	mg/kg		1.575	mg/kg	0.000158 %	✓	
27	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.68	mg/kg		0.428	mg/kg	0.0000428 %	✓	
28	chrysene	601-048-00-0	205-923-4	218-01-9		0.83	mg/kg		0.523	mg/kg	0.0000523 %	✓	
29	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.93	mg/kg		0.586	mg/kg	0.0000586 %	✓	
30	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.3	mg/kg		0.189	mg/kg	0.0000189 %	✓	
31	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.68	mg/kg		0.428	mg/kg	0.0000428 %	✓	
32	indeno[123-cd]pyrene		205-893-2	193-39-5		0.66	mg/kg		0.416	mg/kg	0.0000416 %	✓	
33	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.08	mg/kg		0.0504	mg/kg	0.00000504 %	✓	
34	benzo[ghi]perylene		205-883-8	191-24-2		0.73	mg/kg		0.46	mg/kg	0.000046 %	✓	
35	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
										Total:	0.117 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
*	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
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 threshold of: 21000 mg/kg (2.1%) because: Unlikely to be flammable due to the natural moisture content of the soils.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.075%)

Appendix A: Classifier defined and non GB MCL determinands

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

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

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

Description/Comments: Data from ECHA's C&L and SDS Sigma Aldrich V6 dated 17/9/2019

Threshold for EUH031 based on calculation method in WM3 Box C12.1
Data source: https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/8530
Data source date: 14 May 2020
Hazard Statements: EUH031 >= 1 % , EUH031 , Skin Sens. 1; H317 , STOT RE 2; H373

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

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

GB MCL index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s):
20 Nov 2021 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Acute Tox. 4; H302 , Acute Tox. 1; H330 , Acute Tox. 1; H310 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Aquatic Chronic 2; H411

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Acute Tox. 4; H302 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Carc. 2; H351 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410 , Skin Irrit. 2; H315

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

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

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

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

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

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

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

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

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

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Flam. Liq. 3; H226 , Asp. Tox. 1; H304 , STOT RE 2; H373 , Muta. 1B; H340 , Carc. 1B; H350 , Repr. 2; H361d , Aquatic Chronic 2; H411

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

GB MCL index number: 601-023-00-4
Description/Comments:
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2B (77) 2000

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

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

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 the sample, therefore changed species to zinc sulphate.

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

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide]

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.65.6483.11817 (06 Mar 2025)
HazWasteOnline Database: 2025.65.6483.11817 (06 Mar 2025)

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

Appendix D Geotechnical Testing Results

LABORATORY REPORT

Contract Number: PSL25/0930

Report Date: 28 February 2025

Client's Reference: 6359

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

For the attention of: Emily Sykes

Contract Title: UK Greetings, Bretton Park Way

Date Received: 06/02/2025
Date Commenced: 06/02/2025
Date Completed: 26/02/2025

Notes: Opinions and Interpretations are outside the UKAS Accreditation

Checked and Approved Signatories:

A Watkins (Managing Director)	R Berriman (Associate Director)	S Royle (Laboratory Manager)
L Knight (Assistant Laboratory Manager)	D Nicholson (Senior Technician)	T Watkins (Senior Technician)

5 – 7 Hexthorpe Road,
Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BHRC102		D	5.00		Brown mottled grey sandy slightly gravelly CLAY.
BHRC101		U100	4.00	4.45	Soft brown very sandy CLAY.
BHRC102		B	7.00	7.50	Brown slightly silty very sandy GRAVEL with cobbles.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Bretton Park Way

Contract No:
PSL25/0930
Client Ref:
6359

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
BHRC102		**D**	**5.00**		**30.8**			**33**	**22**	**11**	**94**	**Low Plasticity CIL**

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

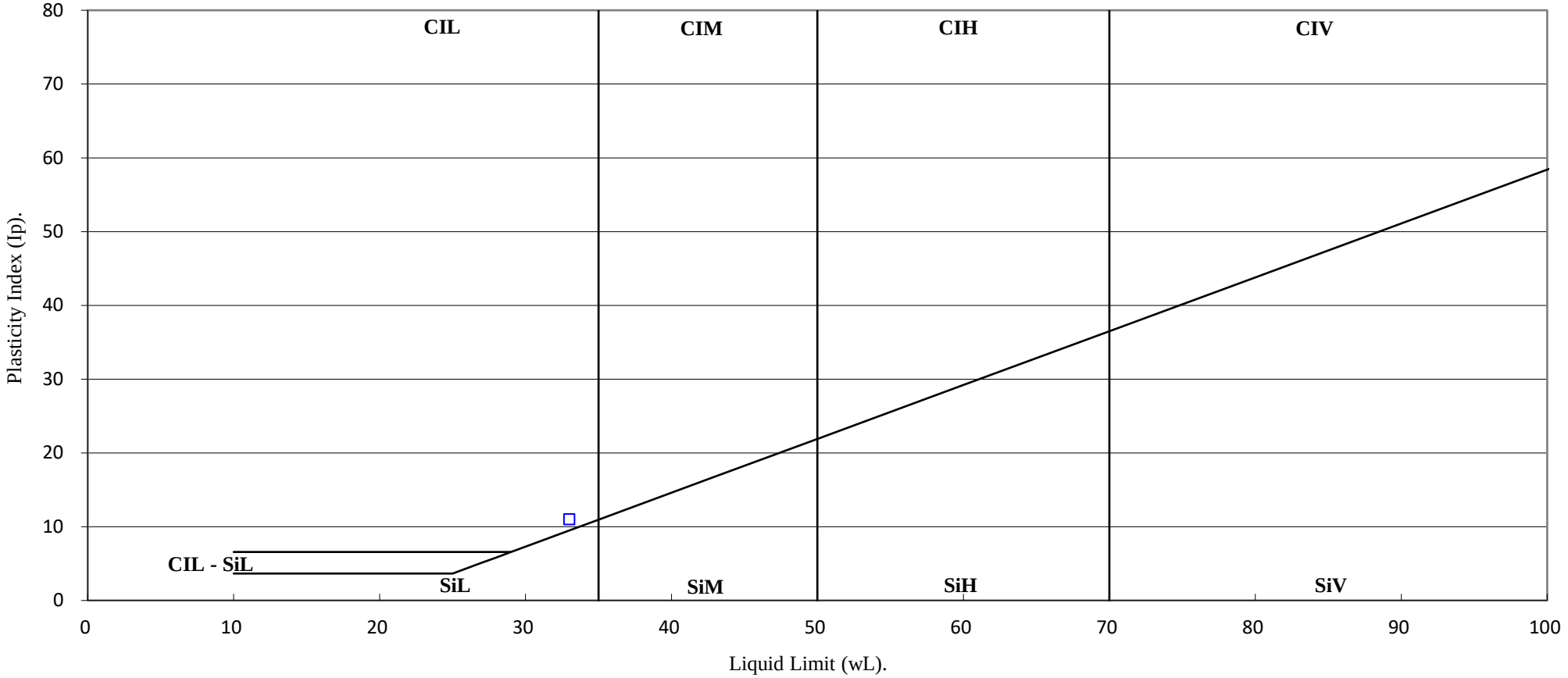
PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Bretton Park Way

Contract No:
PSL25/0930
Client Ref:
6359

PLASTICITY CHART

BS EN ISO 14688-2:2017 Clause 4.4



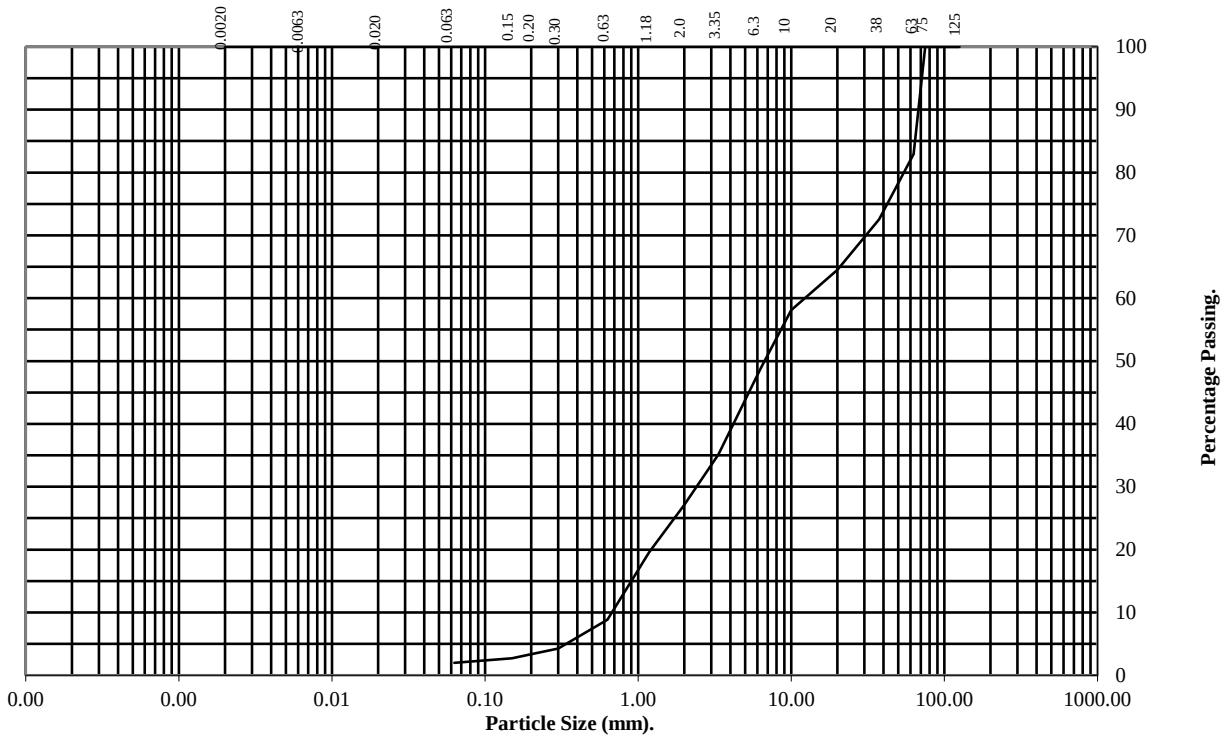
UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**UK Greetings, Bretton Park Way**	**Contract No:**
		PSL25/0930
		Client Ref:
		6359

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:	**BHRC102**	**Top Depth (m):**	**7.00**
Sample Number:		**Base Depth (m):**	**7.50**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	83
37.5	73
20	65
10	58
6.3	49
3.35	35
2	27
1.18	20
0.63	9
0.3	4
0.2	3
0.15	3
0.063	2

Soil Fraction	Total Percentage
Cobbles	17
Gravel	56
Sand	25
Silt/Clay	2

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

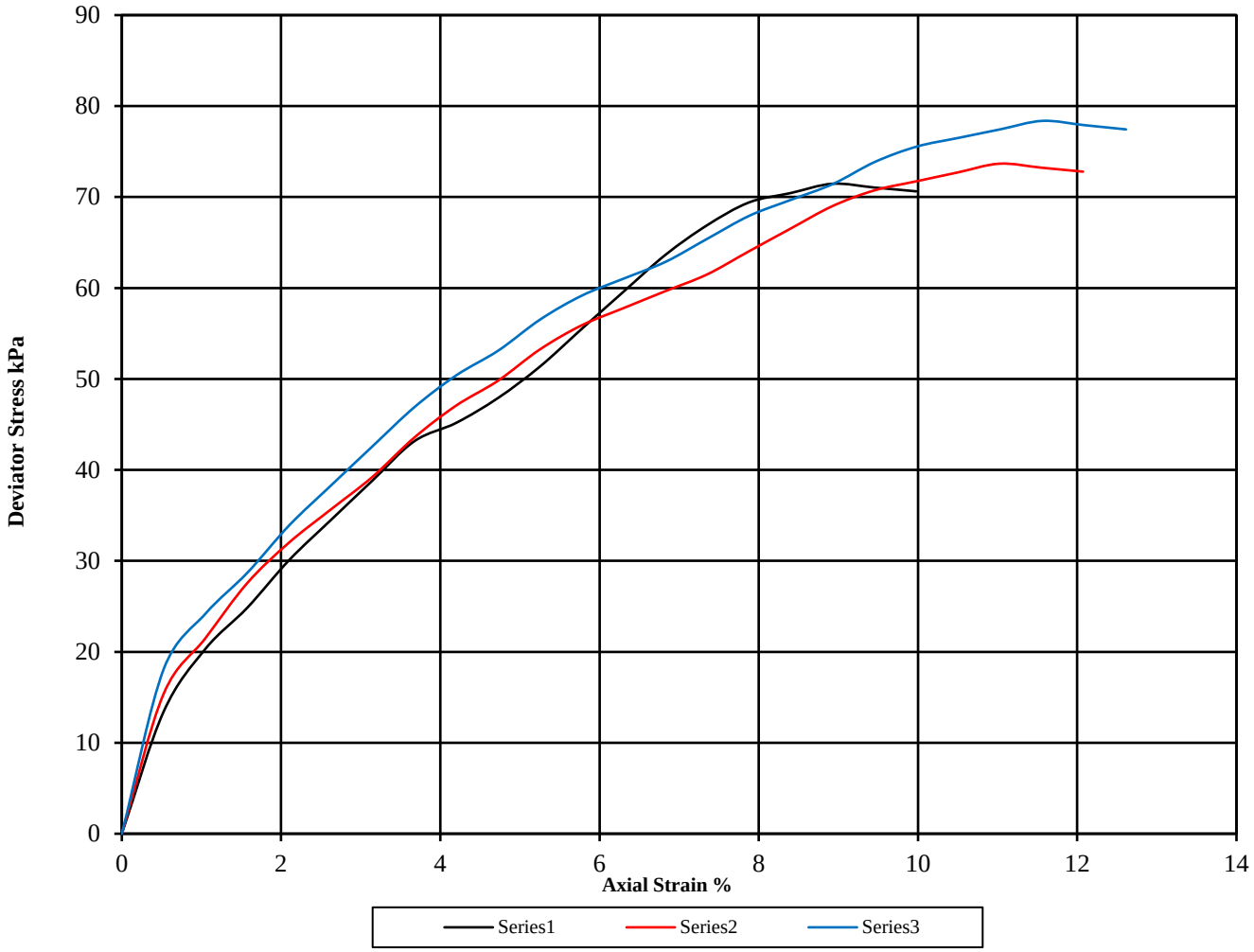
UK Greetings, Bretton Park Way

Contract No:
PSL25/0930
Client Ref:
6359

UNCONSOLIDATED UNDRAINED TRIAXIAL TEST

BS 1377 - Part 2 : 2022 : Clause 28 in accordance with BS EN ISO 17892 - 8 : 2018

Hole Number:	**BHRC101**	**Top Depth (m):**	**4.00**
Sample Number:		**Base Depth (m):**	**4.45**
Sample Type:	**U100**		



Diameter (mm):		38.1	Height (mm):		76.2	Test:	3x38mm Samples.			Remarks
Specimen Ref	Specimen Depth	Water Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Shear Strength (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Specimens obtained by use of 3x38mm cutters from top of tube Rate of strain - 1%/min See summary of soil descriptions
										Spec. 1 / Spec. 2 / Spec. 3
1	4.00	20.4	2.09	1.74	50	71	36	8.9	Intermediate	
2	4.00	20.1	2.09	1.74	100	74	37	11.0	Intermediate	
3	4.00	20.5	2.09	1.74	200	78	39	11.6	Intermediate	

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY

UK Greetings, Bretton Park Way

Contract No: PSL25/0930

Client Ref: 6359

INCREMENTAL LOADING OEDOMETER TEST

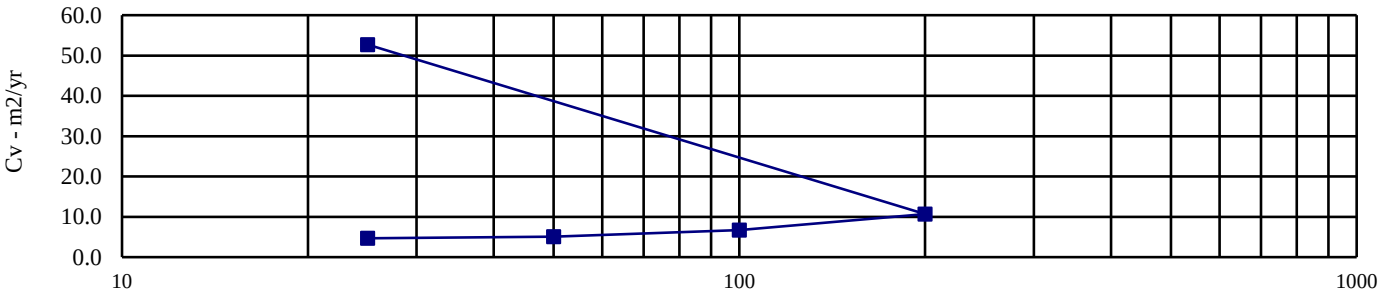
BS 1377 - Part 2 : 2022 : Clause 16 in accordance with BS EN ISO 17892 - 5 : 2017

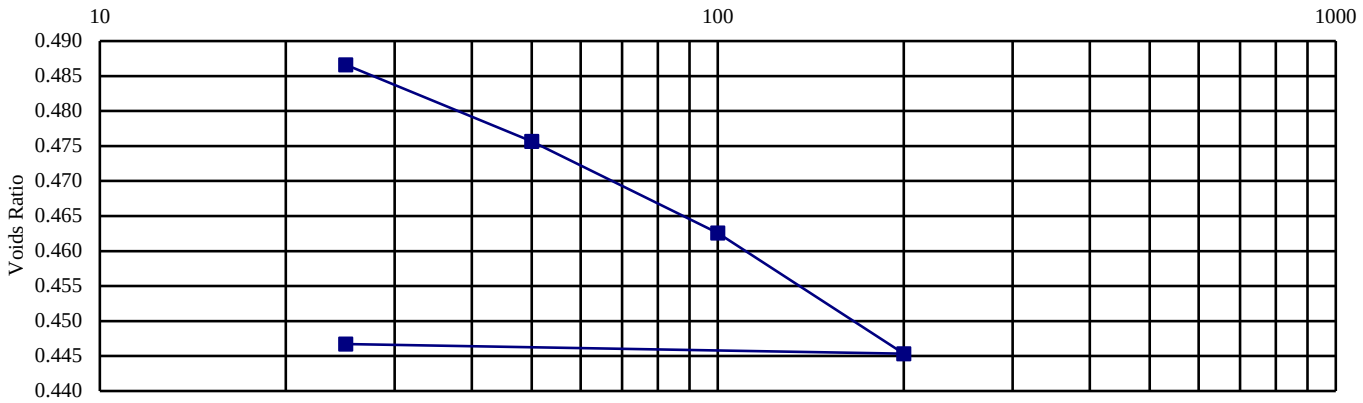
Hole Number: **BHRC101** **Top Depth (m):** **4.00**

Sample Number: **Base Depth (m) :** **4.45**

Sample Type: **UT**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top Vertical
Water Content (%):	20.3						
Bulk Density (Mg/m3):	2.10	0	25	0.849	4.677	Method of preparation:	Trimmed from extruded material
Dry Density (Mg/m3):	1.74	25	50	0.294	5.059		
Voids Ratio:	0.519	50	100	0.178	6.730	Method used to determine CV:	T90
Degree of saturation:	103.5	100	200	0.118	10.670		
Height (mm):	20.018	200	25	0.005	52.701	Nominal temperature during test ' C:	20
Diameter (mm)	75.013						
Particle Density (Mg/m3): Assumed	2.65					Results correct against equipment deformation	Yes





UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**UK Greetings, Bretton Park Way**	**Contract No:** **PSL25/0930** **Client Ref:** **6359**

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BHRC101	13.86	-	A	Perp	81	38	3078	3919.03	62.60	-	0.12	0.03	1.106	0.03	Valid	
BHRC101	15.55	-	A	Perp	82	45	3690	4698.25	68.54	-	0.17	0.04	1.153	0.04	Valid	
BHRC101	17.00	-	A	Perp	83	32	2656	3381.72	58.15	-	8.05	2.38	1.070	2.55	Valid	
BHRC101	19.00	-	A	Perp	85	54	4590	5844.17	76.45	-	18.99	3.25	1.211	3.93	Valid	
BHRC101	20.23	-	A	Perp	84	42	3528	4491.99	67.02	-	1.59	0.35	1.141	0.40	Valid	
BHRC101	21.89	-	A	Perp	84	54	4536	5775.41	76.00	-	1.06	0.18	1.207	0.22	Valid	
BHRC101	22.00	-	A	Perp	84	38	3192	4064.18	63.75	-	1.52	0.37	1.116	0.42	Valid	
BHRC101	23.09	-	A	Perp	83	30	2490	3170.37	56.31	-	1.12	0.35	1.055	0.37	Valid	
BHRC102	15.50	-	A	Perp	84	41	3444	4385.04	66.22	-	0.13	0.03	1.135	0.03	Valid	
BHRC102	17.40	-	A	Perp	84	40	3360	4278.08	65.41	-	11.17	2.61	1.128	2.95	Valid	
BHRC102	19.77	-	A	Perp	82	53	4346	5533.50	74.39	-	0.83	0.15	1.196	0.18	Valid	
BHRC102	21.39	-	A	Perp	82	50	4100	5220.28	72.25	-	2.68	0.51	1.180	0.61	Valid	
BHRC102	22.66	-	A	Perp	80	46	3680	4685.52	68.45	-	2.17	0.46	1.152	0.53	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Bretton Park Way

Contract No:

PSL25/0930

Client Ref:

6359

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BHRC101	17.89	-	D	Par	-	84	7056	84.00	-	5.02	0.711	1.263	0.90	Valid	
BHRC102	13.71	-	D	Par	-	85	7225	85.00	-	0.14	0.019	1.270	0.02	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Bretton Park Way

Contract No:

PSL25/0930

Client Ref:

6359

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**BHRC101**	**Top Depth (m):**	**14.75**
Sample Number:	**-**	**Base Depth (m):**	**15.12**
Sample Type:	**-**	**Sample Date:**	**-**
Storage Condition:	**Sealed in plastic.**	**Date of Receipt**	**06/02/2025**
Sample Description:	**Grey SILTSTONE.**		

Specimen Details/Conditions	
Diameter - mm:	85.00
Height - mm:	211.79
Water Content - %:	0.4
Sample Mass - g:	3370.3
Bulk Density - Mg/m^3:	2.80
Dry Density - Mg/m^3:	2.79
Height Ratio: * Sample does not comply with H:D ratio	2.5
Degree of Saturation - %:	29
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	21/02/2025
Test Duration - mins:	03:31
Orientation:	Perpendicular
Stress Rate - MPa/s:	0.83
Strain at Failure - kN:	1000.30
Unconfined Compressive Strength - Mpa:	176
Mode of Failure:	Vertical Shear

Remarks: -

Professional Soils Laboratory
5/7 Hexthorpe Road
Hexthorpe
Doncaster
DN4 0AR

7 - 11 Harding Street
Leicester
LE1 4DH

Analytical Test Report: L25/02136/PSL - 25-58460

Your Project Reference:	**PSL25/0930 UK Greeting, Bretton Park Way**		
Your Order Number:	PSL25/0930	Samples Received / Instructed:	25/02/2025 / 25/02/2025
Report Issue Number:	1	Sample Tested:	25/02 to 05/03/2025
Samples Analysed:	7 sample(s)	Report issued:	05/03/2025

Signed

James Gane
Analytical Services Manager
CTS

Notes:

General

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

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

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

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.

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

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

This report shall not be reproduce except in full

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

UKAS accreditation on waters only covers the Ground water and Surface water matrices

Date of Issue: 27.02.25

Issued by: J. Gane

Issue No: 4

Rev No: 24

7 - 11 Harding Street
Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Analytical Test Results - Solid

Lab Reference			459047	459048	459049	459050	459051	459052
Client Sample ID			-	-	-	-	-	-
Client Sample Location			BHRC101	BHRC101	BHRC101	BHRC101	BHRC101	BHRC102
Client Sample Type			-	-	-	D	D	D
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			14.75	19.00	23.09	11.50	13.40	5.00
Depth - Bottom (m)			15.12	19.18	23.17	11.50	13.40	5.00
Date of Sampling			-	-	-	-	-	-
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Other	Other	Other	Sand	Clay	Clay
Determinant	**Units**	**Accreditation**						
Sulphate (Acid Soluble)	(%)	u	< 0.01	0.01	0.02	0.02	0.03	0.10

7 - 11 Harding Street
Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Analytical Test Results - Solid

Lab Reference			459053
Client Sample ID			-
Client Sample Location			BHRC102
Client Sample Type			B
Client Sample Number			-
Depth - Top (m)			7.00
Depth - Bottom (m)			7.50
Date of Sampling			-
Time of Sampling			-
Sample Matrix			Sand
Determinant	**Units**	**Accreditation**	
Sulphate (Acid Soluble)	(%)	u	0.12

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Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Analytical Test Results - Chemical Analysis

Lab Reference			459047	459048	459049	459050	459051	459052
Client Sample ID			-	-	-	-	-	-
Client Sample Location			BHRC101	BHRC101	BHRC101	BHRC101	BHRC101	BHRC102
Client Sample Type			-	-	-	D	D	D
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			14.75	19.00	23.09	11.50	13.40	5.00
Depth - Bottom (m)			15.12	19.18	23.17	11.50	13.40	5.00
Date of Sampling			-	-	-	-	-	-
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Other	Other	Other	Sand	Clay	Clay
Determinant	**Units**	**Accreditation**						
Water soluble sulphate (as SO_4)	(mg/l)	u	22	45	46	42	100	290
pH Value	pH Units	MCERTS	8.9	8.4	8.0	8.2	8.7	7.1

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Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Analytical Test Results - Chemical Analysis

Lab Reference			459053
Client Sample ID			-
Client Sample Location			BHRC102
Client Sample Type			B
Client Sample Number			-
Depth - Top (m)			7.00
Depth - Bottom (m)			7.50
Date of Sampling			-
Time of Sampling			-
Sample Matrix			Sand
Determinant	**Units**	**Accreditation**	
Water soluble sulphate (as SO_4)	(mg/l)	u	540
pH Value	pH Units	MCERTS	4.8

7 - 11 Harding Street
Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

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 (%)
459047	-	BHRC101	-	-	Grey crushed rock	-	-	100
459048	-	BHRC101	-	-	Grey crushed rock	-	-	100
459049	-	BHRC101	-	-	Grey crushed rock	-	-	100
459050	-	BHRC101	D	-	Brown very gravelly silty sand	-	-	53
459051	-	BHRC101	D	-	Grey slightly gravelly silty clay	-	-	100
459052	-	BHRC102	D	-	Dark grey slightly gravelly silty clay	-	-	100
459053	-	BHRC102	B	-	Brown very gravelly silty sand	-	-	41

7 - 11 Harding Street
Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
459047	-	BHRC101	-	-	
459048	-	BHRC101	-	-	
459049	-	BHRC101	-	-	
459050	-	BHRC101	D	-	
459051	-	BHRC101	D	-	
459052	-	BHRC102	D	-	
459053	-	BHRC102	B	-	

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LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

Analysis Methodologies

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preperation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
ASSO4S	MS - CL - Acid Soluble Sulphate	Oven Dried	Passing 2mm test sieve	Determination of total sulphate in soils by acid extraction followed by ICP analysis
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis

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Leicester
LE1 4DH

L25/02136/PSL - 25-58460

Project Reference - PSL25/0930 UK Greeting, Bretton Park Way

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 for water sample
C - Received in inappropriate container
H - Contains headspace
T - Temperature on receipt exceeds storage temperature
R - Sample(s) received with less than 96 hours 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
459047	-	BHRC101	-	-		A
459048	-	BHRC101	-	-		A
459049	-	BHRC101	-	-		A
459050	-	BHRC101	D	-		A
459051	-	BHRC101	D	-		A
459052	-	BHRC102	D	-		A
459053	-	BHRC102	B	-		A

LABORATORY REPORT

Contract Number: PSL25/1041

Report Date: 21 March 2025

Client's Reference: 6359

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

For the attention of: Emily Sykes

Contract Title: UK Greetings, Dewsbury

Date Received: 12/02/2025
Date Commenced: 12/02/2025
Date Completed: 21/03/2025

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)
D Nicholson (Senior Technician)
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
BHRC101		B	5.00	5.50	Brown silty very sandy GRAVEL.
BHRC101		B	12.50	13.00	Brown mottled grey slightly silty very sandy GRAVEL.
BHRC102		B	8.50	9.00	Brown slightly silty sandy GRAVEL.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Dewsbury

Contract No:

PSL25/1041

Client Ref:

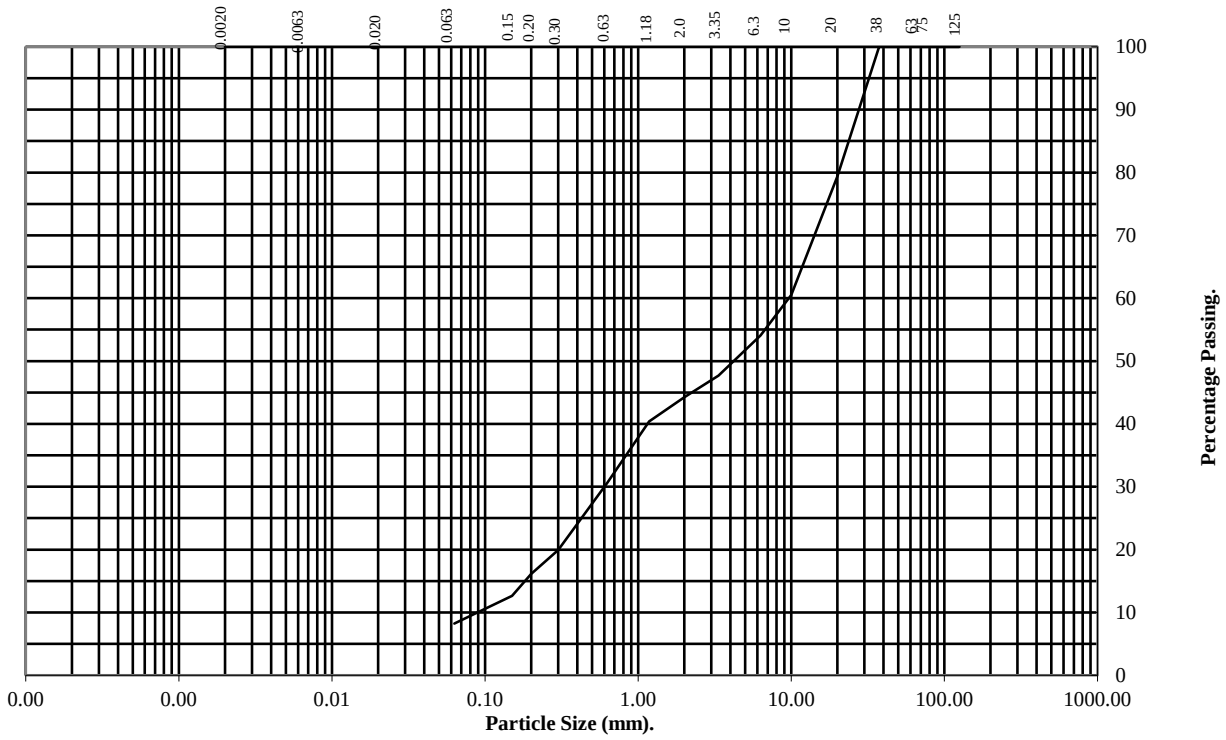
6359

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:	**BHRC101**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth (m):**	**5.50**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	79
10	61
6.3	54
3.35	48
2	44
1.18	40
0.63	31
0.3	20
0.2	16
0.15	13
0.063	8

Soil Fraction	Total Percentage
Cobbles	0
Gravel	56
Sand	36
Silt/Clay	8

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Dewsbury

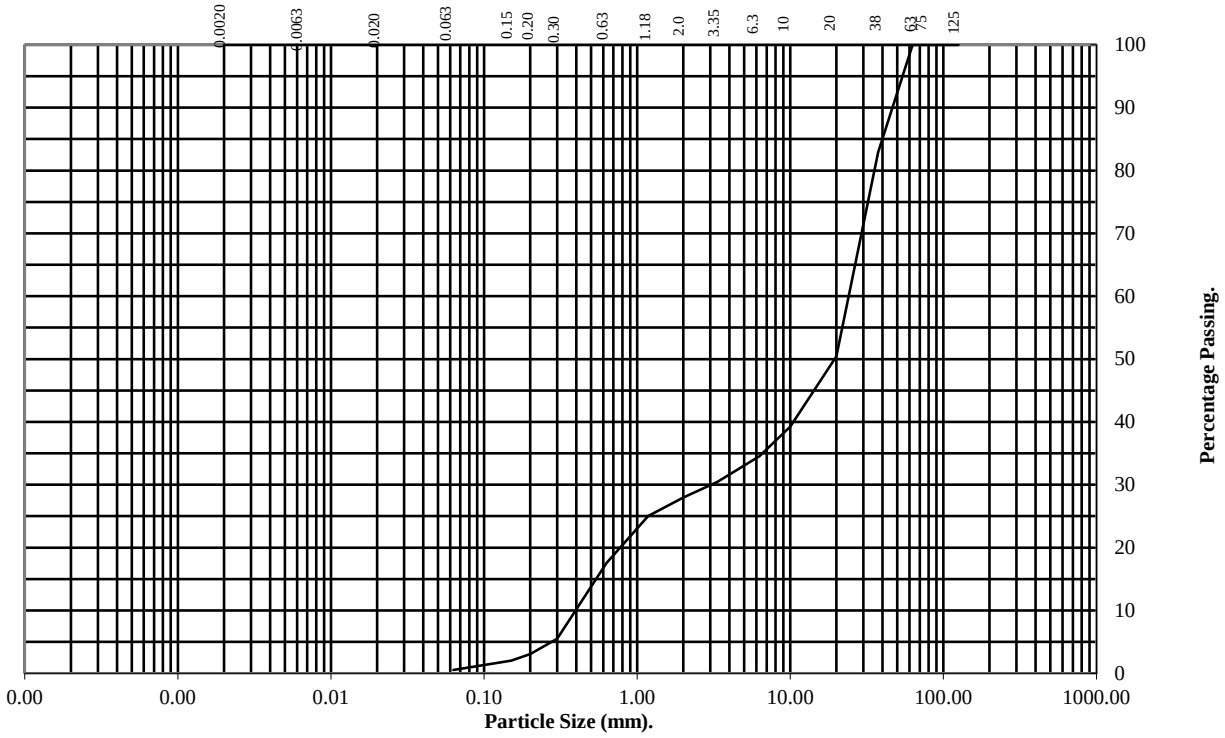
Contract No:
PSL25/1041
Client Ref:
6359

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:	**BHRC101**	**Top Depth (m):**	**12.50**
Sample Number:		**Base Depth (m):**	**13.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	83
20	50
10	39
6.3	35
3.35	30
2	28
1.18	25
0.63	18
0.3	6
0.2	3
0.15	2
0.063	1

Soil Fraction	Total Percentage
Cobbles	0
Gravel	72
Sand	27
Silt/Clay	1

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Dewsbury

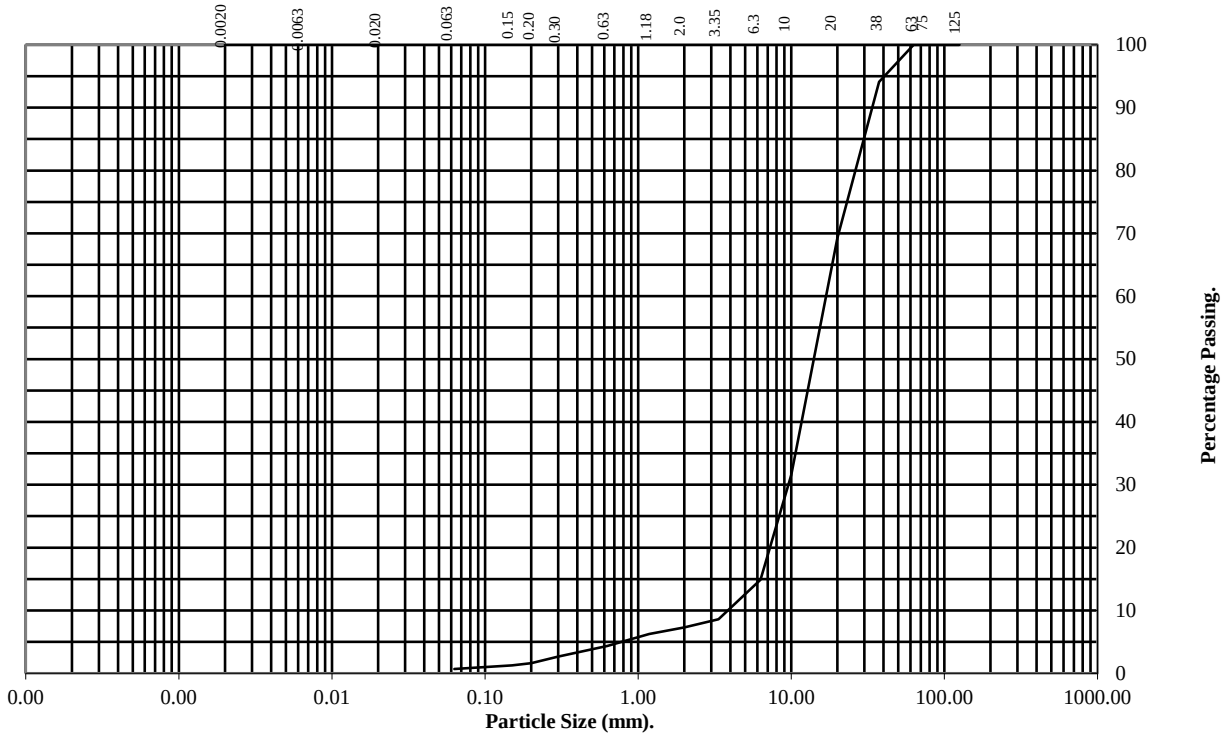
Contract No:
PSL25/1041
Client Ref:
6359

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:	**BHRC102**	**Top Depth (m):**	**8.50**
Sample Number:		**Base Depth (m):**	**9.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	94
20	69
10	32
6.3	15
3.35	9
2	7
1.18	6
0.63	4
0.3	3
0.2	2
0.15	1
0.063	1

Soil Fraction	Total Percentage
Cobbles	0
Gravel	93
Sand	6
Silt/Clay	1

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

UK Greetings, Dewsbury

Contract No:
PSL25/1041
Client Ref:
6359

Appendix E Gas and Groundwater Monitoring Results

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury
Job No: 6359 **Client:** UK Greetings
Visit No: 1 **Date:** 27/01/2025

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	
BHRC101	0.1	0.1	1.9	0.1	0.1	1.9	5	118	16.7	0.0	0.0	5.10	23.45
BHRC102	0.1	0.1	0.2	0.1	0.1	0.2	0	2	21.1	0.0	0.0	4.95	23.45
WS102	0.1	0.1	0.1	0.1	0.1	0.1	0	0	21.3	0.0	0.0	Dry	4.50
WS103	0.2	0.2	0.1	0.2	0.2	0.1	0	0	20.9	0.1	0.1	Dry	4.70
WS104	0.1	0.1	0.8	0.1	0.1	0.8	0	0	20.9	0.0	0.0	Dry	4.80

Ambient Concentration (% volume): CH_4 0.2 %v/v; CO_2 0.1 %v/v; O_2 20.8 %v/v

Barometric Pressure: Start 968; End 969
Barometric Pressure Trend: Rising locally and regionally
Weather: Overcast

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 14.Jan.2025
Operator: AJS

Key	Remarks
NR - Not Recorded NA - Not Applicable	

Checked: JBW **Approved:** JBW

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury
Job No: 6359 **Client:** UK Greetings
Visit No: 2 **Date:** 04/02/2025

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	
BHRC101	0.0	0.0	1.7	0.0	0.0	1.7	2	2	17.8	0.1	0.1	5.30	23.30
BHRC102	0.0	0.0	0.1	0.0	0.0	0.1	2	1	20.6	0.1	0.1	5.15	22.90
WS102	0.0	0.0	0.1	0.0	0.0	0.1	2	1	20.3	0.0	0.0	Dry	4.50
WS103	0.0	0.0	0.2	0.0	0.0	0.2	2	1	20.4	0.2	0.2	Dry	4.70
WS104	0.0	0.0	1.2	0.0	0.0	1.2	2	1	20.0	0.2	0.2	Dry	4.80

Ambient Concentration (% volume): **CH_4** 0.1 %v/v **CO_2** 0.1 %v/v
O_2 20.8 %v/v

Barometric Pressure: **Start** 1008
End 1009
Barometric Pressure Trend: Rising locally and regionally
Weather: Overcast

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 14.Jan.2025
Operator: EJS

Key	Remarks
NR - Not Recorded NA - Not Applicable	

Checked: JBW **Approved:** JBW

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury

Job No: 6359 **Client:** UK Greetings

Visit No: 3 **Date:** 12/02/2025

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	
BHRC101	0.0	0.0	1.8	0.1	0.0	1.8	0	1	18.1	0.2	0.2	5.60	23.30
BHRC102	0.0	0.0	1.2	0.1	0.0	1.0	0	0	21.0	0.3	0.3	5.20	22.90
WS102	0.0	0.0	1.0	0.1	0.0	0.4	0	0	19.1	0.1	0.1	Dry	4.50
WS103	0.0	0.0	0.4	0.1	0.0	1.5	0	0	20.9	0.1	0.1	Dry	4.70
WS104	0.0	0.0	1.5	0.1	0.0	1.2	0	0	19.4	0.3	0.3	Dry	4.80

Ambient Concentration (% volume): CH_4 0.0 %v/v; CO_2 0.1 %v/v; O_2 20.8 %v/v

Barometric Pressure: Start 996; End 998

Barometric Pressure Trend: Rising locally and regionally

Weather: Overcast

Monitoring Equipment: GA5000

Serial Number of Equipment: G505491

Date of Last Calibration: 14.Jan.2025

Operator: EJS

Key	Remarks
NR - Not Recorded NA - Not Applicable	

Checked: JBW **Approved:** JBW

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury
Job No: 6359 **Client:** UK Greetings
Visit No: 4 **Date:** 21/02/2025

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	
BHRC101	0.0	0.0	2.8	0.0	0.0	2.8	3	3	16.7	0.3	0.3	5.60	23.30
BHRC102	0.0	0.0	0.1	0.0	0.0	0.1	3	1	21.5	0.0	0.0	5.40	22.90
WS102	0.0	0.0	0.1	0.0	0.0	0.1	3	1	20.0	0.2	0.2	Dry	4.50
WS103	0.0	0.0	0.1	0.0	0.0	0.1	3	1	21.0	0.0	0.0	Dry	4.70
WS104	0.0	0.0	0.6	0.0	0.0	0.6	3	1	20.9	0.0	0.0	Dry	4.80

Ambient Concentration (% volume): CH_4 0.0 %v/v; CO_2 0.0 %v/v; O_2 20.4 %v/v

Barometric Pressure: Start 997; End 998
Barometric Pressure Trend: Rising locally, falling regionally
Weather: Overcast

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 14.Jan.2025
Operator: EJS

Key	Remarks
NR - Not Recorded NA - Not Applicable	

Checked: JBW **Approved:** JBW

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury

Job No: 6359 **Client:** UK Greetings

Visit No: 5 **Date:** 26/02/2025

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	
BHRC101	0.0	0.0	3.2	0.0	0.0	3.2	2	2	16.60	0.1	0.1	5.60	23.30
BHRC102	0.0	0.0	0.1	0.0	0.0	0.1	2	1	21.30	0.2	0.2	5.45	22.90
WS102	0.0	0.0	0.3	0.0	0.0	0.3	2	1	20.70	0.2	0.2	Dry	4.50
WS103	0.0	0.0	0.4	0.0	0.0	0.4	2	0	21.30	0.4	0.4	Dry	4.70
WS104	0.0	0.0	1.9	0.0	0.0	1.9	2	0	19.70	0.2	0.2	Dry	4.80

Ambient Concentration (% volume):		**CH_4**	0.1	%v/v	**CO_2**	0.1	%v/v
		O_2	20.0	%v/v			
Barometric Pressure:	**Start**	1001			**Monitoring Equipment:**		GA5000
	End	1003			**Serial Number of Equipment:**		G505491
Barometric Pressure Trend:		Rising locally, falling regionally.			**Date of Last Calibration:**		14.Jan.2025
Weather:		Overcast			**Operator:**		EJS

Key	**Remarks**
NR - Not Recorded NA - Not Applicable	

Checked:	JBW	**Approved:**	**JBW**				

GAS AND GROUNDWATER MONITORING RESULTS

Site: UK Greetings, Bretton Park Way, Dewsbury
Job No: 6359 **Client:** UK Greetings
Visit No: 6 **Date:** 06/03/2025

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	
BHRC101	0.0	0.0	4.2	0.0	0.0	4.2	2	1	14.9	0.1	0.1	5.59	23.30
BHRC102	0.0	0.0	0.8	0.0	0.0	0.3	1	1	19.9	0.1	0.1	5.47	22.90
WS102	0.0	0.0	0.6	0.0	0.0	0.6	1	1	19.1	0.5	0.5	Dry	4.50
WS103	0.0	0.0	0.4	0.0	0.0	0.4	1	0	20.2	0.0	0.0	Dry	4.70
WS104	0.0	0.0	2.6	0.0	0.0	2.5	2	0	18.6	0.1	0.1	Dry	4.80

Ambient Concentration (% volume): CH_4 0.0 %v/v; CO_2 0.1 %v/v; O_2 20.9 %v/v

Barometric Pressure: Start 1004; End 1006
Barometric Pressure Trend: Rising locally, falling regionally
Weather: Sunny

Monitoring Equipment: GA5000
Serial Number of Equipment: G505491
Date of Last Calibration: 14.Jan.2025
Operator: DMH

Key	Remarks
NR - Not Recorded NA - Not Applicable	

Checked: JBW **Approved:** JBW

Appendix F Notes on Limitations

General

JPG (Leeds) Limited have prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from JPG (Leeds) Limited; a charge may be levied against such approval.

JPG (Leeds) Limited accepts no responsibility or liability for:

a) The consequences of this document being used for any purpose or project other than for which it was commissioned, and
b) The use of this document by any third party with whom an agreement has not been executed.

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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