

Sketchley Lane, Burgage

Interpretative Ground Investigation Report



Report for:

Persimmon Homes North Midlands

Reference:

P0866/CS-2132

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CONTENTS

1	INTRODUCTION	1
1.1	CONTRACT DETAILS	1
1.2	PROPOSED DEVELOPMENT	1
1.3	PREVIOUS REPORTS	1
1.4	OBJECTIVES	1
1.5	SCOPE OF WORKS	1
1.6	REPORT LIMITATIONS	1
2	SITE INFORMATION	2
2.1	SITE LOCATION	2
2.2	SITE DESCRIPTION	2
2.3	ENVIRONMENTAL SETTING	3
3	PRELIMINARY CONCEPTUAL SITE MODEL.....	4
3.1	BACKGROUND	4
3.2	POTENTIAL CONTAMINATION SOURCES	4
3.3	EXPOSURE PATHWAYS	4
3.4	POTENTIAL RECEPTORS	4
3.5	PRELIMINARY QUALITATIVE RISK ASSESSMENT	4
4	SCOPE OF WORK.....	6
4.1	SUMMARY OF FIELDWORK	6
4.2	SOIL SAMPLING	6
5	SUMMARY OF GROUND CONDITIONS	7
5.1	ENCOUNTERED STRATA	7
5.2	EVIDENCE OF CONTAMINATION	8
5.3	BELOW GROUND STRUCTURES AND OBSTRUCTIONS	8
5.4	GROUNDWATER	8
6	SUMMARY OF LABORATORY ANALYSES.....	9
6.1	GEOTECHNICAL TESTING	9
6.2	CHEMICAL TESTING	9
7	HUMAN HEALTH AND PHYTOTOXIC RISK ASSESSMENT.....	10
7.1	INTRODUCTION	10
7.2	DETERMINATION OF AVERAGING AREAS/ZONES	10
7.3	HUMAN HEALTH AND PHYTOTOXIC SCREENING ASSESSMENT	10
7.4	DISCUSSION	10
8	CONTROLLED WATERS RISK ASSESSMENT	11
8.1	OVERVIEW OF HYDROGEOLOGICAL SETTING	11
8.2	RISK EVALUATION	11
9	POTABLE SUPPLY PIPEWORK RISK ASSESSMENT.....	12
10	REFINED CONCEPTUAL SITE MODEL.....	13
10.1	OVERVIEW	13
10.2	SOURCES	13
10.3	RISK EVALUATION	13
11	PRELIMINARY WASTE ASSESSMENT	15
11.1	WASTE HIERARCHY	15
11.2	ON-SITE RE-USE OF MATERIALS	15
11.3	WASTE DISPOSAL TO LANDFILL	15
11.4	RECOMMENDATIONS	16
12	COMMENTS ON ENGINEERING DESIGN	18

12.1	GENERAL	18
12.2	CONSTRUCTION CONSIDERATIONS	18

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APPENDICES

A	DRAWINGS
B	PHOTOGRAPHS
C	EXPLORATORY LOGS
D	GEOTECHNICAL RESULTS
E	CHEMICAL RESULTS AND SCREENING ASSESSMENT
F	HAZWASTE REPORT

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1 INTRODUCTION

1.1 Contract Details

Following instruction from Persimmon Homes North Midlands (the 'client'), this report presents the results of a Supplementary Ground Investigation undertaken for a proposed residential development at Sketchley Lane, Burgage (the 'site').

1.2 Proposed Development

Information presented to T&P Regeneration Ltd (T&P) indicates that the proposed development is intended to comprise the construction of 150N^o traditional two storey residential dwellings with associated areas of communal and private soft landscaping with hard landscaped access and parking. A development layout plan is included in Appendix A.

1.3 Previous Reports

Previous reports pertaining to the site are listed in Table 1.1. Pertinent information is summarised in this report where appropriate. However, reference should be made to these reports directly for further detail.

Table 1.1 Summary of Previous Reports

Date	Title	Reference	Author
March 2024	Ground Investigation Report	P0866/CS-1745	T&P Regeneration
March 2024	Supplementary Ground Investigation Report	P0866/CS-1842	

1.4 Objectives

Following completion of previous investigation, the purpose of this investigation is to further assess the environmental and geotechnical conditions of soils beneath previously inaccessible areas of the site in a farmyard area as requested by the client, confirm an absence of gross contamination, and to derive piling design parameters.

1.5 Scope of Works

The scope of works to fulfil the purpose of the assessment has included the following:

- Intrusive ground investigation comprising windowless dynamic sampling and rotary drilling;
- Collection of soil samples for chemical and geotechnical laboratory analysis;
- Assessment of chemical and geotechnical test results;
- Refinement of conceptual site model and update to environmental risk assessment; and,
- Presentation of geotechnical information to assist with piled foundation design.

1.6 Report Limitations

The recommendations, interpretations and conclusions of this report are based on the historical and current site conditions reported by database and mapping sources as supplemented with information gathered during on-site visits. No responsibility can be accepted for the accuracy of third party information including reference data contained within site specific database reports. Due to the inherent variability of ground conditions between exploratory hole positions, these conditions can only be interpreted and are accurate only for the date of the investigation works.

2 SITE INFORMATION

2.1 Site Location

Site location information is summarised in Table 2.1. A Site Location Plan is presented within Appendix A.

Table 2.1 Site Location Information

Information	Description
Full postal address	Sketchley Lodge, Sketchley Lane, Burbage, Hinckley, LE10 3HU
National Grid Reference (NGR)	442476, 291913

2.2 Site Description

A summary of pertinent site information is provided in Table 2.2 with reference to information in previous reports

Table 2.2 Summary of Site Information

Information	Description
Site access	The site is accessed via an electric gate located off the adjacent Sketchley Lane, which runs parallel to the northern boundary.
Site description including current site use and dimensions/area (ha)	The site is irregular in shape measuring approximately 310m north to south and 620m east to west, coving approximately 12.73 ha. The site contains the current farmyard located in the northern site area and comprises an open sided hay barn, cattle shed, machinery area and a disused poultry barn. The majority of the site is spread across 8No agricultural fields located to the south of the farmyard.
Site elevation and topography	The site elevation ranges between 118 and 102 metres Above Ordnance Datum (mAOD). The site is generally level in the northern region of the site and becomes sloped down towards the south.
Ground cover (%)	The site ground cover comprises: • Soft landscaping (grass/planting) - 75% • Hard landscaping (tarmacadam/concrete/ buildings) - 15% • Dense vegetation - 5% • Buildings - 5%
Site boundaries	North
	South
	East
	West
	Mature vegetation, post and wire fencing and electric fencing.
Surrounding land uses	North
	East
	South
	West
	Sketchley Grange Hotel and an industrial estate to the north.
	The town of Burbage with residential properties to the east.
	To the south-west the site is bounded by the A5, beyond which are agricultural fields

2.3 Environmental Setting

Pertinent environmental information within the available previous T&P Desk Study report has been reviewed and is summarised in Table 2.3.

Table 2.3 Summary of Site Setting from Desk Study Information

Information	Description
Site history	From the earliest maps the majority of the site has remained undeveloped agricultural land. A small building, likely an animal shelter, is depicted in the earlier maps in the northeastern area of the site but is no longer present by the 1950s. A second small structure located in the north-western area remains to the present day. A small pond is featured on the early maps in the south-eastern field but is no longer shown post 1924. Development of the current farmyard area is first recorded on the 1993 map with a square structure at the eastern end of the current hay barn/ cattle shed/ storage area. Available aerial imagery infers this barn was extended firstly between 1999 and 2006, and then again post 2016.
Geology	The site is shown to be underlain by four different glacial superficial deposits; • Dunsmore Gravel – outcropping north east corner, • Oadby Till Member – outcropping northern portion and beneath Dunsmore Gravel, • Wolston Sand and Gravel - outcropping in western and southern areas. • Wolston Clay – outcropping eastern area Underlying these deposits is bedrock geology of the Mercia Mudstone Group.
Mining and geotechnical hazards	The site is located within an area that is unlikely to be affected by coal mining. Compressible ground stability is assessed as moderate risk across the southern portion of the site. All remaining land stability hazards are rated low to negligible risk.
Hydrology and hydrogeology	The four superficial deposits encountered on site have been identified as: • Dunsmore Gravel – Secondary A Aquifer. • Oadby Till Member - Secondary Undifferentiated Aquifer. • Wolston Sand and Gravel – Secondary A Aquifer. • Wolston Clay – Unproductive. The underlying Mercia Mudstone Group is classified as a Secondary B Aquifer. The site is not located within a groundwater Source Protection Zone. There are no licensed surface water or groundwater abstractions within 500m of the site. Groundwater vulnerability is classified by the Environment Agency as medium vulnerability. The nearest surface water feature is the Sketchley Brook located along the southern boundary.
Environmental designations	There are no sensitive environmental designations on or near the site.
Radon	No radon protection measures are required.
Background soil geochemistry	The site is not located in an area of where naturally elevated soil metal concentrations are anticipated.
Flood risk	The site is located in a Flood Risk Zone 1. However, due to the size of the site (>1ha), a Flood Risk Assessment is likely to be required to support redevelopment.
UXO	The site is located in a low UXO risk area.

3 PRELIMINARY CONCEPTUAL SITE MODEL

3.1 Background

A risk assessment has been carried out under the governing terms set by Part 2A of the Environmental Protection Act 1990, statutory guidance entitled 'Contaminated Land Statutory Guidance (April 2012)' and in accordance with UK's risk assessment framework¹.

The conceptual site model for the site has been developed with consideration of national guidance² which provides a framework for risk estimation and evaluation of plausible source-pathway-receptor linkages identified in the context of a proposed residential development.

3.2 Potential Contamination Sources

Following completion of the previous intrusive works, only a single potential contamination source was considered to remain; made ground within the former farmyard area. As such, no other conceptual areas of potential concern have been considered within this report, and the assessments contained herein are presented in the context of refining outstanding potential risks to human health, flora, fauna and controlled waters associated with ground conditions in the former farmyard only.

Based upon the above, the following potential contaminants have been identified for consideration:

- Metals.
- Hydrocarbons.

3.3 Exposure Pathways

With consideration of the site setting and proposed development, potentially active exposure pathways are included in Table 3.1.

3.4 Potential Receptors

Identified receptors with regard to the current site setting and future proposed development are included in Table 3.1. The following receptors have been discounted from further consideration:

- Construction workers – it is considered that risks during the construction works will be managed appropriately to mitigate short term risks through measures such as use of Personal Protective Equipment (PPE), hygiene practices and other on-site controls as outlined in their Construction Phase Health and Safety Plan and method statements/risk assessments.
- Current site users – in the context of the proposed development for the site, future residents represent a more sensitive receptor than current site users, and as such, consideration of potential risks to future residents will be suitably protective of current site users. As such, current site users will not be considered separately within have been identified.

3.5 Preliminary Qualitative Risk Assessment

A preliminary conceptual site model was developed previously, based on T&P Desk Study information. Table 3.1 summarises those source-pathway-receptor relationships or "contaminant linkages" that have been considered further as part of this assessment.

¹ Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

² Annex 4 - Guidance for the Safe Development of Housing on land Affected by Contamination R&D66. NHBC. 2008.

Table 3.1 Summary of Source-Pathway-Receptor Relationships

APC N°	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	
1	<u>On-site</u> Made ground in farmyard area.	Oral ingestion	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	Access within the footprint of the farmyard buildings was not permitted during previous investigation.
		Vegetable uptake	Future residents	Medium	Low likelihood	Moderate/Low	
		Dermal contact	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	
		Dust migration/inhalation	Future residents, maintenance workers and off-site residents/workers	Medium	Low likelihood	Moderate/Low	
		Leaching/dissolution with vertical migration to groundwater	Groundwater	Medium	Low likelihood	Moderate/Low	
		Leaching/dissolution with vertical migration to groundwater, and lateral migration in groundwater	Surface water	Medium	Low likelihood	Moderate/Low	
		Overland flow	Surface water	Medium	Low likelihood	Moderate/Low	
		Migration via existing service trenches	Groundwater/surface water	Medium	Low likelihood	Moderate/Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater and subsequent volatilisation	Future residents, maintenance workers and off-site residents/workers	Medium	Low likelihood	Moderate/Low	
		Uptake via root system	On-site flora	Medium	Low likelihood	Moderate/Low	

**Where multiple receptors exist the risk classification is based on most sensitive receptor for conservatism.*

4 SCOPE OF WORK

4.1 Summary of Fieldwork

An intrusive ground investigation was undertaken between 15th and 30th January 2024 and is summarised in Table 4.1.

Table 4.1 Summary of Exploratory Locations

Hole ID	Exploratory Location Type	Investigation Method	Depth (mbgl)		Comment
			Min	Max	
WS01 – WS03	Borehole	Windowless sampler	-	5.00	Targeting the footprint of previously inaccessible buildings.
RC01 – RC03	Borehole	Rotary cored	15.00	27.00	To support derivation of piling parameters.

All holes were logged in accordance with BS5930³.

An exploratory hole location plan is presented within Appendix A and the exploratory hole logs are presented as Appendix C.

4.2 Soil Sampling

Representative soil samples were collected for geotechnical and environmental analysis at appropriate intervals during the investigation, in line with the client's specification/Supervising Engineer's instruction, and in general accordance with requirements of BS5930, BS18400 and other UK standards as relevant.

³ BS 5930:2015+A1:2020. Code of Practice for Ground Investigations. 2020.

5 SUMMARY OF GROUND CONDITIONS

5.1 Encountered Strata

The geological sequence encountered during the ground investigation is summarised in Table 5.1 and described further in the following sub-sections. Ground conditions were found to broadly correspond with published geological information and previous investigation findings. Exploratory logs are included in Appendix C.

Table 5.1 Summary of Ground Conditions

Stratum	Top depth range (mbgl)	Base depth range (mbgl)	Exploratory holes	Area of site	General description/ comments
Topsoil	0.00	0.30 – 0.50	BH01, BH02, BH04	General	Clayey SAND
Made ground	0.00	0.10	WS03	Poultry shed	ASPHALT
	0.00	0.10 – 1.00	BH03, WS01, WS02	Farmyard	Sandy gravelly CLAY
	0.10	0.40	WS03	Farmyard	Clayey sandy GRAVEL
Oadby Member	0.10 – 1.00	2.00 – 9.50	All Holes	General	Interbedded sandy CLAY and clayey SAND
	5.20 – 9.50	7.00 – 16.50	BH01 - BH03, WS02, WS03	General	SAND
Mercia Mudstone Group	6.00	9.00	BH04	South	Firm silty CLAY
	7.00 - 16.50	> 27.00	BH01 – BH04	General	Stiff to very stiff CLAY

5.1.1 Made ground

Made ground was only encountered in BH03 and all three window samples, which were located near the farm buildings, with a reported thickness of up to 1.0m. Made ground was found to typically comprise a sandy gravelly clay which included red brick and limestone fragments. Surrounding the poultry shed area and within WS03 made ground locally comprised asphalt and a subbase of clayey sandy gravel.

5.1.2 Topsoil

Topsoil was encountered with a thickness of 0.3 to 0.5m. In general, the topsoil was found to comprise dark brown fine clayey sand which, given the agricultural setting of the site, is likely to have been reworked through ploughing and crop cultivation.

5.1.3 Superficial Geology – Oadby Member

The upper layers of the superficial Oadby Deposits comprised interbedded loose to medium dense sand and firm to stiff clay. These deposits were encountered between 0.30 and 9.50mbgl across the site.

Underlying the interbedded deposits a uniform sand was encountered in the majority of locations, which is considered to be the basal layer of the Oadby Member deposits.

5.1.4 *Bedrock Geology – Mercia Mudstone Group*

The Mercia Mudstone Group was typically encountered as stiff to very stiff clay the depth of which varied across site from 6.00 to 16.50mbgl. Within BH04 this was initially encountered as firm clay from 6.0m to 9.0m where it was noted to become very stiff.

5.2 Evidence of Contamination

With the exception of made ground within WS01 to WS03 and BH03, no significant visible or olfactory evidence of any contamination was noted during the ground investigation.

5.3 Below Ground Structures and Obstructions

No below ground structures or obstructions were encountered during the ground investigation.

5.4 Groundwater

Groundwater was encountered within WS02 and WS03 during the ground investigation, with depths to groundwater strike ranging between 4.60 and 5.00mbgl, corresponding with the superficial sand. Recorded water levels after 20mins were noted to be stable.

6 SUMMARY OF LABORATORY ANALYSES

6.1 Geotechnical Testing

The geotechnical testing undertaken to support the derivation of pile parameters is summarised in Table 6.1.

Samples from the investigation were forwarded to a UKAS accredited laboratory. Complete results are provided in Appendix D.

Table 6.1 Summary of Geotechnical Testing

Test	Notes	Quantity
Atterberg limits	-	4 soils
Particle size distribution (wet sieve)	-	2 soils
Triaxial compression	-	8 soils
Geochemical analysis BRE SD1 Suite	pH, sulphur, chloride, nitrate, 2:1 water soluble sulphate, magnesium, total sulphate	4 soils

6.2 Chemical Testing

The soil testing undertaken on samples recovered from the farmyard area is summarised in Table 6.2.

Samples from the investigation were forwarded to a UKAS and MCERTS accredited laboratory. Complete chemical results are provided in Appendix E.

Table 6.2 Summary of Chemical Testing

Test type	Quantity
Arsenic, Boron, Beryllium, Cadmium, Chromium, Lead, Mercury, Nickel, Copper, Zinc, Selenium, Vanadium, Phenols and US EPA 16 Polycyclic Aromatic Hydrocarbons.	7 soils

7 HUMAN HEALTH AND PHYTOTOXIC RISK ASSESSMENT

7.1 Introduction

A human health generic quantitative risk assessment (GQRA) has been undertaken in accordance with the UK regulatory framework and current guidance on assessment of risks presented by land affected by contamination⁴.

When considering phytotoxic risks, contaminants selected are those listed within Annex 3 of 'Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D66: 2008 Volume 2' as being 'phytotoxic'.

Where available, assessment values have been chosen based on the criteria within (in priority order) SGV Documents, ICRCL 59/83 phytotoxic threshold levels, Dutch RIVM Serious Risk Concentrations (SRC) for ecological receptors (amended for a UK soil of 10% clay and 2% soil organic matter) and US EPA Soil Screening Levels for plants.

7.2 Determination of Averaging Areas/Zones

For the purposes of investigation and assessment a site can be divided into zones based on historical uses or proposed end use. These zones can be further divided into averaging areas, which can be used to assess different soil types or different potential exposure pathways etc. for the purposes of risk evaluation. Each averaging area can be considered independently for human health exposure assessment.

Based upon the scope of this investigation, it is proposed that a single zone with two averaging areas is appropriate for the site as follows:

- Farmyard – made ground.
- Farmyard – natural soils.

7.3 Human Health and Phytotoxic Screening Assessment

For each averaging area, the analytical data has been evaluated directly against adopted screening levels⁵ for phytotoxicity and a 'residential with consumption of home-grown produce' end use. A copy of the screening assessment is included in Appendix E.

7.4 Discussion

A review of soil data from this phase of investigation has not identified any contaminants soil concentrations to be elevated against adopted human health and phytotoxic screening levels for a 'residential with homegrown produce' end use.

However, it should be noted that endemically elevated levels of Polyaromatic Hydrocarbons (PAHs) were identified within the made ground during the previous investigation and this material is also considered physically unsuitable to provide a growth medium. As such, it is still considered that this material will not be suitable to remain at shallow depth within areas of soft landscaping.

⁴ Environmental Protection Act 1990.

Contaminated Land Statutory Guidance (April 2012).

Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

⁵ The LQM/CIEH S4ULs for Human Health Risk Assessment. 2015.

SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination. CL:AIRE. 2013.

8 CONTROLLED WATERS RISK ASSESSMENT

8.1 Overview of Hydrogeological Setting

The Superficial Dunsmore Gravel and Wolston Sand and Gravel Members are designated as Secondary A aquifers. The Oadby Till Member is designated as a Secondary Undifferentiated aquifer and the Wolston Clay member as Unproductive.

The underlying Mercia Mudstone Group is designated as a Secondary B Aquifer. The site is not recorded to lie within an SPZ and nor are there any licensed abstractions recorded within a 500m radius.

The nearest surface water feature is the Sketchley Brook which is located on the southern boundary of the site, which flows from south to west. The Sketchley Brook is a tributary of the River Anker and therefore hydraulic connectivity is likely.

Groundwater flow is interpreted to be towards the south with consideration of topography and local surface water features.

On the basis of the above, the sensitive Controlled Waters receptors relating to the site are considered to be:

- Groundwater in the superficial deposits - Dunsmore Gravel and Wolston Sand and Gravel Members (Secondary A Aquifers); and;
- Sketchley Brook.

8.2 Risk Evaluation

Ground investigations to date have identified natural soils, comprising topsoil over clay or sand across the site. Made ground was encountered in the farmyard in the north central region of the site.

No significant visual or olfactory evidence of gross contamination was observed and the findings of this investigation are considered to reflect those encountered previously. While slightly elevated levels of PAHs above background concentrations were previously encountered within the made ground in the farmyard, these were not found to extend to the natural ground directly beneath. As such, no significant leaching pathway is considered to be present between the made ground and identified controlled waters receptors and the risk to controlled waters as a result is considered to be acceptably low.

In addition, it is considered likely that much of the proposed development will comprise buildings/hardstanding which will further decrease the likelihood of leaching. No further work is considered to be required, although vigilance for unexpected contamination should be maintained during demolition/construction.

9 POTABLE SUPPLY PIPEWORK RISK ASSESSMENT

Water industry guidance⁶ states that only organic contaminants pose a potential risk to plastic pipe materials. The UKWIR report provides threshold values for polyethylene (PE) and polyvinyl chloride (PVC) pipes for the organic contaminants of concern. The results are summarised in Table 9.1 with exceedances highlighted in **bold**.

Table 9.1 Summary of Soil Screening Against UKWIR Criteria

Determinant	Pipe material Generic Assessment Criteria (mg/kg)		Min (mg/kg)	Max (mg/kg)
	PE	PVC		
Extended VOC suite ²	0.5	0.125	<0.05	0.1
BTEX + MTBE ¹	0.1	0.03	-	-
SVOCs TIC by purge and trap or head space and GC-MS with TIC (aliphatic and aromatic C ₅ -C ₁₀) ¹	2	1.4	-	-
Phenols ¹	2	0.4	<1.0	<1.0
Cresols and chlorinated phenols ³	2	0.04	<1.0	<1.0
Mineral oil C ₁₁ -C ₂₀ ¹	10	Suitable	-	-
Mineral oil C ₂₁ – C ₄₀ ¹	500	Suitable	-	-
Corrosive (conductivity, redox and pH) ¹	Suitable	Suitable	-	-

1. Determinant not tested.

2. Based upon recorded BaP concentrations.

3. Total Monohydric Phenols – Limit of Detection (LOD) is 5.0mg/kg. All speciated phenols are below LOD of 1.0mg/kg.

Given no visual or olfactory evidence of hydrocarbon or solvent based contamination was encountered on-site during the ground investigation, and the greenfield history of the site, most of the determinants of concern in relation to water supply pipework were not tested.

No significantly elevated concentrations of benzo(a)pyrene (BaP) were identified in topsoil or natural soil results. Therefore, it is considered that standard pipework will be suitable for the buried potable water supply network across the majority of the site.

Soil concentrations of benzo(a)pyrene (BaP) have been found to be endemically elevated within made ground in the farmyard during previous investigation. As such, upgraded water supply pipework should be utilised if installed within the made ground.

It is advised that statutory water provider is consulted to confirm that no specialist potable pipework is required.

⁶ Guidance for the selection of water supply pipes to be used in brownfield sites (UK Water Industry Research Limited (UKWIR) - Ref: 10/WM/03/21) - 2010

10 REFINED CONCEPTUAL SITE MODEL

10.1 Overview

Following completion of the ground investigation, collection and interrogation of site data with consideration of the outcome of generic quantitative risk assessment discussed in preceding sections of this report, the conceptual site model has been revised.

10.2 Sources

Further to completion of ground investigation, the sources identified within the preliminary conceptual model to require further consideration include:

- On-site made ground in former farmyard area.

No further potential sources of impact were identified during the subsequent ground investigation works.

10.3 Risk Evaluation

SPRs identified for further consideration within Section 3 have been further interrogated in accordance with UK national guidance and regulatory framework⁷ following completion of ground investigation and risk assessment. Table 10.1 presents the revised SPRs with associated classification of risk as appropriate following re-evaluation of risks.

⁷ Annex 4 - Guidance for the Safe Development of Housing on land Affected by Contamination R&D66: 2008.
Land contamination risk management - <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>.

Table 10.1 Revised Source-Pathway-Receptor Relationships

APC N°	Source	Pathway (s)	Receptor	Consequence	Probability	Risk*	Comment
1	On-site Made ground in farmyard area.	Oral ingestion	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	No elevated determinants were identified within made ground during this phase of investigation. However, endemically elevated PAHs previously encountered.
		Vegetable uptake	Future residents	Medium	Low likelihood	Moderate/Low	
		Dermal contact	Future residents and maintenance workers	Medium	Low likelihood	Moderate/Low	
		Dust migration/inhalation	Future residents, maintenance workers and off-site residents/workers	Medium	Low likelihood	Moderate/Low	
		Permeation into drinking water supplies	Future residents	Medium	Low likelihood	Moderate/Low	
		Uptake via root system	On-site flora	Medium	Low likelihood	Moderate/Low	Due to its poor physical characteristics made ground is an considered unsuitable growth medium.
		Leaching/dissolution with vertical migration to groundwater	Groundwater	Medium	Unlikely	Low	No gross contamination identified and soil results show no evidence of significant leaching pathway.
		Leaching/dissolution with vertical migration to groundwater, and lateral migration in groundwater	Surface water	Medium	Unlikely	Low	
		Overland flow	Surface water	Medium	Unlikely	Low	
		Migration via existing service trenches	Groundwater/surface water	Medium	Unlikely	Low	
		Leaching/dissolution with vertical migration to groundwater, lateral migration in groundwater and subsequent volatilisation	Future residents, maintenance workers and off-site residents/workers	Medium	Unlikely	Low	

*Where multiple receptors exist the risk classification is based on most sensitive receptor for conservatism.

11 PRELIMINARY WASTE ASSESSMENT

11.1 Waste Hierarchy

In line with the requirements of the Waste Framework Directive, the principles of the “waste hierarchy” should be applied to management options for on-site generated wastes, giving priority to the prevention of waste in the first instance, before considering re-use, recycling, recovery and lastly disposal. Principal considerations are set out in subsequent sections, although it is recommended that advice of a geo-environmental/waste specialists is sought at an early stage in the development process to ensure opportunities for minimisation of waste volumes are maximised.

11.2 On-site Re-Use of Materials

It may be possible to demonstrate through application of the CL:AIRE Definition of Waste Code of Practice (DoW CoP) that site won excavated soils are not classified as waste, and in doing so, permit this material to be re-used as part of proposed site redevelopment works. The DoW CoP may also apply to source segregated material arising from demolition activities. In determining the suitability of this approach, early consideration should be given to being able to demonstrate a specific planning requirement for the re-use of the excavated material. It is noted this approach cannot be applied retrospectively.

It should be noted that on-site re-use of “uncontaminated soil or other naturally occurring material” excavated as part of construction works for the purposes of construction is excluded from waste regulation.

Alternative mechanisms for on-site re-use of soils or aggregate may also be appropriate, on a site specific basis, depending on the volume/nature of the materials, and their intended use, such as:

- Waste exemptions under the Environmental Permitting (England and Wales) Regulations 2010, which are operations which are exempt from requiring permits, providing certain conditions are met. This typically applies to small volumes of non-hazardous soils although may also apply to other material types.
- Environmental permit under the Environmental Permitting (England and Wales) Regulations 2010 (standard or bespoke depending on the material and the activity).
- WRAP Aggregates Quality protocol⁸ for the production and use of aggregates from inert waste, providing certain criteria are met.

11.3 Waste Disposal to Landfill

When waste is intended for disposal at a suitably licensed landfill site it is necessary for the waste producer (i.e. the developer or consultant on their behalf) to have completed a basic waste characterisation assessment, including:

- Description of the waste;
- List of Waste (LoW) code or codes if mixed waste;
- Determine the chemical composition to identify if waste has hazardous properties or Persistent Organic Pollutants (POPs) are present;
- Determination of hazardous properties;
- Waste Acceptance Criteria (WAC) testing (if required) to determine landfill acceptance.

⁸ Aggregates from inert waste. End of waste criteria for the production of aggregates from inert waste. WRAP.

Relevant information on the above can be found in WM3⁹ and is discussed further in the context of ground investigation findings in subsequent sections.

It should be noted that alternative off-site disposal routes may be available, such as recycling/treatment facilities and that in these instances, waste classification would not be appropriate. Instead, it will be necessary to confirm with the destination facility that the material complies with their permit criteria. Further testing in addition to the available ground investigation data may be required by them.

11.3.1 Waste Classification

A preliminary waste classification exercise has been undertaken with reference to available ground investigation data from this phase of investigation. Hazardous properties of the soils have been assessed using the HazWaste program. A copy of the HazWaste report is included in Appendix F, which revealed all results to be classified as non-hazardous.

11.3.2 Landfill Waste Acceptance

If a waste classification assessment determines that disposal to landfill is the appropriate option for the waste then WAC testing must be undertaken for wastes destined for inert, stable non-reactive hazardous or hazardous classes of landfill. WAC testing may not be required if the material falls into the list of waste material identified in The Landfill Directive assumed to fulfil the criteria for inert waste, as detailed in Article 2(e) of the Landfill Directive. This includes soils and stone with an EWC code 17 05 04 but excludes topsoil, peat and soil from contaminated sites. Additionally if waste has been classified as non-hazardous and is going to be disposed of to a non-hazardous landfill rather than an inert non-hazardous landfill then WAC testing may not be required. In all cases consultation with the receiving facility to confirm testing and acceptance of waste classification prior to disposal is advised.

11.3.3 Landfill Tax

Unless specifically exempt landfill tax applies to disposal of material at a landfill that's covered by a permit under specific environmental legislation and at any unauthorised waste site. Currently this tax rate is set at £102.10/tonne (2023/2024).

There are some circumstances where material placed within a landfill cell is excepted from the charge to Landfill Tax, including use of material for creation of capping, drainage or otherwise meets conditions of other Landfill Tax exemptions e.g. dredgings, mining and quarrying materials.

A lower rate of landfill tax set at £3.25/tonne does apply to less polluting material listed in the landfill tax (qualifying material) order 2011¹⁰, including naturally occurring rocks and soils, excluding topsoil (group 1) and ceramic or concrete (group 2).

11.4 Recommendations

- Waste management options should be considered in line with the Waste Hierarchy, with priority placed on prevention, re-use, recycling and recovery in order to reduce off-site disposal volumes. Sorting and segregation of excavated soils/materials may also enable reduction in off-site disposal volumes.
- In the event that off-site disposal of surplus excavated soils to landfill is intended, chemical results should be supplied to the receiving facility to confirm they will be able to accept the material. Supplementary testing may be required by the receiving facility, including WAC

⁹ Guidance on the classification and assessment of waste - Technical Guidance WM3. Environment Agency 2015.

¹⁰ Landfill Tax (Qualifying Material) Order 2011 can be found at <http://www.legislation.gov.uk/ukssi/2011/1017/contents/made>

testing, to confirm the preliminary waste characterisation assessment and to ensure WM3 requirements have been met.

DRAFT

12 COMMENTS ON ENGINEERING DESIGN

12.1 General

Eurocode 7 (Section 2)¹¹ advocates the use of geotechnical categorisation of the proposed structures to establish the design requirements. Information presented to T&P indicates that the proposed development is to comprise 150N^o traditional two storey residential dwellings with associated areas of communal and private soft landscaping and hard landscaped access and parking. It has been assumed that the dwellings will be of masonry construction with line loads of between 50-70kN/m.

In consideration of the available information on the development proposals, for the purposes of this investigation the proposed structures have been classified as follows:

- Geotechnical category 1: Small and relatively simple buildings (houses) with strip or piled foundations, roads, pavements, car parks, retaining walls below 2m, small excavations for drainage works, with the proposed housing development considered to be within this category.

12.2 Construction Considerations

12.2.1 Subsurface Concrete

Based on the pH values, water soluble sulphate and SD1 suite concentrations recorded during this and the previous investigation, a DS-4 AC-4 design mix concrete is recommended for buried structures when compared against the BRE¹² assessment levels.

12.2.2 Pile Design Parameters

The previously completed ground investigation showed considerable lateral and vertical variability in the ground conditions with numerous areas of poor-quality soils which could not be readily delineated. As such, it was considered that ground improvement or piled foundations would be required.

The ground investigation identified superficial deposits to a maximum depth of 6.00 – 16.50m. The superficial deposits were noted to be variable in nature, comprising both granular (loose to medium dense) and cohesive (firm to very stiff) soils. The bedrock geology of the Mercia Mudstone Group was encountered beneath the superficial material typically as a stiff to very stiff clay.

Given the above, for the purpose of preliminary design it has been assumed that the superficial deposits will offer no significant friction and that the majority of pile resistance will be derived from the clay of the Mercia Mudstone Group.

Undrained shear strengths obtained from triaxial testing revealed values in the range 11kPa to 165kPa. However, it is considered that the lower shear strength values of 11 to 38kPa are likely due to pre-existing shear planes within the samples and unlikely to be representative of in situ characteristics, given the observations of stiff to very stiff consistency. Nevertheless, conservative shear strength design values have been adopted as detailed below.

Preliminary pile capacities are given in Table 12.1, based on an average undrained shear strength along the embedded length of the pile of 100kPa, an undrained shear strength at the base of the pile of 150kPa, an adhesion factor (α) of 0.45 and a factor of safety of 2.5.

¹¹ BS EN 1997 – Part 2. Geotechnical Design.

¹² BRE Special Digest 1:2005 – Third edition – Concrete in aggressive ground.

Table 12.1 Preliminary Pile Capacities (kN)

Pile Diameter (mm)	Embedded Length within Mercia Mudstone Group (m)		
	6.0	8.0	10.0
150	150kN	190kN	235kN
300	350kN	430kN	725kN
450	575kN	725kN	850kN

Note that the preliminary pile capacities derived above are based on the embedded length with the clay of the Mercia Mudstone Group and are not total pile lengths. As previously noted, the shallow ground conditions are highly variable, as such a pile with an embedded length of 6.0m in the area of BH01 will have a total length of 19.5m whereas a pile with an embedded length of 6.0m in the area of BH04 will have a total length of 12.0m.

In the event that greater pile capacities are required piles should be taken to greater depth. The advice of specialist piling contractors should be sought to determine the most suitable and cost-effective piling method.

12.2.3 Temporary Working Platforms

In order for piles to be formed across the site, the construction of a temporary working platform will be necessary to enable safe tracking and set up of the piling rig. For preliminary cost planning purposes, estimated platform thicknesses are summarised in Table 12.2 and Table 12.3, using an example rig.

Table 12.2 Estimated Platform Thicknesses – Cohesive Subgrade

Example Rig Loading						Subgrade shear strength	Platform thickness
Case Load 1			Case Load 2				
Bearing pressure	Track length	Track width	Bearing pressure	Track length	Track width		
90kPa	3.0m	0.5m	240kPa	1.75m	0.5m	20kPa	800mm
						30kPa	650mm
						40kPa	500mm
						50kPa	300mm

Table 12.3 Estimated Platform Thicknesses – Granular Subgrade

Example Rig Loading						Subgrade angle of shearing resistance ϕ	Platform thickness
Case Load 1			Case Load 2				
Bearing pressure	Track length	Track width	Bearing pressure	Track length	Track width		
90kPa	3.0m	0.5m	240kPa	1.75m	0.5m	25°	950mm
						30°	850mm
						35°	500mm
						40°	300mm

The working platform thickness should be designed on a case-by-case basis in accordance with BRE guidance¹³, in consideration of selected platform materials, local ground conditions and the selected piling rig.

¹³ BR470. Working platforms for tracked plant. 2004.

Appendix A – Drawings



- Site Boundary - 12.74ha
- Illustrative Residential Blocks
4.07ha NDA - up to 150 dwellings
- Residential Ridge Heights limited up to 7.5m
- Proposed Vehicular Access Point
- Proposed New Pedestrian and Cycle Access Point
- Primary Access Route
- Indicative Internal Streets
- Existing Retained Trees and Hedgerows/
Woodlands
- Indicative Structural Woodland and Parkland
Planting
- Proposed Native Hedgerow Planting
- Indicative Street Tree Planting
- Indicative Pond Features (Wet/Dry)
- Public Open Space
- Agricultural Land
- 0.5m Contours
- Area Reserved for Agricultural Track
- Stormwater Drain with 7m Easement
- Pumping Station
- Informal/Natural Children's Play Area
- PROW - Existing Footpath
- PROW - Existing Bridleway
- Proposed Pedestrian Trail

client
Barwood Development Securities Limited

project title
Sketchley Lane, Sketchley

drawing title
Illustrative Masterplan

date	17 AUGUST 2021	drawn by	PW/CG
drawing number	edp4824_d041a	checked	BR
scale	1:2,500 @ A3	QA	RB

edp the environmental
dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

— Site Boundary

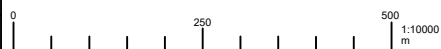


Base Map
Company: - Autodesk License
DWG Title: -
DWG Number: -
Date: -

RC	RG	Site Boundary Updated	10/03/23	A
AW	RG	Site Boundary Updated	24/03/23	B
Drawn	Checked	Amendment	Date	Rev.
Barwood Land				
Sketchley Lane, Burbage				
Site Location Plan				
Scale	Date	Drawn by	Check by	Rev.
1:10000@A4	21/02/23	AW	RG	B



Unit 4 Brunel Lock Development, Smeaton
Road, Bristol, BS1 6SE
Tel: 0117 927 7756
Email: Info@TP-regen.co.uk



— Site Boundary

T&P Investigation

- Windowless Sampling Locations
(WS201 - WS203)
- Borehole Locations
(BH01 - BH04)



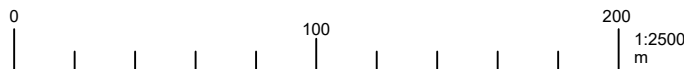
Base Map
Company: Bing Maps Autodesk Licence
DWG Title: -
DWG Number: -
Date: -

Drawn	Checked	Amendment	Date	Rev.
Persimmon Homes North Midlands				
Sketchley Lane, Burbage				
Exploratory Hole Location Plan				
Scale	Date	Drawn by	Check by	Rev.
1:2500@A3	14/03/24	HL	RG	-



Unit 4 Brunel Lock Development, Smeaton Road, Bristol, BS1 6SE
Tel: 0117 927 7756
Email: Info@TP-regen.co.uk

Drawing No.	
P0866-01-006	



Appendix B – Photographs



PLATE 01 – Site Overview – Looking North.



PLATE 02 – Site Overview – Looking East.



PLATE 03 – Site Overview – Looking South.



PLATE 04 – Site Overview – Looking West.



PLATE 05 – Dynamic Windowless Sample Cores – WS01.



PLATE 06 – Dynamic Windowless Sample Cores – WS02.



PLATE 09 – Dynamic Windowless Sample Cores – WS03.



PLATE 10 – Borehole Core – BH01.



PLATE 11 – Borehole Core – BH01.



PLATE 12 – Borehole Core – BH01.



PLATE 13 – Borehole Core – BH02.



PLATE 14 – Borehole Core – BH02.



PLATE 15 – Borehole Core – BH02.



PLATE 16 – Borehole Core – BH03.



PLATE 17 – Borehole Core – BH03.



PLATE 18 – Borehole Core – BH03.



PLATE 19 – Borehole Core – BH04.



PLATE 20 – Borehole Core – BH04.



PLATE 21 – Borehole Core – BH04.

Appendix C – Exploratory Logs



Issue Date: June 2016



Issue Date: June 2016



1:50

SPT Hammer: AR3695 Energy Ratio: 81%

Sample Key: B = Bulk Disturbed D = Small Disturbed C = Core Subsample U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water														
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:					
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)						
30-01-2024	15:00	15.00	4.00						Groundwater not encountered.					
									Water Strikes					
Flush Information					Installation				Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks
Top (m)	Base (m)	Flush Type	Return	Flush Colour	Top (m)	Base (m)	Type	Dia (mm)						
Fracture spacing reported as min, avg and max values. TCR, SCR and RQD reported as %														
T&P Regeneration RC Template										Issue Number: 1			Issue Date: June 2019	

Fracture spacing reported as min, avg and max values. TCR, SCR and RQD reported as %		
T&P Regeneration RC Template	Issue Number: 1	Issue Date: June 2016

T&P Regen www.tandpregeneration.co.uk	Contract Name: Sketchley Lane, Burbage - Supp GI			Client: Persimmon Homes North Midlands			Borehole ID: WS03				
	Contract Number: P0866 / CS-2132		Date Started: 19/01/2024		Logged By: RG		Checked By: SH		Status: FINAL		
	Easting: 442453.00		Northing: 291897.00		Ground Level: 111.23mOD		Plant Used: GTR FSX		Scale: 1:25		
Windowless Sample Borehole Log											
Weather: Clear			Termination: Engineers Instruction			SPT Hammer: GTR FSX Energy Ratio: 73%					
Samples & In Situ Testing					Strata Details					Groundwater	
Depth	Sample ID	Windowless Sample Recovery	Test Result	Level (mAOD)	Depth (m) (Thickness)	Legend	Strata Description			Water Strike	Backfill / Installation
0.20 - 0.30	ES1			111.13	0.10		MADE GROUND: Grey ASPHALT.				
0.20 - 0.30	ES2			110.83	(0.30)		MADE GROUND: Dark grey slightly clayey sandy GRAVEL. Gravel is subangular fine to coarse of limestone.				
0.50 - 0.60	ES3			110.83	0.40		Firm very sandy very gravelly CLAY. (OADBY MEMBER)				
0.60 - 0.70	D1				(0.60)						
1.50 - 1.60	D2	1.00 - 2.00 = 50%	SPT(S) 1.00m, N=9 (2,2/2,2,2,3) HV 1.00m, 65 / 20kPa	110.23	1.00		Loose brown silty SAND. (OADBY MEMBER)			1	
				(1.00)							
2.50 - 2.60	D3	2.00 - 3.00 = 45%	SPT(S) 2.00m, N=5 (1,1/1,1,1,2)	109.23	2.00		Loose brown SAND. (OADBY MEMBER)			2	
3.50 - 3.60	D4	3.00 - 4.00 = 80%	SPT(S) 3.00m, N=4 (1,1/1,1,1,1)		(3.00)					3	
4.50 - 4.60	D5	4.00 - 5.00 = 100%	SPT(S) 4.00m, N=7 (1,1/1,2,2,2)							4	
			SPT(S) 5.00m, N=2 (1,0/1,0,1,0)	106.23	5.00		End of Borehole at 5.00m			5	
Sample Key: B = Bulk Disturbed D = Small Disturbed U = Undisturbed Open-Drive W = Water G = Gas ES = Environmental Soil EW = Environmental Water											
Start & End of Shift Observations					Borehole Diameter		Casing Diameter		Remarks:		
Date	Time	Depth (m)	Casing (m)	Water (m)	Depth (m)	Dia (mm)	Depth	Dia (mm)	Groundwater encountered at 4.6mbgl. Coordinates inferred due to location of window sample within building.		
Water Strikes					Installation						
Strike (m)	Casing (m)	Sealed (m)	Time (mins)	Rose to (m)	Remarks	Top (m)	Base (m)	Type	Dia (mm)		
4.60			0	2.00							
T&P Regeneration WS Template Issue Number: 1 Issue Date: June 2016											

Appendix D – Geotechnical Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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



Environmental Science

4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 09/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110157
Hole No.: BH02
Sample Reference: 14
Sample Description: Brown slightly sandy CLAY

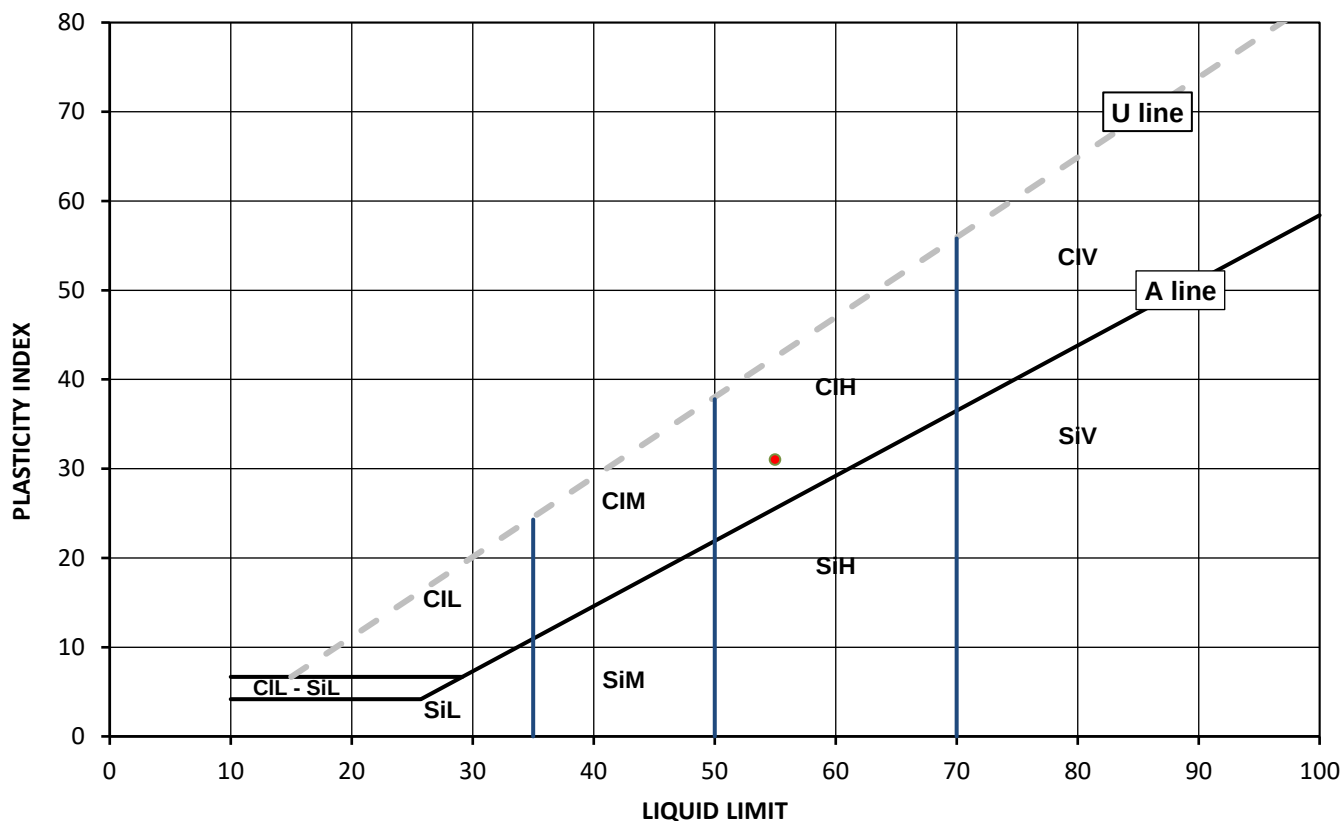
Depth Top [m]: 18.90

Depth Base [m]: 19.20

Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
21.9	55	1.054	24	31	-0.06	1.06	100



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

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

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

Signed:

Katarzyna Banys

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Client Address: Unit 5, Septimus,
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Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 09/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110158
Hole No.: BH02
Sample Reference: 18
Sample Description: Brown slightly sandy CLAY

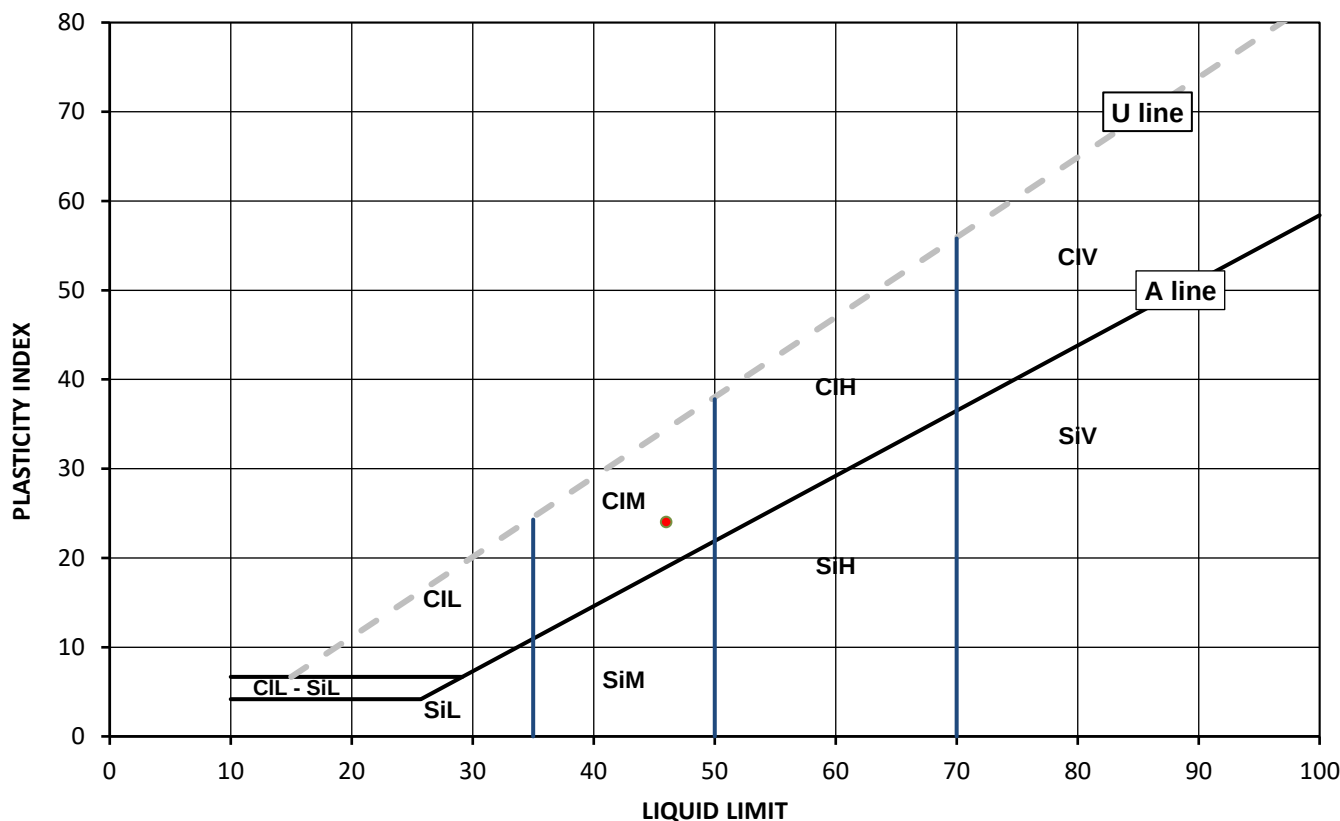
Depth Top [m]: 24.30

Depth Base [m]: 24.60

Sample Type: D

Sample Preparation: Tested in natural condition;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
21.0	46	1.020	22	24	-0.04	1.04	100



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

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

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 09/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110164
Hole No.: WS01
Sample Reference: 3
Sample Description: Brown slightly gravelly very sandy CLAY

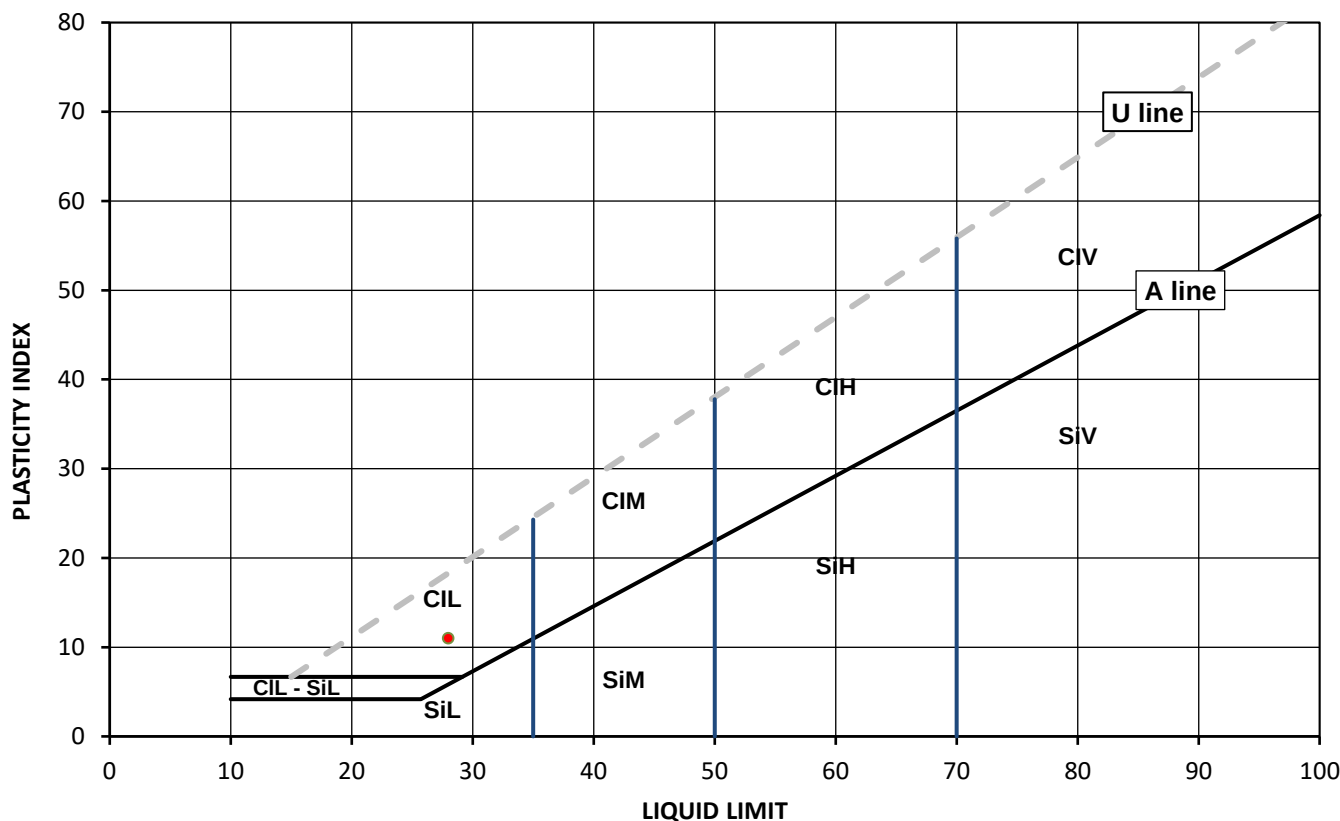
Depth Top [m]: 2.50

Depth Base [m]: 2.60

Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
20.5	28	0.961	17	11	0.36	0.64	96



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

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

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

Remarks:

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TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

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cl 5.3.14, 5.5, Fall Cone Method, 1 Pt Test, BS 1377-2:2022,
cl 5.3, 6

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Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 09/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110165
Hole No.: WS02
Sample Reference: 2
Sample Description: Brown slightly gravelly sandy CLAY

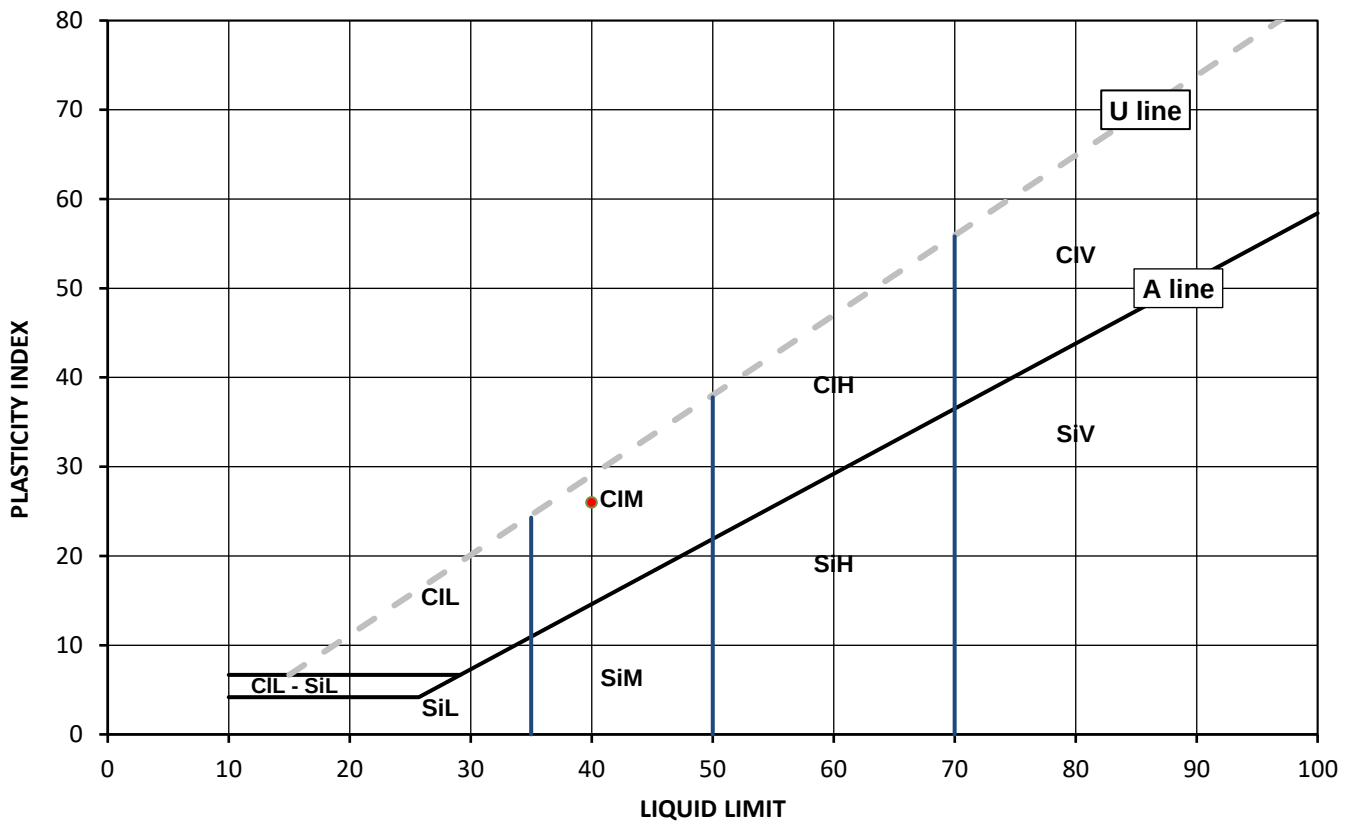
Depth Top [m]: 1.50

Depth Base [m]: 1.60

Sample Type: D

Sample Preparation: Tested after >0.425 mm removed by hand;
Cone Type: 80g/30deg

As Received Water Content [W] %	Corrected Liquid Limit [WL] %	Correlation Factor	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity index [IL] % #	Consistency index [IC] % #	% Passing 425µm BS Test Sieve
17.8	40	1.039	14	26	0.15	0.85	98



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

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

Note: Water Content by BS EN 17892-1: 2014; Correlation Factor by Clayton C.R.I and Jukes A.W (1978); # Non accredited

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Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

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



Environmental Science

4041

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

W by BS EN 17892-1: 2014; Liquid and Plastic Limit by BS EN ISO 17892-12:2018+A1:2021: Clause 5.3 (4 Point Test), Clause 5.3.14 (1 Point Test) and 5.5; Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 02/01/2024

Date Tested: 02/09/2024

Sampled By: Not Given

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	W	Liquid & Plastic Limit								Density		
		Reference	Depth Top	Depth Base	Type				% Passing 425um	WL*	Correlation Factor	Wp	Ip	Cone type	Sample Preparation	bulk	dry	PD	
			m	m					%	%		%	%			Mg/m3	Mg/m3	Mg/m3	
110157	BH02	14	18.90	19.20	D	Brown slightly sandy CLAY	Atterberg 1 Point	21.9	100	55	1.054	24	31	80g/30 deg	N				
110158	BH02	18	24.30	24.60	D	Brown slightly sandy CLAY	Atterberg 1 Point	21.0	100	46	1.020	22	24	80g/30 deg	N				
110164	WS01	3	2.50	2.60	D	Brown slightly gravelly very sandy CLAY	Atterberg 1 Point	20.5	96	28	0.961	17	11	80g/30 deg	R				
110165	WS02	2	1.50	1.60	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	17.8	98	40	1.039	14	26	80g/30 deg	R				

Note: # Non accredited; NP - Non plastic; N - Tested in natural condition, R - Tested after >0.425mm removed by hand, W - Tested after washing to remove >425mm; * - One point liquid limit corrected as per the report Correlation Factor by Clayton C.R.I and Jukes A.W (1978)

Comments:

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Signed:

Katarzyna Banyas

Katarzyna Banyas
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd



4041

TEST CERTIFICATE

DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Tested in Accordance with: BS 1377-2: 1990

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



Environmental Science

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

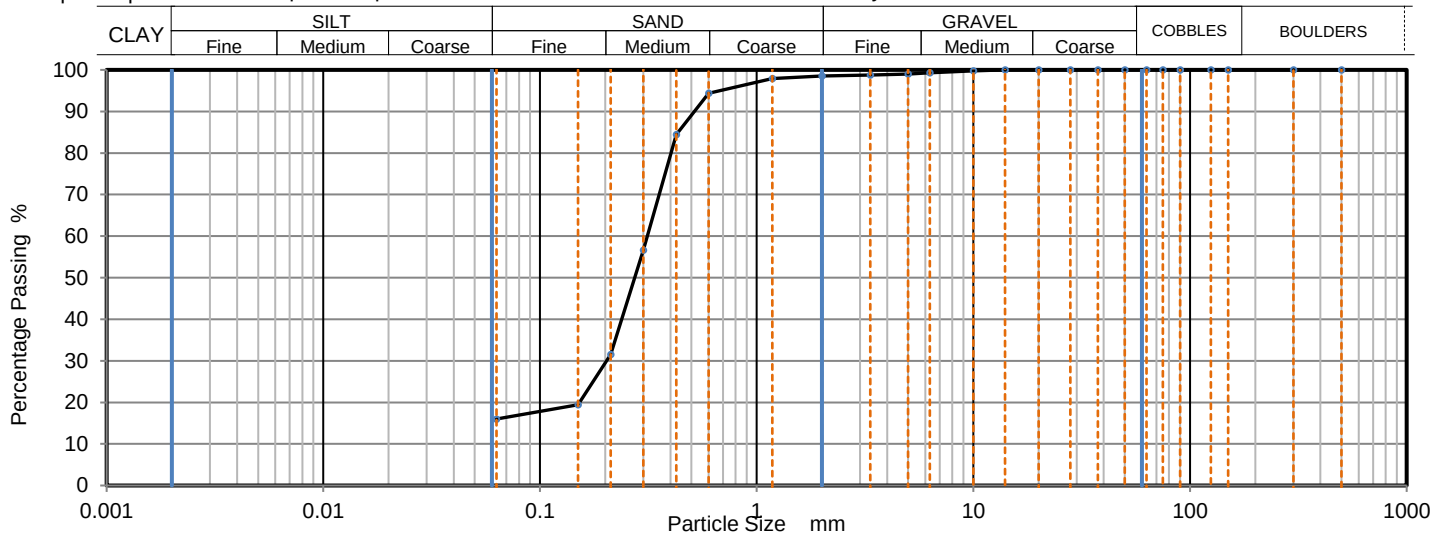
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: P0866-CS-2132
Job Number: 24-001599-1
Date Sampled: 19/01/2024
Date Received: 01/02/2024
Date Tested: 12/02/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 109870
Hole No.: BH01
Sample Reference: 1
Sample Description: Brown slightly clayey SAND
Sample Preparation: Sample was quartered, oven dried at 108.2 °C and broken down by hand.

Depth Top [m]: 9.00
Depth Base [m]: 11.00
Sample Type: B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	94		
0.425	84		
0.3	57		
0.212	32		
0.15	19		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	82
Fines <0.063mm	16

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 5
Curvature Coefficient	

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

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

Remarks:

Signed:

Katarzyna Banys

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE**DETERMINATION OF PARTICLE SIZE DISTRIBUTION**

Tested in Accordance with: BS 1377-2: 1990

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



Environmental Science

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

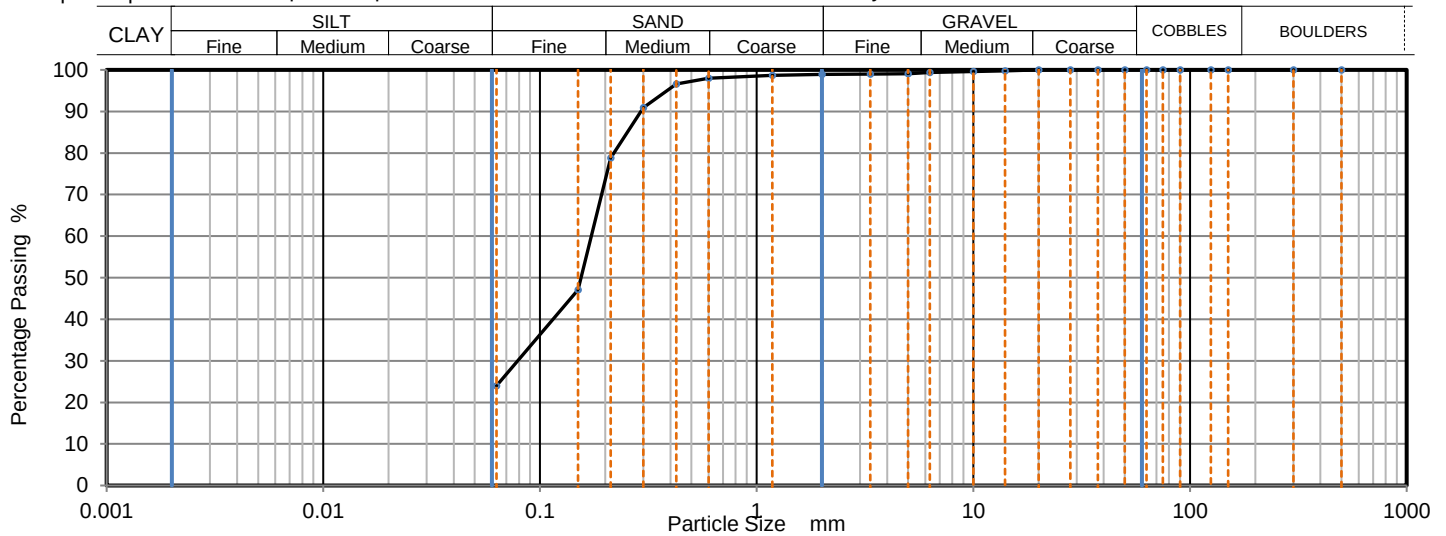
Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: P0866-CS-2132
Job Number: 24-001599-1
Date Sampled: 19/01/2024
Date Received: 01/02/2024
Date Tested: 12/02/2024
Sampled By: Not Given

Test Results:

Laboratory Reference: 110155
Hole No.: BH02
Sample Reference: 2
Sample Description: Brown very clayey SAND
Sample Preparation: Sample was quartered, oven dried at 108.2 °C and broken down by hand.

Depth Top [m]: 16.00
Depth Base [m]: 16.50
Sample Type: U



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
500	100		
300	100		
150	100		
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	97		
0.3	91		
0.212	79		
0.15	47		
0.063	25		

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	74
Fines <0.063mm	25

Grading Analysis	
D100	mm
D60	mm
D30	mm
D10	mm
Uniformity Coefficient	> 2.7
Curvature Coefficient	

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

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

Remarks:**Signed:**

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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4041

TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
WITHOUT MEASUREMENT OF PORE PRESSURE**

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



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 109871

Hole No.: BH01

Sample Reference: 1

Sample Description: Brown sandy CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

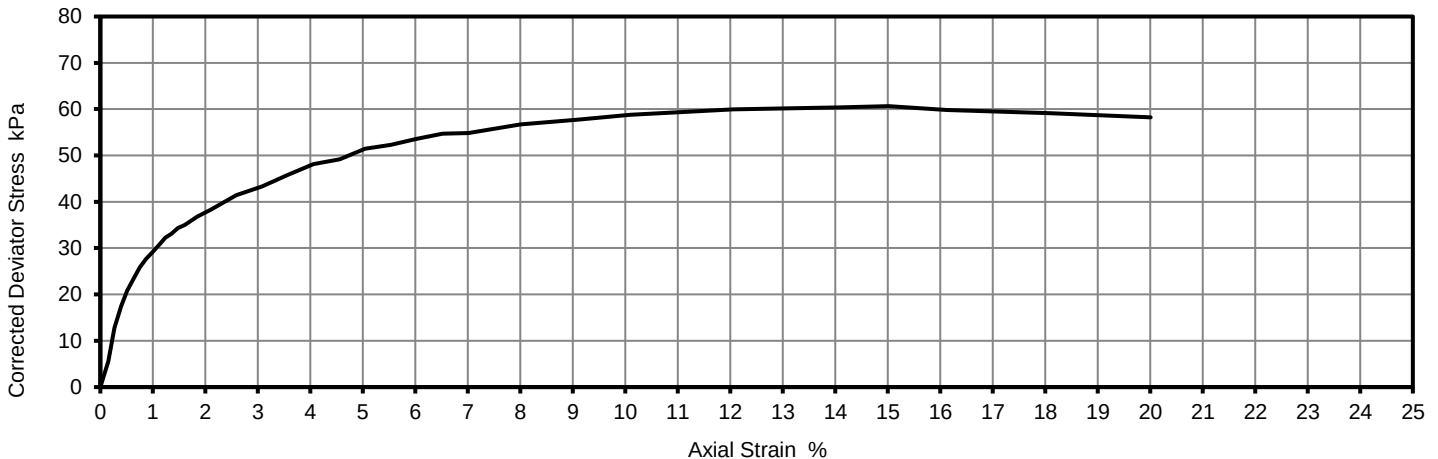
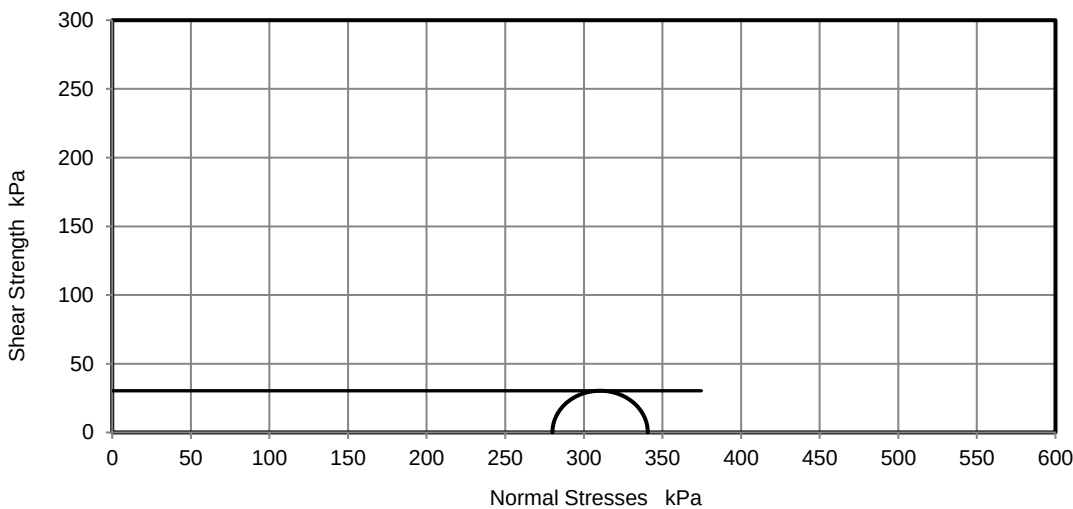
Depth Top [m]: 13.50

Depth Base [m]: 13.95

Sample Type: U

Test Number	1
Length	200.44 mm
Diameter	101.55 mm
Bulk Density	2.00 Mg/m ³
Moisture Content	31 %
Dry Density	1.53 Mg/m ³
Membrane Correction	0.84 kPa

Rate of Strain	1.50 %/min
Cell Pressure	280 kPa
Axial Strain at failure	15.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	61 kPa
Undrained Shear Strength, c_u	30 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.28 mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks:

Signed:

Katarzyna Banys

Katarzyna Banys
Junior Reporting Specialist
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TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

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



Environmental Science

4041

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132
Job Number: 24-001599-1
Date Sampled: 19/01/2024
Date Received: 01/02/2024
Date Tested: 19/02/2024
Sampled By: Not Given

Test Results:

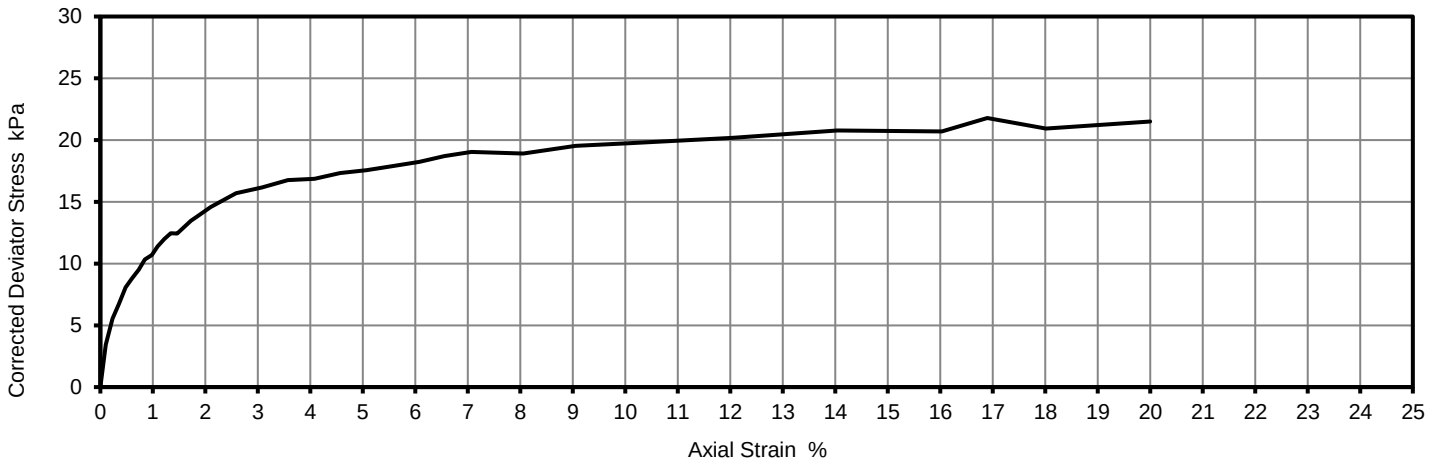
Laboratory Reference: 110153
Hole No.: BH01
Sample Reference: 2
Sample Description: Brown CLAY
Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

Depth Top [m]: 16.50
Depth Base [m]: 16.95
Sample Type: U

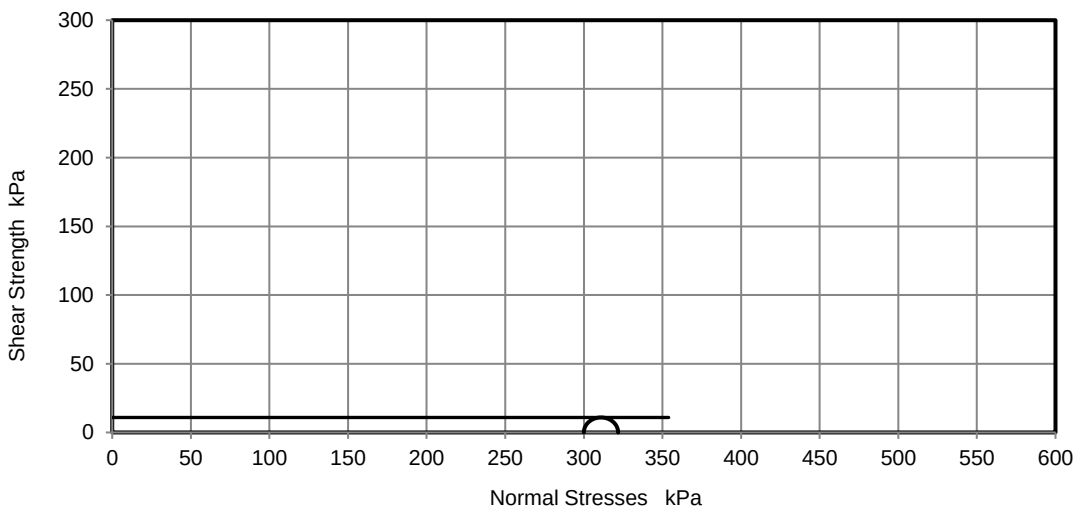
Test Number	1
Length	201.39 mm
Diameter	101.57 mm
Bulk Density	1.96 Mg/m3
Moisture Content	27.6 %
Dry Density	1.53 Mg/m3
Membrane Correction	0.89 kPa

Rate of Strain	1.50 %/min
Cell Pressure	300 kPa
Axial Strain at failure	16.9 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	22 kPa
Undrained Shear Strength, c_u	11 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.27 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
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Signed:

Katarzyna Banys

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd



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TEST CERTIFICATE

DETERMINATION OF THE UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE

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Northampton NN4 7EB



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110154

Hole No.: BH01

Sample Reference: 3

Sample Description: Brown CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

Depth Top [m]: 20.00

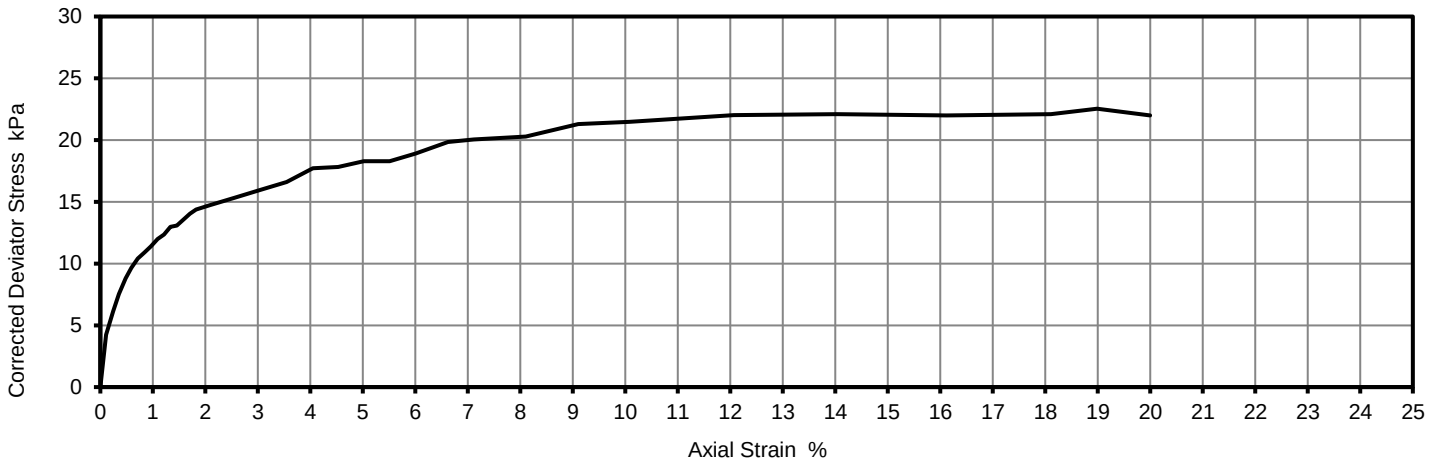
Depth Base [m]: 20.30

Sample Type: U

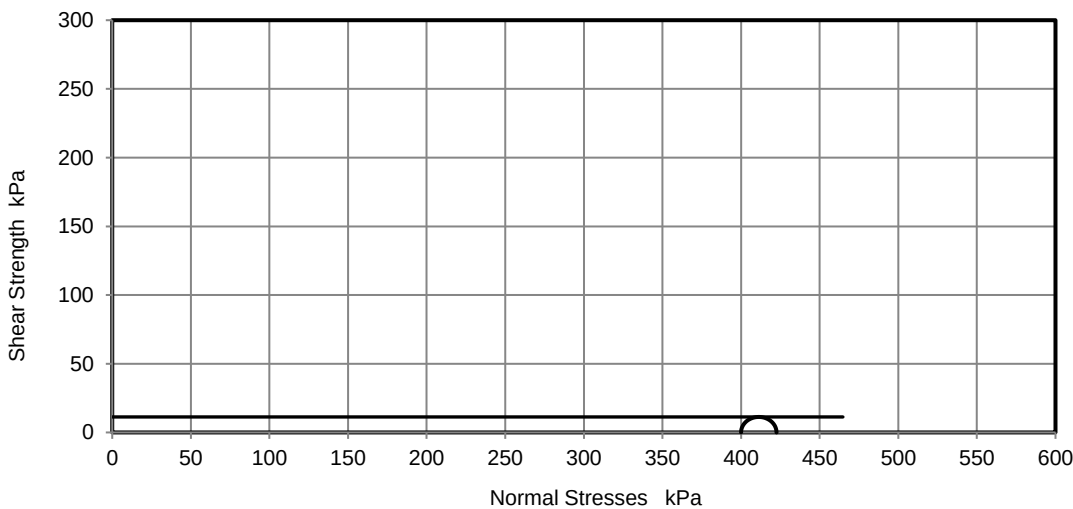
Test Number	1
Length	202.19 mm
Diameter	99.53 mm
Bulk Density	2.00 Mg/m ³
Moisture Content	37 %
Dry Density	1.46 Mg/m ³
Membrane Correction	1.00 kPa

Rate of Strain	1.50 %/min
Cell Pressure	400 kPa
Axial Strain at failure	19.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	23 kPa
Undrained Shear Strength, c_u	11 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.27 mm

Deviator Stress v Axial Strain



Mohr Circles



Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
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Signed:

Katarzyna Banys

Katarzyna Banys
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for and on behalf of i2 Analytical Ltd



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TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
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Northampton NN4 7EB



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110159

Hole No.: BH03

Sample Reference: 1

Sample Description: Brown CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

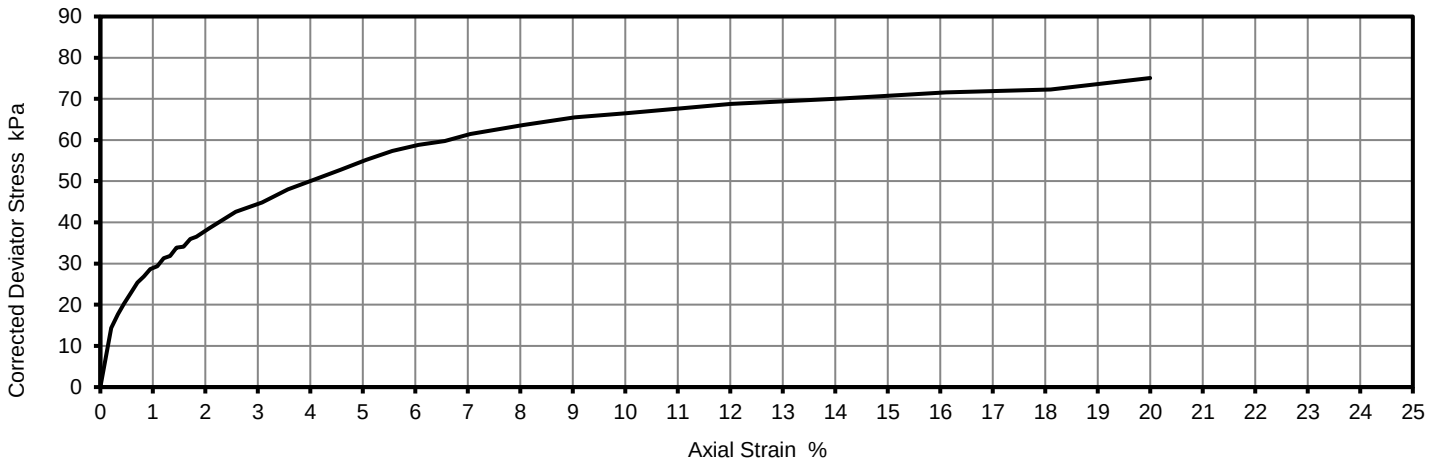
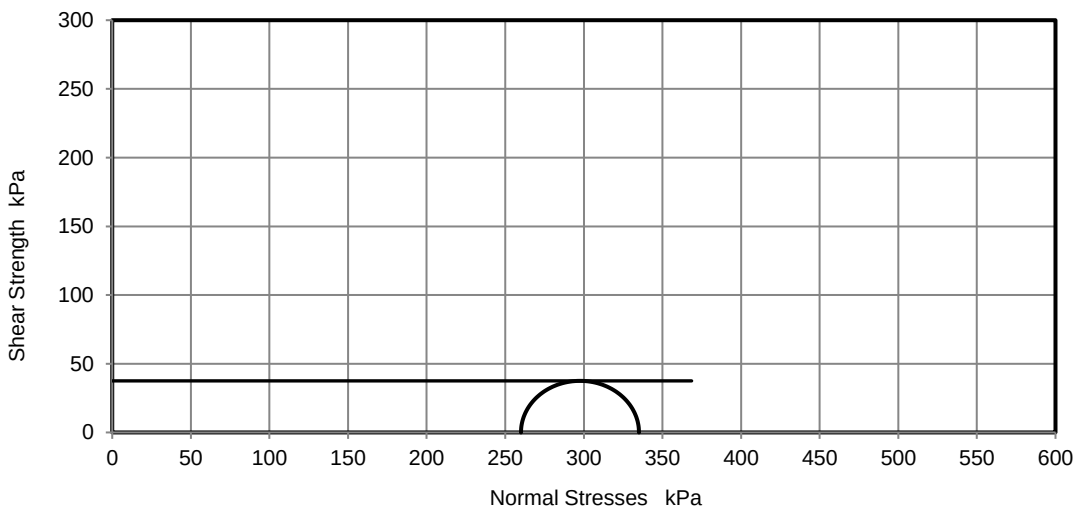
Depth Top [m]: 13.50

Depth Base [m]: 13.95

Sample Type: U

Test Number	1
Length	201.49 mm
Diameter	98.74 mm
Bulk Density	2.14 Mg/m ³
Moisture Content	29 %
Dry Density	1.67 Mg/m ³
Membrane Correction	1.01 kPa

Rate of Strain	1.50 %/min
Cell Pressure	260 kPa
Axial Strain at failure	20.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	75 kPa
Undrained Shear Strength, c_u	38 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.26 mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
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Signed:*Katarzyna Banys*

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd



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TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
WITHOUT MEASUREMENT OF PORE PRESSURE**

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Northampton NN4 7EB



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

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Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110160

Hole No.: BH03

Sample Reference: 2

Sample Description: Brown silty CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

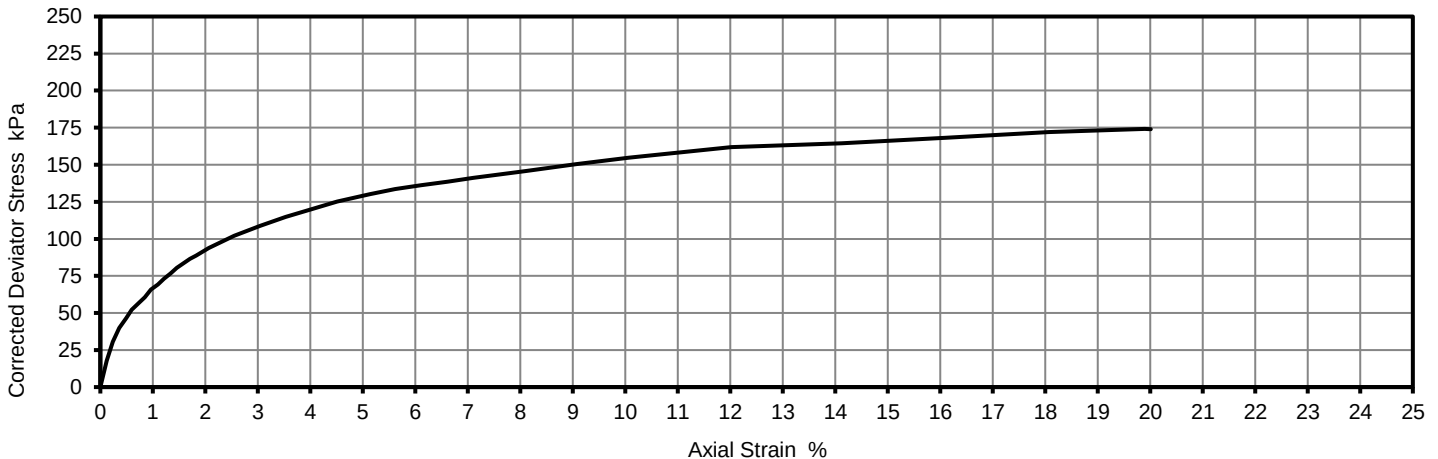
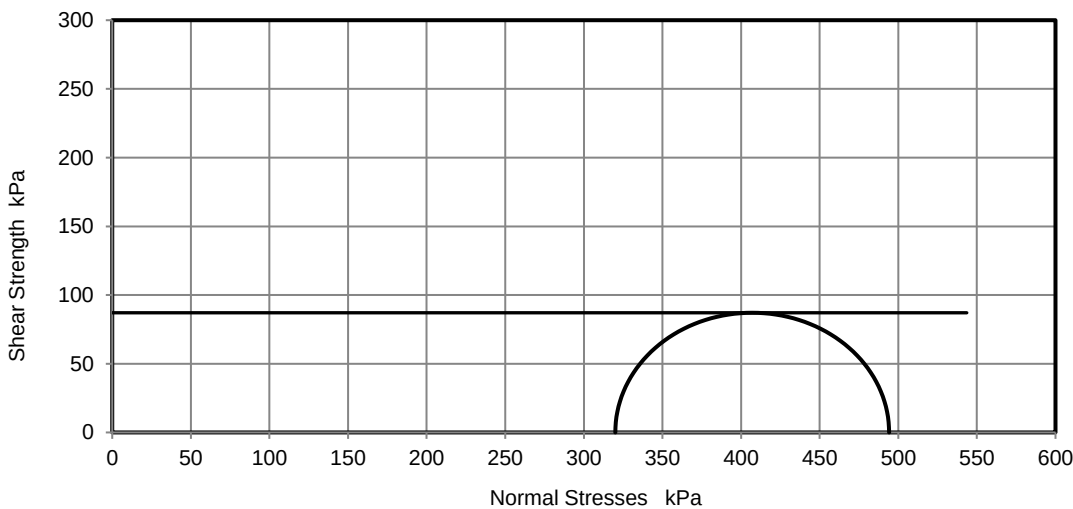
Depth Top [m]: 16.10

Depth Base [m]: 16.50

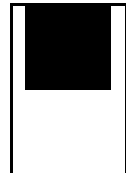
Sample Type: U

Test Number	1
Length	139.99 mm
Diameter	69.02 mm
Bulk Density	2.06 Mg/m ³
Moisture Content	23 %
Dry Density	1.67 Mg/m ³
Membrane Correction	1.39 kPa

Rate of Strain	1.50 %/min
Cell Pressure	320 kPa
Axial Strain at failure	19.9 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	174 kPa
Undrained Shear Strength, c_u	87 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Latex membrane thickness	0.25 mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks:**Signed:***Katarzyna Banys*

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
WITHOUT MEASUREMENT OF PORE PRESSURE**

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



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110161

Hole No.: BH03

Sample Reference: 3

Sample Description: Brown CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

Depth Top [m]: 19.60

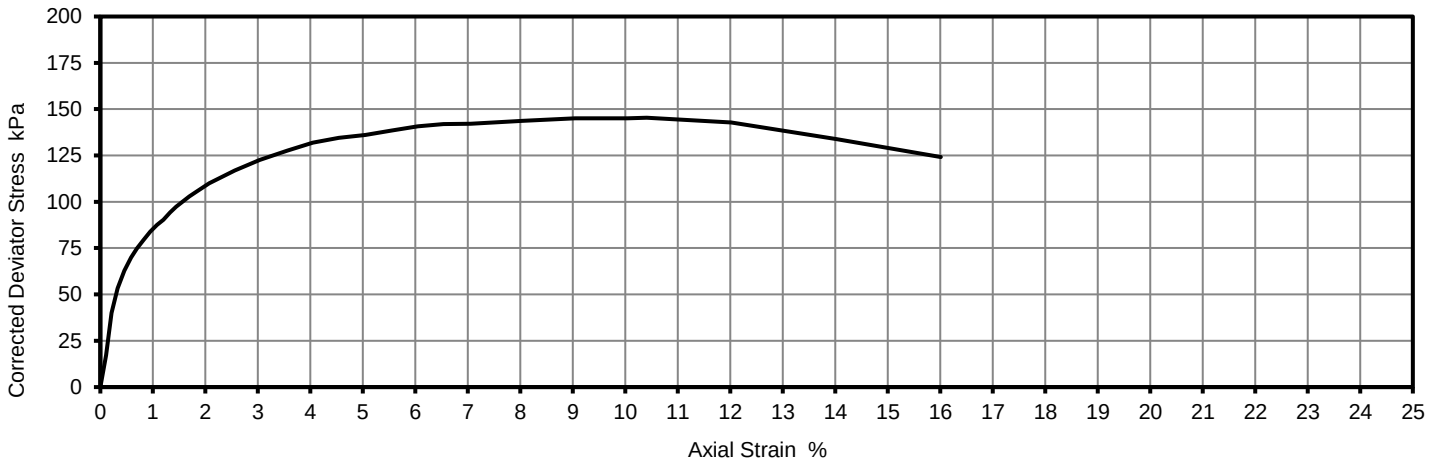
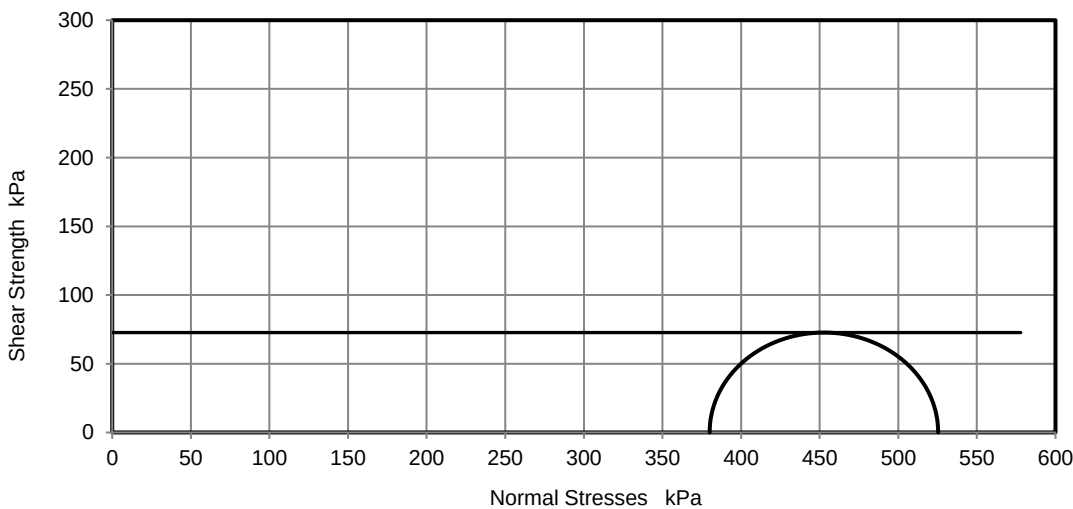
Depth Base [m]: 20.00

Sample Type: U

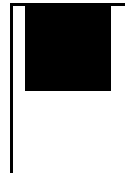
Test Number	1
Length	140.61 mm
Diameter	69.29 mm
Bulk Density	2.05 Mg/m ³
Moisture Content	26 %
Dry Density	1.62 Mg/m ³
Membrane Correction	0.76 kPa

Rate of Strain	1.50 %/min
Cell Pressure	380 kPa
Axial Strain at failure	10.4 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	145 kPa
Undrained Shear Strength, c_u	73 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.23 mm

1.50	%/min
380	kPa
10.4	%
145	kPa
73	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Compound	
0.23	mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks:

Signed:

Katarzyna Banys

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
WITHOUT MEASUREMENT OF PORE PRESSURE**

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



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110162

Hole No.: BH04

Sample Reference: 2

Sample Description: Brown clayey SILT

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

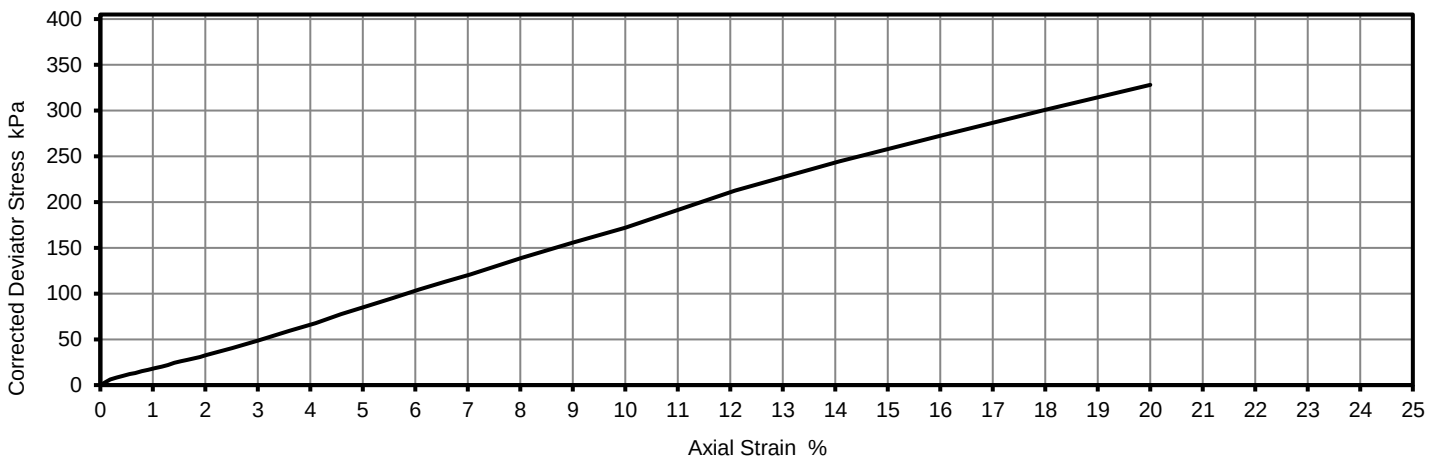
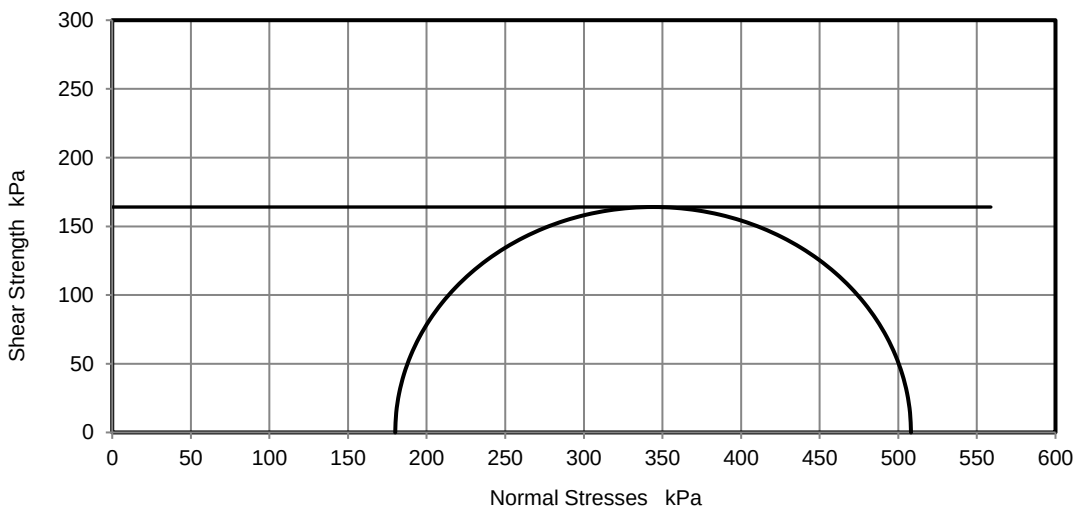
Depth Top [m]: 9.00

Depth Base [m]: 9.45

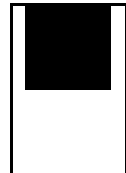
Sample Type: U

Test Number	1
Length	144.61 mm
Diameter	67.78 mm
Bulk Density	2.12 Mg/m ³
Moisture Content	25 %
Dry Density	1.70 Mg/m ³
Membrane Correction	1.36 kPa

Rate of Strain	1.50 %/min
Cell Pressure	180 kPa
Axial Strain at failure	20.0 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	328 kPa
Undrained Shear Strength, c_u	164 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Compound
Latex membrane thickness	0.24 mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks:

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

Signed:*Katarzyna Banys*

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

Page 1 of 1

Date Reported: 20/02/2024

GF 184.14



4041

TEST CERTIFICATE**DETERMINATION OF THE UNDRAINED
SHEAR STRENGTH IN TRIAXIAL COMPRESSION
WITHOUT MEASUREMENT OF PORE PRESSURE**

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



Environmental Science

Tested in Accordance with: BS 1377-7: 1990: Clause 8

Client: T&P Regeneration
Client Address: Unit 5, Septimus,
Hawkfield Business Park, BS14 0BN

Contact: Sam Hogg
Site Address: Sketchley Lane Burbage Supp GI

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

Client Reference: P0866-CS-2132

Job Number: 24-001599-1

Date Sampled: 19/01/2024

Date Received: 01/02/2024

Date Tested: 16/02/2024

Sampled By: Not Given

Test Results:

Laboratory Reference: 110163

Hole No.: BH04

Sample Reference: 3

Sample Description: Brown CLAY

Sample Preparation: Sample prepared in accordance with BS 1377-1:2016 Clause 9.1.1.

Depth Top [m]: 15.00

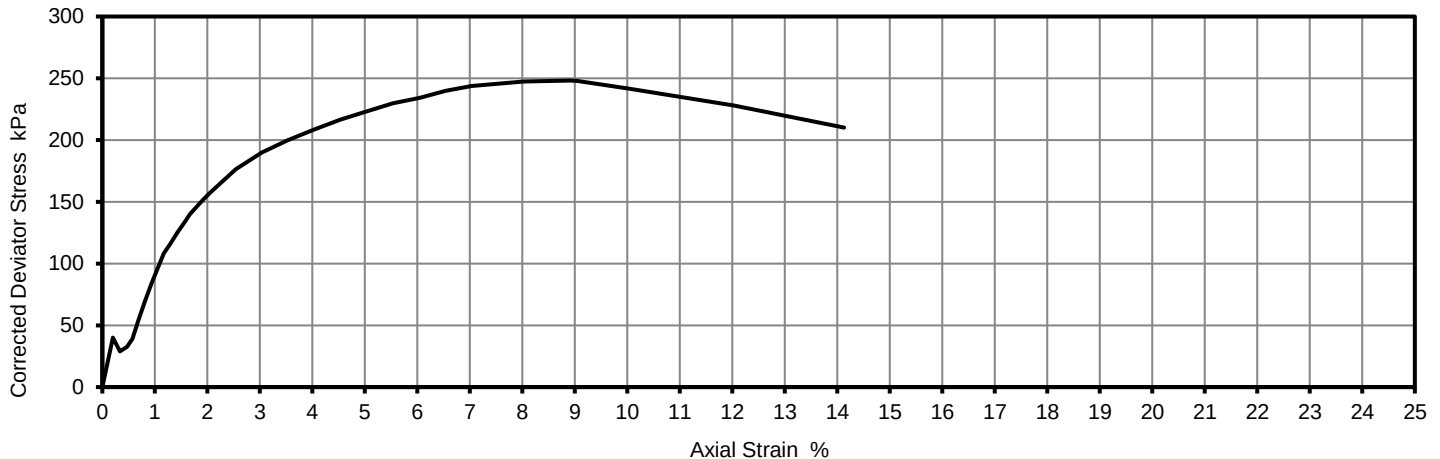
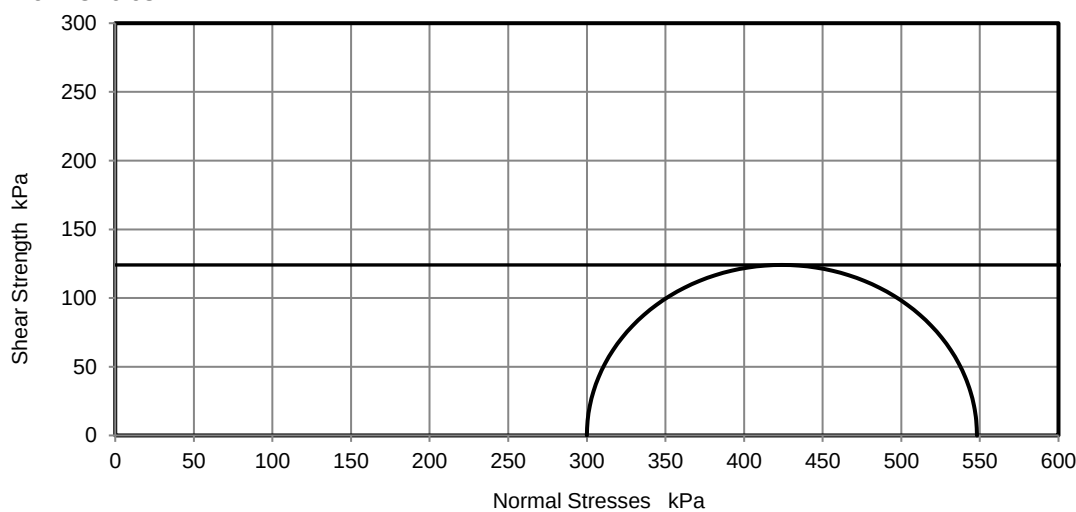
Depth Base [m]: 15.45

Sample Type: U

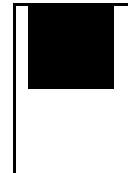
Test Number	1
Length	141.27 mm
Diameter	70.13 mm
Bulk Density	2.05 Mg/m3
Moisture Content	23 %
Dry Density	1.67 Mg/m3
Membrane Correction	0.67 kPa

Rate of Strain	1.50 %/min
Cell Pressure	300 kPa
Axial Strain at failure	8.9 %
Deviator Stress, ($\sigma_1 - \sigma_3$) _f	248 kPa
Undrained Shear Strength, c_u	124 kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Mode of Failure	Brittle
Latex membrane thickness	0.23 mm

1.50	%/min
300	kPa
8.9	%
248	kPa
124	kPa $\frac{1}{2}(\sigma_1 - \sigma_3)_f$
Brittle	
0.23	mm

Deviator Stress v Axial Strain**Mohr Circles**

Position within sample



Note: Deviator stress corrected for area change and membrane effects. Mohr circles and their interpretation is not covered by BS1377.
This is provided for information only.

Remarks:**Signed:***Katarzyna Banys*

Katarzyna Banys
Junior Reporting Specialist
for and on behalf of i2 Analytical Ltd

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



T&P Regeneration
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BS14 0BN

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Watford,
Herts,
WD18 8YS

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

e: rachel@tp-regen.co.uk

Analytical Report Number : 24-001600

Project / Site name:	Sketchley Lane Burbage Supp GI	Samples received on:	01/02/2024
Your job number:	P0866-CS-2132	Samples instructed on/ Analysis started on:	06/02/2024
Your order number:	10674	Analysis completed by:	16/02/2024
Report Issue Number:	1	Report issued on:	21/02/2024
Samples Analysed:	4 soil samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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

Analytical Report Number: 24-001600
 Project / Site name: Sketchley Lane Burbage Supp GI
 Your Order No: 10674

Lab Sample Number	109872	110168	110169	110170
Sample Reference	BH01	BH02	BH03	BH04
Sample Number	7	9	15	11
Depth (m)	6.60-6.70	11.10-11.20	19.50-19.60	14.70-14.80
Date Sampled	19/01/2024	18/01/2024	23/01/2024	29/01/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	14	19	15
Total mass of sample received	kg	0.1	NONE	1.1	1.1	1.2	1.2

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8.7	8.3	8.3	8.1
Total Sulphate as SO4	%	0.005	MCERTS	0.023	0.007	0.079	0.068
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	27	25	410	310
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	13.2	12.3	205	156
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	1.2	1.5	10	6.1
Total Sulphur	mg/kg	50	MCERTS	110	< 50	7500	8700
Total Sulphur	%	0.005	MCERTS	0.011	< 0.005	0.749	0.865
Water Soluble Nitrate (2:1) as N	mg/kg	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	< 2.0	< 2.0	< 2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (leachate equivalent)	mg/l	2.5	NONE	3.9	4	27	23
Magnesium (water soluble)	mg/kg	5	NONE	7.8	8	54	46

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

Analytical Report Number : 24-001600
Project / Site name: Sketchley Lane Burbage Supp GI

* 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 *
109872	BH01	7	6.60-6.70	Brown sandy clay with gravel
110168	BH02	9	11.10-11.20	Brown sand
110169	BH03	15	19.50-19.60	Grey clay
110170	BH04	11	14.70-14.80	Brown clay

Analytical Report Number : 24-001600

Project / Site name: Sketchley Lane Burbage Supp GI

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES	In-house method based on TRL 447	L038B	D	NONE
Total sulphate (as SO ₄ 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
Total Sulphur in soil	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES	In-house method	L038B	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction	L078B	D	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser	In-house method	L082B	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

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

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

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

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

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

Appendix E – Chemical Results and Screening Assessment

T&P Regeneration
Unit 5
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BS14 0BL

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7 Woodshots Meadow,
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Analytical Report Number : 24-002119

Project / Site name:	Sketchley Lane, Burbage - Supp GI	Samples received on:	26/01/2024
Your job number:	PO 866 CS 2132	Samples instructed on/ Analysis started on:	06/02/2021
Your order number:	10675	Analysis completed by:	13/02/2024
Report Issue Number:	1	Report issued on:	13/02/2024
Samples Analysed:	7 soil samples		



Signed:

Adam Fenwick
Technical Reviewer
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

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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: 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

Your Order No: 10675

Lab Sample Number	112522	112523	112524	112525	112526
Sample Reference	BH03	WS01	WS01	WS02	WS02
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.20-0.30	0.10-0.20	1.10-1.20	0.10-0.20	0.50-0.60
Date Sampled	23/01/2023	19/01/2024	19/01/2024	19/01/2024	19/01/2024
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	14	16	11	11	14
Total mass of sample received	kg	0.1	NONE	1.1	1.2	1.1	1.2	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	8	8	8.3	6.9	7.1
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	13	16	15	26	36
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	6.29	8.21	7.41	13.2	18.1
Organic Matter (automated)	%	0.1	MCERTS	1.7	1	0.5	0.5	0.5
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	0.6	0.3	0.3	0.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	0.06	< 0.05	0.05	< 0.05	0.09
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.07	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	0.06	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.1	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.08	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80
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Analytical Report Number: 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

Your Order No: 10675

Lab Sample Number				112522	112523	112524	112525	112526
Sample Reference				BH03	WS01	WS01	WS02	WS02
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20-0.30	0.10-0.20	1.10-1.20	0.10-0.20	0.50-0.60
Date Sampled				23/01/2023	19/01/2024	19/01/2024	19/01/2024	19/01/2024
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	12	15	14	3.6	6.8
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.71	1.2	0.73	0.42	0.99
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.4	0.3	0.4	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 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	21	35	21	13	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	21	20	12	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20	16	11	9.1	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	33	22	8.8	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	32	51	32	19	40
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	59	64	56	46	71

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

Analytical Report Number: 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

Your Order No: 10675

Lab Sample Number				112527	112528
Sample Reference				WS03	WS03
Sample Number				None Supplied	None Supplied
Depth (m)				0.20-0.30	0.50-0.60
Date Sampled				19/01/2024	19/01/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	9.7	11
Total mass of sample received	kg	0.1	NONE	0.9	0.6

General Inorganics

pH (L099)	pH Units	N/A	MCERTS	7.6	6.7
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	710	170
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	353	83.8
Organic Matter (automated)	%	0.1	MCERTS	0.6	0.6
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.3	0.3

Total Phenols

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

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	ISO 17025	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenzo(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	ISO 17025	< 0.80	< 0.80
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Analytical Report Number: 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

Your Order No: 10675

Lab Sample Number				112527	112528
Sample Reference				WS03	WS03
Sample Number				None Supplied	None Supplied
Depth (m)				0.20-0.30	0.50-0.60
Date Sampled				19/01/2024	19/01/2024
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection
				Accreditation Status	

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.4	5.3
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.71	0.47
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	110	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	46	8.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	11	9.3
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	55	12
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	100	25
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	77	54

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

Analytical Report Number : 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

* 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 *
112522	BH03	None Supplied	0.20-0.30	Brown clay and loam with gravel and vegetation
112523	WS01	None Supplied	0.10-0.20	Brown clay and loam with gravel and vegetation
112524	WS01	None Supplied	1.10-1.20	Brown clay and sand with gravel
112525	WS02	None Supplied	0.10-0.20	Brown clay and sand with gravel
112526	WS02	None Supplied	0.50-0.60	Brown clay and sand with gravel
112527	WS03	None Supplied	0.20-0.30	Brown clay and sand with gravel and vegetation
112528	WS03	None Supplied	0.50-0.60	Brown loam and sand with gravel and vegetation

Analytical Report Number : 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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
Total organic carbon (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
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
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES	In-house method based on Second Site Properties version 3	L038B	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Sulphate, water soluble, in soil (16hr extraction)	In-house method	L038B	D	MCERTS
Speciated EPA-16 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
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	W	MCERTS
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080	W	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement	In-house method	L099	D	MCERTS

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

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

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

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

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

Sample Deviation Report



Analytical Report Number : 24-002119

Project / Site name: Sketchley Lane, Burbage - Supp GI

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

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

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH03	N/A	S	112522	c	Hexavalent chromium in soil	L080	c
BH03	N/A	S	112522	c	Monohydric phenols in soil	L080	c
BH03	N/A	S	112522	c	Organic matter (Automated) in soil	L009B	c
BH03	N/A	S	112522	c	Speciated EPA-16 PAHs and/or Semi-volatile organic compounds in soil	L064B	c
BH03	N/A	S	112522	c	Total organic carbon (Automated) in soil	L009B	c
BH03	N/A	S	112522	c	pH in soil (automated)	L099	c

End Use Scenario	SOM	Code	(All)
Residential with Home Grown Produce	1.0%	Code2	(All)
		St. Ref	(All)

CS-2132
HUMAN HEALTH
ASSESSMENT



Min	Max	Count	No. of	Screen	Location ID			WS01		WS03		WS02		BH03
Value	Value	Values	Exceed	Level	Depth Top and Base (m)			0.1	1.1	0.2	0.5	0.1	0.5	0.2
(mg/kg)	(mg/kg)	-	ances	(mg/kg)	Ref.	Group	Contaminant Reported	0.2	1.2	0.3	0.6	0.2	0.6	0.3
3.60	15.00	7	-	37	1.01	Heavy Metals	Arsenic	15.00	14.00	5.40	5.30	3.60	6.80	12.00
0.42	1.20	7	-	1.7	1.02	Heavy Metals	Beryllium	1.20	0.73	0.71	0.47	0.42	0.99	0.71
0.20	0.20	7	-	22	1.03	Heavy Metals	Cadmium	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.00	110.00	7	-	910	1.04	Heavy Metals	Chromium	35.00	21.00	110.00	18.00	13.00	31.00	21.00
9.10	20.00	7	-	200	1.05	Heavy Metals	Lead	16.00	11.00	11.00	9.30	9.10	15.00	20.00
0.30	0.30	7	-	40	1.06	Heavy Metals	Mercury	0.30	0.30	0.30	0.30	0.30	0.30	0.30
8.80	55.00	7	-	180	1.07	Heavy Metals	Nickel	33.00	22.00	55.00	12.00	8.80	24.00	16.00
1.00	1.00	7	-	250	1.08	Heavy Metals	Selenium	1.00	1.00	1.00	1.00	1.00	1.00	1.00
19.00	100.00	7	-	410	1.09	Heavy Metals	Vanadium	51.00	32.00	100.00	25.00	19.00	40.00	32.00
0.20	0.80	7	-	290	2.01	Inorganics	Water Soluble Boron	0.40	0.30	0.30	0.20	0.40	0.30	0.80
1.80	1.80	7	-	21	2.02	Inorganics	Hexavalent Chromium	1.80	1.80	1.80	1.80	1.80	1.80	1.80
8.50	46.00	7	-	2400	3.01	Phytotoxic Metals	Copper	21.00	20.00	46.00	8.50	12.00	18.00	17.00
46.00	77.00	7	-	3700	3.02	Phytotoxic Metals	Zinc	64.00	56.00	77.00	54.00	46.00	71.00	59.00
1.00	1.00	7	-	280	4.01	Phenols	Phenol	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.05	0.09	7	-	2.3	5.01	PAHs	Naphthalene	0.05	0.05	0.05	0.05	0.05	0.09	0.06
0.05	0.05	7	-	170	5.02	PAHs	Acenaphthylene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.05	7	-	210	5.03	PAHs	Acenaphthene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.05	7	-	170	5.04	PAHs	Fluorene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.05	7	-	95	5.05	PAHs	Phenanthrene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.05	7	-	2400	5.06	PAHs	Anthracene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.08	7	-	280	5.07	PAHs	Fluoranthene	0.05	0.05	0.05	0.05	0.05	0.05	0.08
0.05	0.08	7	-	620	5.08	PAHs	Pyrene	0.05	0.05	0.05	0.05	0.05	0.05	0.08
0.05	0.05	7	-	7.2	5.09	PAHs	Benzo[a]anthracene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.07	7	-	15	5.10	PAHs	Chrysene	0.05	0.05	0.05	0.05	0.05	0.05	0.07
0.05	0.06	7	-	2.6	5.11	PAHs	Benzo[b]fluoranthene	0.05	0.05	0.05	0.05	0.05	0.05	0.06
0.05	0.10	7	-	77	5.12	PAHs	Benzo[k]fluoranthene	0.05	0.05	0.05	0.05	0.05	0.05	0.10
0.05	0.10	7	-	5	5.13	PAHs	Benzo[a]pyrene	0.05	0.05	0.05	0.05	0.05	0.05	0.10
0.05	0.08	7	-	27	5.14	PAHs	Indeno[1,2,3-cd]pyrene	0.05	0.05	0.05	0.05	0.05	0.05	0.08
0.05	0.05	7	-	0.24	5.15	PAHs	Dibenz[a,h]anthracene	0.05	0.05	0.05	0.05	0.05	0.05	0.05
0.05	0.08	7	-	320	5.16	PAHs	Benzo[ghi]perylene	0.05	0.05	0.05	0.05	0.05	0.05	0.08

End Use Scenario
Phytotoxic

Code	(All)
Code2	(All)
St. Ref	(All)

CS-2132

PHYTOTOXIC

REPORT



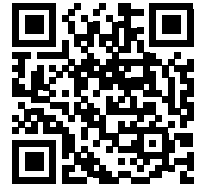
Min Value	Max Value	Count Values	No. of Exceed - ances	Screen Level	Location ID			WS01		WS03		WS02		BH03
					Depth Top and Base			0.1	1.1	0.2	0.5	0.1	0.5	0.2
					Ref.	Group	Contaminant Reported	0.2	1.2	0.3	0.6	0.2	0.6	0.3
0.20	0.20	7	-	8	1.03	Heavy Metals	Cadmium	0.20	0.20	0.20	0.20	0.20	0.20	0.20
13.00	110.00	7	-	154	1.04	Heavy Metals	Chromium	35.00	21.00	110.00	18.00	13.00	31.00	21.00
0.30	0.30	7	-	28	1.06	Heavy Metals	Mercury	0.30	0.30	0.30	0.30	0.30	0.30	0.30
8.80	55.00	7	-	70	1.07	Heavy Metals	Nickel	33.00	22.00	55.00	12.00	8.80	24.00	16.00
1.00	1.00	7	-	10	1.08	Heavy Metals	Selenium	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.20	0.80	7	-	3	2.01	Inorganics	Water Soluble Boron	0.40	0.30	0.30	0.20	0.40	0.30	0.80
8.50	46.00	7	-	130	3.01	Phytotoxic Metals	Copper	21.00	20.00	46.00	8.50	12.00	18.00	17.00
46.00	77.00	7	-	300	3.02	Phytotoxic Metals	Zinc	64.00	56.00	77.00	54.00	46.00	71.00	59.00

Appendix F – HazWaste

Waste Classification Report

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

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



P8YKV-LGP0T-EI0SI

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

Job name

Sketchley Lane, Burbage

Description/Comments

Project

P0866

Site

Sketchley Lane, Burbage

Classified by

Name: **Matthew Carr**
 Date: **14 Mar 2024 13:36 GMT**
 Telephone: **0117 927 7756**
 Company: **T&P Regeneration Ltd**
Unit 5, Septimus
Hawkfield Business Park
Bristol
BS14 0BN

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

Hazardous Waste Classification

Date

09 Dec 2021

Next 3 year Refresher due by Dec 2024

Purpose of classification

7 - Disposal of Waste

Address of the waste

Sketchley Lodge, Sketchley Lane, Burbage, Hinckley

Post Code **LE103HU**

SIC for the process giving rise to the waste

41202 Construction of domestic buildings

Description of industry/producer giving rise to the waste

Development of site.

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

Waste created during the excavation of soils for development.

Description of the waste

Natural clay and made ground

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	BH03--23012023-0.20		Non Hazardous		3
2	WS01--19012024-0.10		Non Hazardous		5
3	WS01--19012024-1.10		Non Hazardous		7
4	WS02--19012024-0.10		Non Hazardous		9
5	WS02--19012024-0.50		Non Hazardous		11
6	WS03--19012024-0.20		Non Hazardous		13
7	WS03--19012024-0.50		Non Hazardous		15

Related documents

#	Name	Description
1	24-002119_HWOL.HWOL	i2 Analytical .hwol file used to populate the Job

Report

Created by: Matthew Carr

Created date: 14 Mar 2024 13:36 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	17
Appendix B: Rationale for selection of metal species	18
Appendix C: Version	19

Classification of sample: BH03--23012023-0.20

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

Sample details

Sample name:	LoW Code:
BH03--23012023-0.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
14%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8 pH		8 pH	8pH		
			PH							
4	boron { diboron trioxide }				0.8 mg/kg	3.22	2.215 mg/kg	0.000222 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	12 mg/kg		10.32 mg/kg	0.00103 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.71 mg/kg	8.868	5.415 mg/kg	0.000541 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				17 mg/kg	1.74	25.436 mg/kg	0.00254 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				16 mg/kg	1.546	21.277 mg/kg	0.00213 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	20 mg/kg		17.2 mg/kg	0.00172 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				32 mg/kg	1.785	49.128 mg/kg	0.00491 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				59 mg/kg	2.469	125.292 mg/kg	0.0125 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.06 mg/kg		0.0516 mg/kg	0.00000516 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				0.08 mg/kg		0.0688 mg/kg	0.00000688 %		✓	
		205-912-4	206-44-0								
22	pyrene				0.08 mg/kg		0.0688 mg/kg	0.00000688 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				0.07 mg/kg		0.0602 mg/kg	0.00000602 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				0.1 mg/kg		0.086 mg/kg	0.0000086 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				0.08 mg/kg		0.0688 mg/kg	0.00000688 %		✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				0.08 mg/kg		0.0688 mg/kg	0.00000688 %		✓	
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21 mg/kg	1.462	30.693 mg/kg	0.00307 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				0.16 mg/kg		0.138 mg/kg	0.0000138 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0295 %		

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: WS01--19012024-0.10

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

Sample details

Sample name:	LoW Code:
WS01--19012024-0.10	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
16% (wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8 pH		8 pH	8pH		
			PH							
4	boron { diboron trioxide }				0.4 mg/kg	3.22	1.082 mg/kg	0.000108 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	15 mg/kg		12.6 mg/kg	0.00126 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				1.2 mg/kg	8.868	8.939 mg/kg	0.000894 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				21 mg/kg	1.74	30.69 mg/kg	0.00307 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				33 mg/kg	1.546	42.864 mg/kg	0.00429 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	16 mg/kg		13.44 mg/kg	0.00134 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				51 mg/kg	1.785	76.477 mg/kg	0.00765 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				64 mg/kg	2.469	132.749 mg/kg	0.0133 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				35 mg/kg	1.462	51.154 mg/kg	0.00512 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0378 %		

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: WS01--19012024-1.10

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

Sample details

Sample name:	LoW Code:
WS01--19012024-1.10	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
11%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				8.3 pH		8.3 pH	8.3 pH		
			PH							
4	boron { diboron trioxide }				0.3 mg/kg	3.22	0.86 mg/kg	0.000086 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	14 mg/kg		12.46 mg/kg	0.00125 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.73 mg/kg	8.868	5.762 mg/kg	0.000576 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				20 mg/kg	1.74	30.968 mg/kg	0.0031 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				22 mg/kg	1.546	30.277 mg/kg	0.00303 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	11 mg/kg		9.79 mg/kg	0.000979 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				32 mg/kg	1.785	50.842 mg/kg	0.00508 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				56 mg/kg	2.469	123.07 mg/kg	0.0123 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.05 mg/kg		0.0445 mg/kg	0.00000445 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				21 mg/kg	1.462	30.693 mg/kg	0.00307 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0303 %		

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: WS02--19012024-0.10

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

Sample details

Sample name:	LoW Code:
WS02--19012024-0.10	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
11%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				6.9 pH		6.9 pH	6.9 pH		
			PH							
4	boron { diboron trioxide }				0.4 mg/kg	3.22	1.146 mg/kg	0.000115 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	3.6 mg/kg		3.204 mg/kg	0.00032 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.42 mg/kg	8.868	3.315 mg/kg	0.000331 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				12 mg/kg	1.74	18.581 mg/kg	0.00186 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				8.8 mg/kg	1.546	12.111 mg/kg	0.00121 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	9.1 mg/kg		8.099 mg/kg	0.00081 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				19 mg/kg	1.785	30.187 mg/kg	0.00302 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				46 mg/kg	2.469	101.093 mg/kg	0.0101 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	19 mg/kg	0.0019 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0205 %		

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: WS02--19012024-0.50

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

Sample details

Sample name:	LoW Code:
WS02--19012024-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
14%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				7.1 pH		7.1 pH	7.1 pH		
			PH							
4	boron { diboron trioxide }				0.3 mg/kg	3.22	0.831 mg/kg	0.0000831 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	6.8 mg/kg		5.848 mg/kg	0.000585 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.99 mg/kg	8.868	7.55 mg/kg	0.000755 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				18 mg/kg	1.74	26.932 mg/kg	0.00269 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				24 mg/kg	1.546	31.916 mg/kg	0.00319 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	15 mg/kg		12.9 mg/kg	0.00129 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				40 mg/kg	1.785	61.41 mg/kg	0.00614 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				71 mg/kg	2.469	150.775 mg/kg	0.0151 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.09 mg/kg		0.0774 mg/kg	0.00000774 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				31 mg/kg	1.462	45.308 mg/kg	0.00453 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0351 %		

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: WS03--19012024-0.20

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

Sample details

Sample name:	LoW Code:
WS03--19012024-0.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
9.7%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 9.7% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH		PH		7.6 pH		7.6 pH	7.6 pH		
4	boron { diboron trioxide }				0.3 mg/kg	3.22	0.872 mg/kg	0.0000872 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	5.4 mg/kg		4.876 mg/kg	0.000488 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.71 mg/kg	8.868	5.686 mg/kg	0.000569 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	0.2 mg/kg		0.181 mg/kg	0.0000181 %	✓	
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				46 mg/kg	1.74	72.267 mg/kg	0.00723 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				55 mg/kg	1.546	76.798 mg/kg	0.00768 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	11 mg/kg		9.933 mg/kg	0.000993 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				100 mg/kg	1.785	161.202 mg/kg	0.0161 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				77 mg/kg	2.469	171.693 mg/kg	0.0172 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				110 mg/kg	1.462	160.771 mg/kg	0.0161 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0672 %		

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: WS03--19012024-0.50

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

Sample details

Sample name:	LoW Code:
WS03--19012024-0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
11%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	

Hazard properties

None identified

Determinands

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

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
1	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
2	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<1.8 mg/kg	2.27	<4.086 mg/kg	<0.000409 %		<LOD
	024-017-00-8									
3	pH				6.7 pH		6.7 pH	6.7 pH		
			PH							
4	boron { diboron trioxide }				0.2 mg/kg	3.22	0.573 mg/kg	0.0000573 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
5	arsenic { arsenic compounds, with the exception of those specified elsewhere in this Annex }			1	5.3 mg/kg		4.717 mg/kg	0.000472 %	✓	
	033-002-00-5									
6	beryllium { beryllium chloride }				0.47 mg/kg	8.868	3.709 mg/kg	0.000371 %	✓	
			7787-47-5							
7	cadmium { cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex }			1	<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	048-001-00-5									
8	copper { copper(II) carbonate – copper(II) hydroxide (1:1) }				8.5 mg/kg	1.74	13.162 mg/kg	0.00132 %	✓	
	029-020-00-8	235-113-6	12069-69-1							
9	mercury { inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex }			1	<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	080-002-00-6									
10	nickel { nickel sulfide }				12 mg/kg	1.546	16.515 mg/kg	0.00165 %	✓	
	028-006-00-9	240-841-2 [1] 234-349-7 [2] - [3]	16812-54-7 [1] 11113-75-0 [2] 1314-04-1 [3]							
11	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	9.3 mg/kg		8.277 mg/kg	0.000828 %	✓	
	082-001-00-6									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
12	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<1 mg/kg	1.405	<1.405 mg/kg	<0.000141 %			<LOD
	034-002-00-8										
13	vanadium { divanadium pentaoxide; vanadium pentoxide }				25 mg/kg	1.785	39.72 mg/kg	0.00397 %		✓	
	023-001-00-8	215-239-8	1314-62-1								
14	zinc { zinc sulphate }				54 mg/kg	2.469	118.674 mg/kg	0.0119 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				0.05 mg/kg		0.0445 mg/kg	0.00000445 %		✓	
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
29	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18 mg/kg	1.462	26.308 mg/kg	0.00263 %			
		215-160-9	1308-38-9								
30	benzo[bk]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0239 %		

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

Appendix A: Classifier defined and non GB MCL determinands

monohydric phenols (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Muta. 2; H341 , Acute Tox. 3; H331 , Acute Tox. 3; H311 , Acute Tox. 3; H301 , STOT RE 2; H373 , Skin Corr. 1B; H314 , Skin Corr. 1B; H314 >= 3 % , Skin Irrit. 2; H315 1 <= conc. < 3 % , Eye Irrit. 2; H319 1 <= conc. < 3 % , Aquatic Chronic 2; H411

pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

arsenic compounds, with the exception of those specified elsewhere in this Annex

GB MCL index number: 033-002-00-5

Description/Comments: Worst Case: IARC considers arsenic compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

beryllium chloride (CAS Number: 7787-47-5)

Description/Comments: Data from C&L Inventory Database; No entries in Registered Substances Database, IARC or Pesticide Properties Database

Data source: <http://clp-inventory.echa.europa.eu/SummaryOfClassAndLabelling.aspx?SubstanceID=27264&HarmOnly=no?fc=true&lang=en>

Data source date: 02 Jun 2014

Hazard Statements: Acute Tox. 3; H301 , Eye Irrit. 2; H319 , STOT SE 3; H335 , Skin Irrit. 2; H315 , Skin Sens. 1; H317 , Carc. 1B; H350 , STOT RE 1; H372 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex

GB MCL index number: 048-001-00-5

Description/Comments: Worst Case: IARC considers cadmium compounds Group 1; Carcinogenic to humans

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

lead compounds with the exception of those specified elsewhere in this Annex (worst case)

GB MCL index number: 082-001-00-6

Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

20 Nov 2021 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

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

■ **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

■ **benzo[bk]fluoranthene** (EC Number: [1] 205-911-9 [2] 205-916-6, CAS Number: [1] 205-99-2 [2] 207-08-9)

Description/Comments: Combined data from harmonised entries in CLP for benzo[b] and benzo[k]fluoranthene; C&L Inventory Database

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

Data source date: 02 Mar 2017

Hazard Statements: Carc. 1B; H350 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

Appendix B: Rationale for selection of metal species

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case.

boron {diboron trioxide}

Based upon material type it is considered to be the most likely worst case compound.

arsenic {arsenic compounds, with the exception of those specified elsewhere in this Annex}

Most likely based upon material type and environmental conditions.

beryllium {beryllium chloride}

Worst case.

cadmium {cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex}

Most likely based upon the material type and environmental conditions.

copper {copper(II) carbonate – copper(II) hydroxide (1:1)}

Based upon material type it is considered to be the most likely worst case compound.

mercury {inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex}

Based upon material type it is considered to be the most likely worst case compound.

nickel {nickel sulfide}

Based upon material type it is considered to be the most likely worst case compound.

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Based upon material type it is considered to be the most likely worst case compound.

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

Based upon material type it is considered to be the most likely worst case compound.

vanadium {divanadium pentaoxide; vanadium pentoxide}

Based upon material type it is considered to be the most likely worst case compound.

zinc {zinc sulphate}

Based upon material type it is considered to be the most likely worst case compound.

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

Worst case.

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2024.73.5982.11058 (13 Mar 2024)

HazWasteOnline Database: 2024.68.5980.11054 (09 Mar 2024)

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