ST MARY'S STREET, PENISTONE

PHASE II SITE APPRAISAL FOR FAIRBANK INVESTMENTS

Project Ref:
P11083

Date:
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Prepared for:
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This report has been prepared in accordance with GRM's Accredited Quality Procedures

If you have any queries regarding this report please contact the project manager in the first instance.

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Issue	Description of Revision	Signature

Site Appraisal for St Mary's Street, Penistone

SUMMARY OF RECOMMENDATIONS

Where further assessment is required it is indicated with a "Y" in the right hand column.		
Proposed Development	Mixed – commercial / residential.	
CONTAMINATION ASSESSMENT - REMEDIATION / WASTE DISPOSAL		
End Users	No remediation required due to hardstanding across the site.	
Site Workers	No remediation required.	
Construction Materials	Appropriate concrete specification. Barrier Type water supply pipes required (to be confirmed) by local water supply company.	Y
Groundwater	No remediation required.	
Surface Water	No remediation required.	
Waste Disposal	Preliminary Waste Classification: Non-Hazardous for made ground. Inert for natural strata. Will need to be confirmed by receiving landfill.	Y
GEOTECHNICAL ASSESSMENT – FOUNDATIONS		
Ground Treatment Required	Excavation, sorting and re-engineering of made ground.	Y
Main Bearing Strata	Clay / siltstone / mudstone.	
Nett Allowable Bearing Pressure	>300kN/m^2 (Rock) for trench fill foundations.	Y
Rockhead	Across the majority of the site between 0.50m to 1.70m begl. Not present within 3.00m current ground level in the east (coal drops).	
Tree Influence	Low. Shallow rock will prevent any significant deepening due to trees.	
Volume Change Potential	Made ground – non-shrinkable. Rock – non-shrinkable. Weathered Pennine Lower Coal Measures - medium.	
Likely Foundation Types	Strip/Trench Fill or pad.	Y
Likely Foundation Depth Range	Trench fill / pad - 0.60m begl minimum, 1.20m begl maximum depths; average depth 0.90m begl. To be confirmed by piling / vibro contractor for piles / vibro.	Y
Excavation Hazards	Obstructions in made ground.	
Floor Slab Types	100% beam and block.	
Gas Protection Requirements Radon and/or Landfill	CS2 gas protection measures to be installed throughout in lieu of a monitoring program. No radon protection required.	
GEOTECHNICAL ASSESSMENT - GENERAL		
Slope Stability Risk	Generally low, locally moderate.	
Soakaways Potential and SUDS Features	Not suitable.	
New Access Roads	Observational CBRs 2% to 4% in natural cohesive soils, <2% in untreated made ground, c.5% for treated made ground.	
Buried Concrete Class	DS - 1; AC- 1. GEN-1 (unreinforced) RC35 (reinforced).	
Retaining Walls and Boundary Features	Yes – existing. Likely as part of proposed development.	Y
Earthworks	The low strength strata is unlikely to be suitable for earthworks in its current condition. The made ground will require excavation and sorting to allow for use in earthworks.	Y
Further Assessment Targets	Delineation of area of deep made ground and confirmation of ground conditions beneath the floor slab.	Y
Other Comments	Existing retaining walls should be inspected by a structural engineer. Possible Agreement In Principle required for retaining structures in proximity to adopted roads.	Y

This summary is based on the full report that provides the detailed assessment of the ground risks affecting the development and how to manage them. It should not be used in isolation.

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1 INTRODUCTION

1.1 PREAMBLE

GRM Development Solutions Limited (GRM) has been appointed by Fairbank Investments (Client) to undertake a Phase II Site Appraisal. A previous ground investigation has been conducted by GRM at the site; however, the existing Client has no reliance on this earlier report. A summary Phase I Assessment (Desk Study) is presented in Section 2 of this report to enable the geo-environmental setting of the site to be established. The Phase II works reported within this document comprise the intrusive ground investigation, geotechnical testing and chemical analysis. The information gained from the Phase II works will be used to refine the conceptual model for the site and determine cost-effective development solutions.

This document is intended to provide information that will assist decision making by identifying and recommending solutions to ground engineering and contamination issues.

GRM Standard Limitations of Reporting are provided in Appendix A of this report.

The Client proposes to develop the site with a mix of commercial units in the west, residential properties in the central site area and an office block and pavilion in the east. Parking areas, cycle hoops and bin stores have been allotted for the various sections of the development. Soft landscaping is not proposed. The development layout provided by the Client, on which this report is based is presented in Appendix B.

The Client has not informed GRM of any significant potential development hazards.

1.2 OBJECTIVES OF THE SITE APPRAISAL

The principal aims of the Phase II Site Appraisal are as follows:

a) Obtain information, from easily accessible sources, about the soil and groundwater conditions within the area of the site.

b) Determine the possible ground-related geotechnical and contamination hazards within the site boundaries that may affect the proposed development.

c) Provide preliminary development recommendations.

d) Provide advice on further works required for the cost-effective reduction of risks to the development and procedures likely to satisfy regulators.

Whilst every effort has been made to pre-empt the likely requirements of the Local Authority and the Environment Agency, they are likely to have specific requirements that will need to be discussed and addressed at a later date.

2 PHASE I DESK STUDY SUMMARY

Project Name.	St Mary's Street, Penistone.
Project Reference.	P11083.
Client.	Fairbank Investments.
Site Location (address).	St Mary's Street, Penistone. A Site Location and Boundary Plan is presented in Appendix C.
National Grid Reference.	S36 6EB.
Site Area (Ha).	0.36.
Summary of Proposed Development.	Industrial commercial in west, residential in centre, offices and pavilion in east.
Client Supplied Information.	Site location and proposed development plans.
Site Setting.	The site currently comprises a roughly rectangular parcel of undeveloped land. St Mary's Street (B6462) with a disused railway bridge is located to the east, an access road with commercial buildings beyond to the south, and a commercial unit with parkland beyond that to the west. The site is generally flat lying, with the far south eastern corner down gradient of a retaining structure and at approximately 3m lower elevation. A two storey former railway building (Signal House) is present in the south east. At the eastern end of the site are a number of former coal drops with rail lines running over a number of stone arches. These were in poor condition with a number of the wooden beams supporting the rail lines having fallen down and some cracking noted in the stone work forming the arches. The coal drops are a grade II listed structure and development plans are to preserve the historical character of the features whilst incorporating modern amenities.
Site History.	Historically the site has comprised a railway line and sidings since 1891. By 1903 additional railway lines and sidings cover the majority of the site with a crane noted close to the southern boundary; the crane is no longer present by 1959. By 1987 the railways and sidings across the site have been dismantled and are disused, and by 1993 all of the lines are dismantled and a row of residential properties along the northern boundary have been constructed. By 2002 a works building is present in the southern area of the site. The map for 2008 shows a cycle path along the northern section of the site.

	A gas works with two gasometers, ancillary buildings and mill race are illustrated 40m to the north west (1881 – 1959). By 1903 tanks are shown north of the railway lines and 75m to the east. Two refuse tips (1984-2002) are located approximately 20m and 100m south east of the site. Between 2008 and the present a cycle path (Trans Pennine Trail) is recorded to the north.
Geology.	No superficial deposits are indicated beneath the site. The Solid geology comprises Pennine Lower Coal Measures (mudstone and siltstone) likely to have weathered to a silty clay at shallow depth. Significant made ground should be anticipated given the long industrial heritage of the site.
Hydrogeology.	Pennine Lower Coal Measures - Secondary B Aquifer. Given that the strata are likely to comprise clay or mudstone the aquifer is not considered to be a sensitive receptor. The site is not located within a Source Protection Zone.
Hydrology.	The River Don is located 250m north of the site and flows to the east. Due to the distance and intervening cohesive strata the river is not considered to be a viable receptor.
Flooding.	The site is not considered to be at significant risk of flooding.
Mining and Quarrying.	The site is not within the zone of likely physical influence on the surface from past underground workings. There are no known coal mining entries within, or within 20m of, the boundary of the property.
Environmental Information.	There are five recorded pollution incidents within 250m: February 2002 and September 2003 some 66m and 234m to the south east and north respectively. The pollutants comprised commercial waste and crude sewage which had a minor land and minor water impact respectively. Three pollution incidents were noted on the same day in May 2003 all 110m to the north west with the pollutant comprising fumes and smoke which had a minor air impact. None of these incidents are considered to be significant. There is one recorded historic landfill area which is close to the south western corner of the site, the waste type is noted as inert industrial and the license was surrendered in 1985. There are also two Local Authority Landfill sites located 19m and 69m to the south. The landfill to the south west and

	the one 19m to the south are at this stage considered potential sources of ground gas. There are three potentially contaminative industrial land uses recorded within 50m of the site: a works 4m south of the site, a distribution and haulage centre and a garage both 18m to the south. None of these are considered to be significant
UXO Risk.	Low risk from UXO. No further assessment anticipated.
Potential Soil Contamination Sources.	Made ground from former site use. Petroleum hydrocarbons from former site use. Nearby former industrial land uses.
Potential Ground Gas Sources (including Radon).	Made ground. Adjacent and nearby historic landfill sites. No radon risk.

The Phase I Ground Hazard Diagram is presented in Appendix D.

2.1 PHASE I CONCEPTUAL SITE MODEL

HUMAN HEALTH			
Source	**Pathway**	**Receptor**	**Level of Risk**
Potentially contaminated made ground associated with previous development.	Indoor and outdoor inhalation of ground gas and soil vapours, the ingestion of contaminated soil and soil dust, and dermal contact with contaminated soil and soil dust.	End users and construction workers.	Moderate.
Potential ground gases (methane/ carbon dioxide) from made ground.	Inhalation.	End users.	Moderate.
Potential ground gases (methane/ carbon dioxide) from adjacent landfill.	Inhalation.	End users.	Moderate.
Potential asbestos containing materials associated with buildings.	Inhalation.	Construction workers.	Low.

CONTROLLED WATERS			
Potentially contaminated made ground associated with previous development.	Leaching of contaminants and vertical migration to the groundwater.	Secondary B Aquifer (Pennine Lower Coal Measures).	Low.

CONSTRUCTION MATERIALS			
Potentially contaminated made ground associated with previous development.	Migration of contamination through leaks and joints, degradation of pipe materials.	Water pipes.	Moderate.
Elevated levels of sulphate and/or acidic ground conditions.	Direct contact.	Buried concrete.	Low.

3 PHASE II GROUND INVESTIGATION

3.1 FIELDWORK

The ground investigation has been designed in accordance with the general comments outlined in Appendix A (iv).

The ground investigation fieldwork was conducted on 26th November 2025. A total of eight trial pits, (TP01-TP08) were progressed, to depths ranging between 0.30m and 1.80m below existing ground level (begl). The exploratory hole location plan and exploratory hole logs are presented in Appendix E and Appendix F respectively.

The rationale for the positioning of the individual exploratory holes is illustrated in the table below:

LIST OF TARGETED EXPLORATORY HOLES	
Exploratory Hole	**Reason for Location and Type**
TP01 - TP02	Western industrial unit.
TP03 - TP04	Residential block.
TP05 & TP08	Office block.
TP06	General grid.
TP07 (shallow sample)	Pavillion.
TP = Trial Pit	

Areas not accessible at the time of the ground investigation included beneath a floor slab of a former structure. It is recommended that further investigation be undertaken, following removal of the floor slab, to confirm the ground conditions in this area.

Gas installations and monitoring were beyond the scope of this investigation. It understood that the Client will incorporate gas protection measures in accordance with Characteristic Situation 2 conditions into the ground floor construction of all structures.

3.2 PROVEN GROUND

The following ground conditions were encountered during the investigation fieldwork:

- Made ground
- Pennine Lower Coal Measures

3.2.1 Made Ground

Made ground was encountered in all holes, to depths ranging between 0.40m and 1.70m begl. A very thin horizon (c.0.10m) of re-laid topsoil was present in TP07 in the extreme east and above the area of historic coal drops, which was underlain by made ground. TP03 was terminated at 0.30m depth due to the presence of a buried service on the northern boundary.

Possible buried topsoil was encountered in TP06 between 1.10m and 1.25m begl as a grey, brown silty, slightly sandy CLAY with numerous rootlets. No evidence of possible buried topsoil was encountered elsewhere.

Various types of made ground were observed:

- Gravel of sandstone (ballast) was encountered in TP03, TP05 & TP06 and was encountered from the surface down to a depth of 0.20m begl. This made ground was likely laid down to provide a running surface as well as providing adequate drainage.
- A black and brown slightly clayey, gravelly SAND to a slightly clayey, sandy GRAVEL. Gravel was dominantly comprised of bricks, glass, clinker, and sandstone. Densities were estimated to range between loose and medium dense. Proven thickness ranged from 0.40m to 1.70m begl, and was encountered in all trial pits from either the surface or below ballast where present. This made ground is likely to be from the previous industrial use.

Made ground thicknesses were generally between 0.40m and 0.80m. An isolated occurrence of deeper made ground within the main site area was observed in TP04 with an observed thickness of 1.70m begl. Further delineation of the extent of this deep made ground was not possible due to a remnant floor slab to the west and a buried water pipe to the south. Therefore, it's recommended that further investigation is carried out once the floor slab is removed.

In general the made ground was estimated as medium dense. In TP04 sidewall instability was observed and the density was estimated as loose. However, the made ground at this location included a proportion of oversize material, which was the cause of the instability and may have led to an underestimation of its density.

Deep made ground (c.3.00m) is present in the extreme east of the site, in the vicinity of the coal drops. The Client has indicated that all the made ground from this area will be excavated and disposed of off site to allow the creation of the Pavillion with a kitchen area beneath. Deep excavations were not undertaken in this area due to the listed status of the structures and as all of the material will be removed as part of the development proposals.

3.2.2 Pennine Lower Coal Measures

These deposits were encountered where made ground was fully penetrated initially as a weathered horizon above rock head in TP02, TP05 & TP08 to depths of between 0.50m and 1.20m. Where present the material generally comprised thinly laminated bluish grey mottled orangish brown, silty, CLAY with fine to medium subangular mudstone lithorelicts.

Only in TP02 was the cohesive material of sufficient thickness to conduct hand shear vane readings with recorded shear strengths between 70kPa and 90kPa. These results indicate the soils were medium to high strength.

The more weathered zone was underlain by more competent rock quality strata comprising thinly laminated yellowish brown SILTSTONE and orangish brown MUDSTONE. Strengths were estimated as extremely weak.

3.3 CONTAMINATION OBSERVATIONS

Ash and clinker were widespread within the made ground. In TP04 a moderately strong hydrocarbon odour was noted at 1.50m begl within the made ground and coincident with a moderate inflow of perched groundwater. No staining or odour was noted within the underlying natural strata.

Based on the field observations the hydrocarbon odour is considered to be related to the local occurrence of groundwater as opposed to the made ground itself, as groundwater was confined to TP04 and no odours were observed in the made ground elsewhere.

The deep, granular made ground observed in TP04 is considered to have provided a sump into which the perched water has drained.

3.4 GROUNDWATER OBSERVATIONS

Groundwater was not generally observed during the investigation with the exception of in TP04. However, the exploratory technique used was rapid and may have masked small water seepages.

The isolated occurrence of groundwater in TP04 is suggestive of localised minor volumes of perched water present within the granular made ground.

Due to the lack of groundwater data for the site it has not been possible to accurately determine the groundwater flow direction beneath the site. However, the groundwater flow is considered to be to the north east following the local topography.

3.5 SUMMARY OF FIELDWORK OBSERVATIONS

The fieldwork has revealed/confirmed the following:

Significant Features identified during fieldwork
Made ground (locally deep) – potential source of contamination, deepened foundations and potential source of ground gas. **Hydrocarbon odour (TP04)** – potential TPH contamination. **Rock quality strata** – requirement for heavy plant / breaking equipment to form foundations and drainage runs. **Localised perched groundwater (TP04)** – worst case of sump pumping to control water ingress into deeper excavations.

4 LABORATORY ANALYSES RATIONALE

4.1 CHEMICAL LABORATORY ANALYSIS

Chemical laboratory analyses were selected to provide the parameters necessary to make an initial assessment of potentially contaminated soils and/or waters, for the budgetary design of the development. The choice of contamination testing was based on the Phase I assessment, identified past uses of the site, site observations and comprised:

- Seven samples of made ground were analysed for a general suite of contaminants (metals, inorganics and speciated PAH).
- Seven samples of made ground were analysed for banded aliphatic and aromatic hydrocarbons (TPHCWG).
- Seven samples of made ground have been screened for the presence of asbestos.

All samples were screened using a Photo-ionising detector once back at the office, which identified elevated concentrations of hydrocarbons in TP04 only.

Given the isolated nature and depth of occurrence of the observed hydrocarbon contamination testing for VOCs and SVOCs have been ruled out of the testing suites.

As no sensitive controlled waters receptor has been identified soil leachate analysis is not considered to be appropriate.

The chemical analysis results are presented in Appendix G.

Samples not used for testing will be stored for a month after issue of this report and then disposed of, unless the client requests in writing that they be kept.

4.2 GEOTECHNICAL LABORATORY TESTING

Geotechnical soils testing has been undertaken as part of the ground investigation including the following:

- Two samples of the cohesive weathered Pennine Lower Coal Measures underwent Atterberg Limits (PI) classification.
- Five samples (three of made ground and two of the weathered Pennine Lower Coal Measures) underwent pH and water soluble sulphate testing.

Geotechnical tests were selected to provide the parameters necessary for the budgetary design of the development including foundations and infrastructure. The geotechnical test results are presented in Appendix H, and summarised in Section 10.2.

5 QUANTITATIVE RISK ASSESSMENT – HUMAN HEALTH (SOIL)

5.1 INTRODUCTION

The Client proposes to develop the site with a mix of commercial / industrial units in the west, residential properties in the central site area and an office block and pavilion in the east. Parking areas, cycle hoops and bin stores have been allotted for the various sections of the development. No significant areas of soft landscaping are proposed.

Various sources of contamination have been put forward in earlier text and summarised in the Phase I conceptual model. The material on site identified as being the most likely to be contaminated is the made ground.

Representative samples of all strata and those considered to be potentially contaminated by virtue of the desk study and/or based on site observations were collected for further examination and/or potential testing.

The rationale for the end use specific Tier 1 Acceptance Criteria (TAC) used by GRM is outlined in Appendix A (vi) and for this site the chemical analysis results are being compared against the TAC for residential end use without plant uptake. In order to adopt a conservative approach a Soil Organic Matter (SOM) content of 6% has been used to assess the made ground, as this reflects the lowest SOM recorded in the material.

To provide an initial assessment, the results have been assessed to determine whether benzo(a)pyrene could be used as a surrogate marker in the assessment of carcinogenic risks posed by genotoxic PAHs in soils. It is recommended that such assessments should be based upon toxicological benchmarks derived from the data for two coal tar mixtures presented by Culp et al. (1998) and as described in the Public Health England document “Contaminated land information sheet: risk assessment approaches for polycyclic aromatic hydrocarbons (PAHs)”, dated 2017. The graphs completed show that benzo(a)pyrene can be used as a surrogate marker for genotoxic PAHs, with the exception of naphthalene, for the #natural strata# #made ground#. GRM’s TACs use published C4SL values which are based on minimal risk levels and have been confirmed to be suitable for use in a planning context by the UK Government. Other commercially available values have been published and have been used where C4SLs are not available.

A copy of the PAH profile graphs and GRM thresholds used in this assessment are presented in Appendix I.

A copy of the thresholds used in this assessment is presented in Appendix J.

5.2 RISK TO END USERS

The chemical analysis results are presented in Appendix G.

Whilst the number of samples tested is considered sufficient to characterise the made ground it is not considered appropriate to carry out statistical analysis on this data set. Therefore the results have been compared directly against the TAC. The results of the hydrocarbons and asbestos screen have also been assessed separately.

5.2.1 Analysis of Soil Contamination Data

GRM General Suite – Made ground

The concentrations of most of the contaminants are below the relevant TAC for residential end use without plant uptake. The exceptions to the above were:

- Lead of 1400mg/kg in TP05 (0.20m-0.30m) and 530mg/kg in TP08 (0.20m-0.30m) are in excess of the threshold of 310mg/kg.
- Benzo(a)pyrene of 7.0mg/kg in TP05 (0.20m-0.30m), 32mg/kg in TP07 (0.20m-0.30m) and 14mg/kg in TP08 (0.20m-0.30m) are in excess of the threshold of 5.3mg/kg.

Petroleum Hydrocarbons

Evidence of potential petroleum hydrocarbon contamination was observed in exploratory hole TP04. Samples of made ground impacted by petroleum hydrocarbons were tested for speciated TPH so that the risk to end users could be assessed.

Seven samples of the made ground were submitted for TPHCWG. None of the samples analysed including that from TP04 reported concentrations of contaminants in excess of the individual aliphatic and aromatic bands.

The occurrence of the hydrocarbon contamination observed in TP04 was at a depth of 1.4m begl. Accordingly, there is considered to be no direct pathway between the hydrocarbon impacted soils and the end user, and the risk from hydrocarbon vapours is considered to be very low.

Should site levels be significantly lowered, which seems unlikely, or contaminated materials be brought to near surface (by excavation trenches for example) then such materials will require off-site disposal to protect end users.

Asbestos

The screening for asbestos did not reveal the presence of such contamination in the samples analysed.

5.2.2 Water Supply Pipes

It is considered that, based on the UKWIR guidance, the concentrations of contaminants recorded to date (specifically the hydrocarbons) are such that Barrier Type water supply pipes will be required for the site. However, it is recommended that the local water supply company for the site be contacted to confirm their requirements with regard to pipe materials.

5.2.3 Summary of Risk to End Users

Although elevated concentrations of lead and benzo(a)pyrene have been recorded in the site soils and elevated concentrations of TPH have been reported at depth the risk to end users from soil contamination is considered to be very low. This assessment is based on the proposals to contain the entire site beneath hardstanding, which will act to sever the source, pathway, receptor linkage; accordingly, remedial works are not considered to be required to protect them.

5.3 RISK TO SITE WORKERS

The investigation has not revealed any specific risk to site workers; however, the general comments outlined in Appendix A (vii) should be considered when site specific risk assessments are completed.

6 QUANTITATIVE RISK ASSESSMENT – HUMAN HEALTH (GROUND GAS)

The gas risk assessment methodology used by GRM is outlined in Appendix A (v).

Gas monitoring was beyond the scope of this investigation. It understood that the Client will incorporate gas protection measures in accordance with Characteristic Situation 2 conditions into the ground floor construction of all structures, which is considered sufficient to deal with any remnant gas risk from the made ground, localised, occurrence of suspected buried topsoil and historical off-site landfills.

It is recommended that early consultation is undertaken with the Local Authority and Warranting bodies to confirm their acceptance of the proposed gas protection measures, particularly with regard to the potential vapour risk, to prevent any delays to the development proposals.

The summary desk study risk assessment determined that no radon protection measures are required.

7 QUANTITATIVE RISK ASSESSMENT - CONTROLLED WATERS

The methodology, rationale and guidance GRM have used to assess the risk to controlled waters is set out in Appendix A (viii).

Elevated concentrations of TPH have been identified within the subsurface soils, the contamination is heavy end (C_{12} and below) and likely to have a very low leaching potential and is relatively immobile in the sub surface. Based on the above, the occurrence of TPH contamination is considered not to pose a significant risk to controlled waters.

In addition, as no potentially sensitive receptors have been identified there is considered not to be a significant risk to controlled waters.

8 PHASE II CONCEPTUAL SITE MODEL

HUMAN HEALTH			
Source	**Pathway**	**Receptor**	**Remedial Solution**
Localised elevated concentrations of lead, and PAH.	Indoor and outdoor inhalation of ground gas and soil vapours, the ingestion of contaminated soil and soil dust, and dermal contact with contaminated soil and soil dust.	End users and construction workers.	Capping with hardstanding or removal of contaminated soils.
Made ground.	Inhalation of ground gas.	End users.	Gas protection measures to CS2 to be installed in all structures in lieu of a gas monitoring program.

CONTROLLED WATERS			
Localised elevated concentrations of hydrocarbons.	Leaching of contaminants and vertical migration to the groundwater (risk reduced due to cohesive strata).	Secondary B Aquifer.	None required.

CONSTRUCTION MATERIALS			
Elevated concentrations of hydrocarbons.	Migration of contamination through leaks and joints, degradation of pipe materials.	Water pipes.	Upgraded water pipes and clean backfill material.

9 REMEDIATION

9.1 RECOMMENDED REMEDIAL MEASURES AND VALIDATION REQUIREMENTS

9.1.1 Protection of End Users

Soil Contamination

Based on the development proposals and the lack of soft landscaped areas remedial measures to protect end users from the concentrations of contaminants identified are considered not to be required as the adoption of hard cover will break the source-pathway-receptor linkage. However, should the chosen foundation solution (see Section 10.6) bring contaminated materials (hydrocarbons) to the surface this material will require segregating prior to off-site disposal.

There is no virgin topsoil at the site. The Client has confirmed that under the current development proposals the area of re-laid topsoil and underlying made ground (c.3.00m thick) in the east will be excavated in its entirety to allow for a Pavillion with kitchen area beneath. It is recommended that soils to be exported are stockpiled and WAC tested to inform disposal costs.

Based on the proposed development plan no areas of soft landscaping are proposed and therefore the importation of topsoil is considered not to be required. Should future development proposals change, and soft landscaping be propsoed, imported topsoil will be required.

Any imported topsoil for use in constructing the growing medium will require chemical validation to confirm that it is chemically suitable for use. Samples of the topsoil will need to be analysed for a suite of contaminants including metals, inorganics, speciated PAHs and other contaminants such as, speciated hydrocarbons and asbestos depending on the source. The number of samples that require analysis will depend on the source of the materials. Typically an analysis rate of one sample per two gardens and one sample per four gardens (minimum of three samples per source and material type) applies for generated and virgin soils respectively. It is also recommended that the topsoil be subjected to analysis to BS3882 to confirm that it conforms to this standard. A typical analysis rate of one sample per 5,000m^3 is considered appropriate for this site.

Should any material suspected of being significantly contaminated be encountered during the redevelopment of the site, GRM can be contacted to undertake additional investigation if necessary. The local Environmental Health Officer should be contacted and informed of any additional remedial work required.

Ground Gas

The Client has indicated that gas protection measures are to be installed in the ground floor construction of all structures in lieu of a monitoring program. It is recommended that the Local Authority and Warranting bodies are contacted to confirm their

acceptance of these proposals to avoid any potential delays to the development program.

The gas protection measures should comprise the provision of a gas resistant membrane (such as Monarflex Reflex Super, Juta GP1 or similar), fully sealed at joints and service penetrations, and a well reinforced monolithic cast in-situ floor slab for the commercial structures and beam and block floor slabs for the residential structures. These would provide a score of 3.5 (commercial) and 4.5 (residential) points under BS8485 and so will be suitable for the type of buildings proposed (Type B and Type A respectively). Such measures are considered to be sufficient to protect end users from any remnant gas risk posed by the identified made ground and localised and thin buried topsoil.

The installation of the gas protection measures will require independent verification in line with CIRIA C735, regardless of the qualifications of the individuals installing them.

More details would need to be provided in a Gas Protection Measures Design and Verification Plan.

9.1.2 Protection of Site Workers

The risk to site workers from the identified soil contamination is negligible. No remedial measures are required. However the use of suitable PPE and adoption of appropriate working protocols should be enforced during the ground works stage of construction and suitable precautions should be taken during the removal of any asbestos containing materials or oil contaminated soils.

9.1.3 Protection of Controlled Waters

The risk to controlled waters is negligible and no remedial measures are required.

9.1.4 Protection of Water Pipes

It is considered that, based on the UKWIR guidance, the concentrations of contaminants recorded to date (specifically the hydrocarbons) are such that Barrier Type water supply pipes should be suitable for the site. However, it is recommended that the local water supply company for the site be contacted to confirm their requirements with regard to pipe materials.

9.2 REMEDIAL STRATEGY

A Remedial Strategy is not considered to be required; however, a Gas Protection Measures Design and Verification Plan is required.

Following your review of this document, we would recommend that a copy of it be forwarded to the Local Authority for comment and approval, prior to commencing

development of the site. The Local Authority may choose to include other consultees as part of the planning process (such as the Environment Agency).

Consultation should be undertaken at the earliest possible opportunity to avoid abortive or delayed works.

9.3 DISPOSAL AND CLASSIFICATION

Based on the Waste Classification Report (Appendix K) it is considered that the majority of the made ground will be classed as Non-Hazardous Waste. The made ground at 1.40m depth in TP04 is likely to be classed as hazardous waste due to the presence of TPH. The hazardous material may require disposal if brought to the surface during construction of foundations.

The natural strata should be suitable for disposal at an Inert landfill site, although further testing (including WAC analysis) may be required to confirm this. Natural soils may be suitable for re-use on-site as part of any capping layer and consideration should be given to retaining this material on-site. Alternatively, it may be sold as a commodity to off-set construction costs.

Care should be taken to keep natural arisings separate from the made ground and free from construction materials, as natural soils mixed with made ground and construction materials may attract additional disposal costs.

Although not identified during the site works, visible asbestos containing materials (ACMs) within soils will result in the soils being classified as Hazardous Waste. Visible ACMs should be removed, employing appropriate health and safety protocols and where possible should be undertaken prior to disposal.

It is recommended that any materials to be exported are stockpiled and tested to confirm disposal rates, as this may be more cost effective than using the results contained within this report.

Where site-won materials (i.e. made ground or contaminated natural soils) are to be re-used on site, or materials are to be imported, it is recommended that this should be carried out under a Materials Management Plan produced in accordance with the CL:AIRE Definition of Waste Code of Practice. This document should be approved by a CL:AIRE-registered Qualified Person prior to excavation of materials, and be maintained throughout the duration of the project. A Verification Report should be produced on completion of the project in order to confirm the control and recording of material movements around or between sites in accordance with current waste management legislation and guidance.

10 GEOTECHNICAL ASSESSMENT

10.1 INTRODUCTION

The Client proposes to develop the site with a mix of commercial structures and two-storey residential units. Finished floor levels and the levels of any underground engineering works have not been provided.

In addition to the site specific comments below reference should be made to the general comments relating to the Geotechnical Assessment listed in Appendix A (xi to xvi).

10.2 GEOTECHNICAL TESTING

Geotechnical testing has been carried out both on site and in the laboratory; the results of this testing are provided on the logs in Appendix F, and in Appendix H. These results are summarised in the tables below:

Made ground

The made ground encountered was granular and accordingly, hand shear vane data and plasticity testing were not appropriate. Engineer observations estimated the made ground to be generally medium dense and locally (TP04) loose although this latter estimate was affected by a significant proportion of oversize material in TP04 causing instability.

Weathered Pennine Lower Coal Measures

Insitu Testing:

Test Parameter	Range of Results
Hand Shear Vane	70 to 90kPa

Laboratory Testing:

Test Parameter	Range of Results
Plasticity Index	20 to 24%

10.3 ENGINEERING GROUND TREATMENT AND EARTHWORKS

ENGINEERING GROUND TREATMENT

Several foundation options are detailed Section 10.6. Various options could require engineering ground treatment. A full earthworks specification will be required prior to site works, but a basic outline of the works considered to be necessary is summarised below:

- Earthworks to excavate made ground deposits within and extending at least 2m beyond the footprint of proposed residential plots. Buried topsoil and oversized obstructions should be separated and disposed of.
- Rock is generally expected at shallowest depth with the exception of the area close to the residential plots.

EARTHWORKS

Should site levels require raising then, in line with NHBC Standards Chapter 4.6, the following are likely to be required:

- An earthworks specification.
- Geotechnical Design Report or Geotechnical Design Statement.
- Geotechnical testing to confirm the earthworks parameters for any fill material.
- At least some third party supervision of the earthworks.
- Geotechnical verification testing during the earthworks.
- A verification report at the end of the earthworks.

It should be noted that the untreated made ground is unlikely to be suitable for use in earthworks in its current state and will require screening prior to re-use.

10.4 EXCAVATION CONDITIONS

Excavation of the materials encountered during the ground investigation should be easily achieved using conventional hydraulic excavation techniques. A breaker or similar plant may be required where hard standing or existing foundations are encountered. A breaker may also be required for deeper excavations in the less weathered Pennine Lower Coal Measures, as the machine used for trial pitting was struggling to excavate >0.30m into the competent rock quality strata.

From the ground investigation undertaken, it is likely that excavations will be generally stable in the short term. Some materials such as granular soils and made ground are liable to collapse without warning. This situation is likely to be exacerbated by water ingress and the presence of oversize materials. Therefore, instability may be experienced in the medium to long term.

The observed groundwater conditions suggest that only simple dewatering techniques (e.g. sump pumping) will be needed to control water ingress. Care should be taken to ensure that dewatering does not lead to settlement of soils below existing structures or services on or off-site.

10.5 EXISTING STRUCTURES / SUBSTRUCTURES

There are existing structures on the site including Signal House, and a floor slab from a previous temporary structure; associated sub-structures include retaining walls and coal drops.

The proposed development plan indicates that Signal House will be retained and possibly renovated and used as a residential building, a survey of this structure should be undertaken by a structural engineer prior to redevelopment. The gas protection measures required for the signal house will need require detailed assessment and design.

There may also be old foundations or other buried structures from the previous site use (e.g. associated with demolished buildings), that have not been identified from this investigation.

10.6 FOUNDATIONS

The untreated made ground, potential buried topsoil, low and medium strength natural clay with an undrained shear strength of less than 60kPa are considered unsuitable as a bearing stratum and all new foundations should be carried down through them to found on the more competent rock quality strata. This will result in foundation depths of up to 1.80m begl.

The site is underlain at depth by granular strata and so a minimum foundation depth of 0.6m begl will apply for new foundations, although deeper foundations may be required to accommodate standard construction thicknesses.

Industrial Unit (west)

At this stage, and based on the above it is considered possible that trench fill or pad foundations, founded on the natural rock quality strata will be suitable for this structure. A foundation depth of between 1.00m and 1.30m begl (100mm into consistent competent rock) may be expected.

The rock quality strata (0.90m to 1.20m begl) was estimated to be at least extremely weak. It is estimated that a nett allowable bearing pressure of at least 300kN/m^2 should be available for conventional strip footings. This would allow line loads of up to 135kN and 180kN to be taken on 450mm and 600mm wide footings respectively. This should result in total settlements of not more than 20mm, keeping differential settlements within acceptable limits.

Based on the above it is considered that 1.00m x 1.00m square pads should be suitable to support a maximum column load of 300kN in the rock strata.

Residential Units

Given the potential for deep, granular made ground in this area and based on the site observations of trench collapse and the occurrence oversize materials consideration has been given to the use of piles and vibro improvement in this area; however, the made ground is not sufficiently thick to enable the use of vibro improvement and piles would require pre-boring, particularly in the siltstone.

Accordingly, it is recommended that the made ground and thin clay is excavated from below structures and traditional foundations are made onto the rock quality strata. The made ground could be re-engineered back sufficiently that it will stand open for foundation excavations. If the re-engineering of the made ground was considered the oversize material should be removed alongside any gross contamination encountered.

The rock quality strata (c.1.80m begl) was estimated to be at least extremely weak. It is estimated that a nett allowable bearing pressure of at least 300kN/m^2 should be available for conventional strip footings. This would allow line loads of up to 135kN and 180kN to be taken on 450mm and 600mm wide footings respectively. This should result in total settlements of not more than 20mm, keeping differential settlements within acceptable limits.

Based on the above it is considered that 1.00m x 1.00m square pads should be suitable to support a maximum column load of 300kN in the rock strata.

Office Block (east)

The untreated made ground, potential buried topsoil, low and medium strength natural clay with an undrained shear strength of less than 60kPa are considered unsuitable as a bearing stratum and all new foundations should be carried down through them to found on the more competent natural rock quality strata. Whilst foundation depths are anticipated to be between 0.50m and 0.90m begl this will depend on the lateral extent of the deep made ground observed in TP04 to the west which could result in foundation depths of up to 1.80m begl.

Locally, this part of the site is underlain by shallow medium volume change potential cohesive strata and so a minimum foundation depth of 0.90m begl will apply for new foundations; however, deepening to rock throughout is recommended.

The rock quality strata (0.50m to 0.85m begl) was estimated to be at least extremely weak. It is estimated that a nett allowable bearing pressure of at least 300kN/m^2 should be available for conventional strip footings. This would allow line loads of up to 135kN and 180kN to be taken on 450mm and 600mm wide footings respectively. This should result in total settlements of not more than 20mm, keeping differential settlements within acceptable limits.

Based on the above it is considered that 1.00m x 1.00m square pads founded on the rock strata should be suitable to support a maximum column load of 300kN.

Consideration of adjacent structures and services will be required.

10.7 FLOOR SLABS

As gas protection measures are proposed it is recommended that an allowance be made for the use of suspended floors with a sub-floor void such as beam and block floors throughout the new residential development. For the non-residential structures a well reinforced monolithic suspended floor slab is recommended.

Old substructures should be removed to at least 0.5m below any new floor slabs to prevent the formation of 'hard spots'.

For the commercial structures it may be more cost effective to excavate the made ground and re-compact.

10.8 BURIED CONCRETE

Based on the recorded water soluble sulphate and pH levels in the soils below the site and assuming mobile groundwater conditions, in accordance with requirements of BRE Special Digest 1 (2005), 'Concrete in Aggressive Ground', the Design Sulphate Class for buried concrete at the site should be assumed as DS-1 and the ACEC Class as AC-1.

For unreinforced trench fill foundations with a width of greater than 450mm, the classifications above equate to a concrete designated as GEN1 in BS8500 and RC35 for reinforced foundations.

The results of the water soluble sulphate and pH testing of are presented in Appendices G and H.

10.9 SLOPE STABILITY AND RETAINING STRUCTURES

The site itself is generally flat lying, apart from the eastern section where the former railway lines and coal drops are elevated approximately 3m above the access road. The northern edge of the site is formed by the disused railway line (Trans Pennine Trail) which is elevated above the land to the north at the eastern and western ends of the site. The slopes in these two areas are quite steep; therefore, there is some risk of slope instability occurring on the site.

Grading of the site, cut and fill operations, removal of trees/vegetation from existing slopes, interference with drainage around existing slopes or the cutting of the toe or surcharging of the crest of existing slopes may cause instability and failure to occur.

There are a number of retaining walls on site that appear to be in reasonable condition. However, it is recommended that an experienced structural engineer inspect and report

on these walls. The former coal drops at the eastern end of the site where observed to be in poor condition, but the development proposals will include extensive works to the coal drops preserving then as a feature for the future development.

The present gradients on site are likely to be adjusted by minor earthworks. Future ground profiles may require earth retaining structures, for which further advice may be required when more information is available.

For retaining walls within 3.60m of an existing highway boundary an Approval In Principal (AIP) may be required with the highways department of the Local Authority to determine whether remedial works are required to bring the structure up to current requirements. In addition, agreement may be required with regard to an inspection and maintenance regime.

10.10 SEDIMENT MANAGEMENT

Mitigation measures should be considered to prevent the run off of sediment and potential pollution into any surface water, during the construction and earthworks process. Reference should be made to CIRIA C532 'Control of Water Pollution from Construction Sites'.

An Environmental Management Plan and Construction Management Plan will be required to prevent pollution of Controlled waters.

10.11 SOAKAWAY DRAINAGE AND OTHER SUDS FEATURES

The strata encountered during the investigation are not considered to be suitable for soakaway drainage and an alternative drainage system should be considered for the disposal of surface water.

10.12 NEW ACCESS ROADS

Site observations suggest that natural cohesive materials will have CBR values of between 2% and 4%, when suitably drained. The untreated made ground is likely to yield CBR values of <2%, which could increase to c.5% if treated. Proof rolling and the improvement of soft spots may result in increased CBR values and the incorporation of a geotextile grid into sub-base layers may allow for reduced capping thickness. Lower CBR values should be anticipated during periods of inclement weather.

Site observations should be confirmed by in situ or laboratory testing in accordance with the adopting Local Authority's preference.

11 FURTHER INVESTIGATION

Further investigation, to determine more accurately the effect of some of the identified hazards on the development, is recommended. This includes the following:

Works That GRM Can Complete

- Delineation of the deep made ground observed in TP04 and confirmation of ground conditions beneath the existing floor slab.
- Should the development proceed it is recommended that further testing is conducted for waste disposal characterisation.
- Inspection of the existing retaining walls.
- Production of an AIP if required.

A copy of this report should be submitted to the Planning Department of the Local Authority/Local Authority EHO for review, if planning conditions exist for this site. A copy should also be sent to the relevant warranty provider for their records.

12 CONCLUSIONS

Assuming compliance with all the recommendations contained within this report (for abridged version see 'Summary of Recommendations' table at the beginning of the report) the site is suitable for the proposed development.

Based on the evidence currently available the site is assessed as being of moderate risk for geotechnical hazards and low risk for contamination hazards. These are summarised in the Post Ground Investigation Hazard Plan (Ground Model) in Appendix L.

APPENDIX A

GENERAL APPRAISAL COMMENTS

i INFORMATION SOURCES

Where available the following sources have been used for the identification and assessment of potential ground hazards:

- Relevant British Standards
- British Geological Survey (BGS) Geology Map Scale 1:10,000 for local area
- British Geological Survey (BGS) Geology Map Scale 1:50,000/1:63,320
- BGS Memoir
- BGS Borehole Records: https://mapapps2.bgs.ac.uk/geoindex/home.html
- BGS online viewer: https://geologyviewer.bgs.ac.uk
- Magic Groundwater Vulnerability Maps
- Historical Ordnance Survey (OS) Maps
- Environmental Data Report
- Environment Agency Website: http://www.environment-agency.gov.uk/
- Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites, UKWIR, 2010.
- Coal Authority Records / Coal Mining Report
- DEFRA/Environment Agency Contaminated Land publications and DoE Industry Profiles
- BRE Guide BR211 (2023), 'Radon: Guidance on protective measures for new buildings (including supplementary advice for extensions, conversions and refurbishment projects)'
- UK HSA Radon Maps: https://www.ukradon.org/information/ukmaps
- CIRIA C665 'Assessing risks posed by hazardous ground gases to buildings'
- BS8485:2015 +A1: 2019, 'Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings'
- Other technical references used throughout this document are detailed in the text.

ii CONTAMINANTS OF CONCERN

The DoE Industry Profiles are normally used to assess likely contaminants from past land use and potential nearby industrial sources. For land uses where no profile is available, likely contaminants of concern are selected by GRM based on past experience of similar sites, a general screening suite of contaminants covered by CLEA and common contaminants from the Industry Profiles.

- Arsenic
- Cadmium
- Chromium
- Lead
- Mercury
- Selenium
- Copper
- Nickel
- Zinc
- Phenols
- cyanide (total)
- pH
- Water soluble sulphate
- PAH (polycyclic aromatic hydrocarbons)

Asbestos and PCBs are listed in the vast majority of profiles. PCBs are listed as the profiles expect electricity substations and switch boxes on all industrial sites. There is the potential for asbestos containing material to be mixed up with made ground, following any demolition works.

iii CONCEPTUAL MODEL METHODOLOGY

The consideration of contamination is based upon the principles of risk assessment, using the 'source-pathway-receptor' model in order to establish the presence, or potential presence, of a pollutant linkage.

To create a risk, contamination must have the potential to cause harm to susceptible targets or receptors such as humans, the water environment or the built environment. The potential for harm to occur requires three conditions to be satisfied to form a pollutant linkage:

- The presence of substances that may cause harm (SOURCE).
- The presence of a target which may be harmed (RECEPTOR).
- The existence of a plausible migration route between the source and the receptor (PATHWAY).

In the absence of a plausible pollutant linkage there is no risk. Where a potential linkage is identified in order for it not to pose a risk to the identified receptor it must be broken.

iv INTRUSIVE INVESTIGATION SAMPLING METHODOLOGY

The ground investigation (including fieldwork, sampling, monitoring and laboratory analyses) has been designed to identify and assess potential ground related problems and to allow cost effective solutions to be advised. It has been planned on the basis of the desk study, site inspection and the proposed development layout (where available). All fieldwork and soil descriptions were carried out in general accordance with relevant British Standards.

The exploratory holes have been positioned and advanced to depths to determine the general ground/groundwater/gas conditions below the site. A general grid pattern has been adopted, where possible, to provide sufficient information based on the current proposed layout scheme. Some holes have been targeted at particular hazards identified in the Phase I assessment. The resultant exploratory hole density is considered to be commensurate with the complexity of the site conditions and detail of information required for this phase of the investigation.

v GROUND GAS RISK ASSESSMENT METHODOLOGY

Gas monitoring programmes undertaken by GRM are designed to broadly comply with the recommendations outlined in CIRIA Report C665 'Assessing risks posed by hazardous ground gas to buildings' (2007) and BS8576 'Guidance on Investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs) (2013).

To assess the risks posed by ground gases such as radon, carbon dioxide and methane, the relevant current guidance has been used. For radon the site has been assessed following the guidelines in 'Radon: guidance on protective measures for new dwellings (including supplementary advice for extensions, conversions and refurbishment projects) (BR211: 2023)'. For methane and carbon dioxide the primary guidance document used to determine if protection measures are required is *BS8485:2015 Code of practice for the design of protective measures from methane and carbon dioxide ground gases for new buildings*. This uses hazardous gas flow rates (Q_{hg}), which are gas concentrations multiplied by borehole flow rates, to derive a Gas Flow Rate (GSV) for the site. The gas regime is then determined based on the GSV and other limiting factors such as gas concentrations.

Where flow is not recorded during the monitoring a default flow rate of 0.1l/hr will be used in the assessment to produce a positive result.

vi HUMAN HEALTH RISK ASSESSMENT METHODOLOGY

Guidance contained in the Environment Agency's CLEA Reports has been used to assess the risks posed to human health.

For residential developments that include domestic gardens the default Tier 1 Assessment Criteria (TAC) for 'residential land with plant uptake' are used, i.e. a female with a start age class of one and an end age class of six. All pathways are considered including the consumption of home-grown vegetables.

For residential developments that do not include domestic gardens the default Tier 1 Assessment Criteria (TAC) for 'residential land without plant uptake' are used, i.e. a female with a start age class of one and an end age class of six. All pathways are considered except the consumption of home-grown vegetables. For commercial/industrial developments the default Tier 1 Assessment Criteria (TAC) for 'commercial/industrial' are used, i.e. a female with a start age class of sixteen and an end age class of eighteen. All pathways are considered except the consumption of home-grown vegetables.

The TAC used by GRM include Category 4 Screening Levels (C4SLs) published by DEFRA, values calculated by GRM using the CLEA v1.071 risk assessment, and values and Suitable for Use Levels (S4UL) developed by LQM/CIEH. The TAC used in the assessment are selected based on the lowest site specific SOM values returned as part of the chemical analysis.

Where soil chemical analysis results are found to exceed the TAC, Site-Specific Risk Assessments may be undertaken using the CLEA v1.071 risk assessment software using the age classes and pathways described above.

vii RISK TO SITE WORKERS – GENERAL COMMENTS

The risks to site workers are similar to those posed to site end users, although likely to be less severe due to the site workers' shorter exposure to the identified contamination. However, site workers (particularly groundworkers) are more likely to come into direct contact with contaminated soils due to the nature of their work. On this basis ground and construction workers should be provided with basic Personal Protective Equipment based on the site's general health and safety risk assessment, but including as a minimum safety footwear, gloves and overalls.

A site specific risk assessment should be carried out for all hazards identified within the ground investigation in accordance with current health and safety legislation. This assessment should identify any measures required to further reduce risks i.e. providing further Personal Protective Equipment, welfare facilities and if necessary preventing access to certain areas.

Demolition and dismantling of existing structures on the site must be carried out to a safe and acceptable standard, in accordance with current UK guidance and best practice. Whilst not ground related, asbestos and hazardous substances surveys should be conducted prior to any demolition.

Any unusual colours, odours and suspicious ground should be reported immediately to site management and then GRM.

Whilst this appraisal has considered the long-term effects of contamination, GRM can also help during the formulation of Health and Safety documentation, if required.

viii CONTROLLED WATERS RISK ASSESSMENT METHODOLOGY

Where the desk study and fieldwork do not reveal a potential source of contamination no leachate or groundwater testing will be performed. Where a potential source is identified the testing will comprise leachate testing on the material considered most likely to pose a risk, groundwater testing will be undertaken if water is present at shallow depth.

The UK Drinking Water Standards (UKDWS) or Environmental Quality Standards (EQS) are usually adopted for comparison with the leachate/groundwater test results. When the most sensitive receptor is considered to be the aquifer (groundwater) UKDWS will be adopted as the Initial Tier 1 screening values.

Where the most sensitive receptor is a surface water feature the EQS values will be used as Initial Tier I Screening values.

ix CONSTRUCTION MATERIALS RISK ASSESSMENT METHODOLOGY

The 'screening levels' adopted for the assessment of risk to construction materials are taken from the following documents:

- UK Water Industry Research (UKWIR) Contamination thresholds for sub-surface water pipes, for the protection of buried pipes.
- Building Research Establishment (BRE) Special Digest SD1 (2005), 'Concrete in Aggressive Ground', for the protection of buried concrete.

x WASTE DISPOSAL, SITE WASTE MANAGEMENT PLANS AND MATERIAL MANAGEMENT PLANS

Under current Waste Management Regulations, waste soil materials produced from the site will require characterisation to enable it to be disposed of correctly.

The chemical analysis results included in this report should be provided to the relevant landfill operators to establish the characterisation of the waste, confirm its suitability for landfill disposal and provide estimated costings. If material is classified as hazardous, then the site will need to be registered with the Environment Agency prior to the movement of the waste. Depending on the receiving landfill's current permit, further chemical analysis, incorporating Waste Acceptance Criteria (WAC) leachate analysis, may be required.

All materials removed from the site will be classified as 'waste' and therefore must be removed by a suitably licensed carrier of waste. This applies whether or not the waste is contaminated. All waste removed to landfill will attract Landfill Tax.

The developer/builder is likely to be classed as the waste producer and therefore, has a duty of care to ensure that all waste is disposed of appropriately. This includes ensuring the waste carrier is licensed and disposes of the waste to a suitably licensed landfill site. They are also required to keep a paper trail from 'cradle to grave' including copies of the waste disposal tickets.

Efficient materials management on site is recommended as it can lead to significant cost savings when compared to the traditional side casting or single stockpile of arisings. GRM can assist in the production of Material Management Plans under the CL:AIRE Definition of Waste: Code of Practice. The DoWCoP enables:

- The direct transfer and re-use of clean naturally occurring soil materials between sites, and
- The re-use of both contaminated and uncontaminated materials on their site of origin and between sites within defined Cluster projects.

GRM can also undertake the role of Qualified Person and submit the DoW CoP project Declaration.

Likewise making the site as volume neutral as possible will reduce the costs of development. Whilst not a statutory requirement, Site Waste Management Plans allow better waste management practices, help to reduce the amount of waste produced and identify best environmental disposal options. Implementing a Site Waste Management Plan (SWMP) can reduce costs (increasing business profits) and maximise resource efficiency.

xi GEOTECHNICAL ASSESSMENT GENERAL COMMENTS

Where finished floor levels of proposed structures have not been provided by the Client, then for the purposes of initial assessment, GRM will assume that finished levels will not vary appreciably from the existing ground levels. If the depths of any underground engineering works (i.e. sewers, pumping stations etc.) are unknown they will not be taken in to account in the assessment and it will be assumed that any such works will not compromise foundation or ground stability.

Should the development proposals or finished levels be different from these assumptions then the comments/recommendations in the Geotechnical Assessment may require revising.

It should be noted that the results of window sampling and/or cable percussive boreholes may not give a true indication of a soils actual engineering properties (i.e. stability, mass structure etc). GRM consider that that prior to development trial pitting should be undertaken to confirm the recommendations in the Geotechnical Assessment.

xii GEOTECHNICAL ASSESSMENT – ENGINEERING GROUND TREATMENT

Near surface soils have the potential to be disturbed by weathering and site traffic. Precautions should always be taken to avoid this, as excessive disturbance may leads to more onerous floor slab designs, road cap thickness and increased amounts of off-site disposal etc.

Near surface soils may need treatment or reinforcing to allow safe movement of construction plant and labour. An assessment by the contractor should be undertaken once the type of machinery/plant needed to complete the development is known.

xiii GEOTECHNICAL ASSESSMENT – EXCAVATIONS

Excavation instability (over-break) can result in damage to existing services or structures (e.g. foundations, roads or boundary walls/fences) both on and off-site, as well as increased foundation concrete costs. In order to minimise this, all excavations deeper than 1.2m deep (or any excavation within 1.5m of any existing structure or service) should be supported. Full support should be provided to the full depth of all near vertically sided excavations in made ground, soft and very soft clays and granular soils. A reduction to intermediate support should be acceptable within firm and stiffer natural clays.

Wherever possible, man entry into excavations should be prevented; however, where this is not possible, entry to, and time spent in, excavations should be kept to a minimum.

The build program should be tailored to reflect the impact that deep excavations through potentially unstable strata can have on adjacent properties, so that they are not undermined.

All excavations on site should be in accordance with HSE guidelines and stability should be practically maintained at all times. Reference should be made to HSE construction information sheet No. 8 (Revision 1) ‘Safety in Excavations’.

Care should be taken to ensure that falls from excavation faces do not adversely affect the integrity of foundation concrete.

If contaminated water enters excavations it should be removed and transported to an appropriate treatment facility by a suitably licensed carrier before construction begins.

xiv GEOTECHNICAL ASSESSMENT – SUBSTRUCTURES

Where practicable, existing buried construction should be fully removed; however, if this is not practicable all new foundations should be carried down to fully penetrate it and it should be broken well away from all new structures.

There may be existing structures and/or infrastructure in close proximity to the proposed development. New build foundations may be constructed next to pavements with existing underground services beneath them, or excavations may be required near existing footings associated with adjacent properties. These potential hazards need to be taken into consideration when designing foundations and the groundworker needs to be made aware of their potential impact during the redevelopment works. Foundations close to existing underground services or buildings may require alternative foundation techniques (such as piling) to protect the integrity of these structures.

The contractor for the works should carry them out in such a fashion so as to not cause excessive overbreak, concrete usage or undermine existing buildings/roads/ services that are to be retained.

xv GEOTECHNICAL ASSESSMENT – SOAKAWAYS

Soakaway testing in trial pits by GRM is broadly carried out in accordance with BRE DG 365 (2016). The testing comprises the excavation of a test pit to a suitable depth, and the placement of water into the pit. The level of water present is then monitored over time. For borehole installations, the permeability testing (falling head/rising head) is undertaken in accordance with BS5930.

If it is decided to proceed with the use of soakaway drainage, then the following general points should be noted:

- Soakaways should not be placed so that water can be discharged through potentially contaminated made ground.
- The Environment Agency may require soakaways to be sealed systems such that only roof run off falls to soakaway.
- Interceptors are likely to be required for soakaways for highway drainage. The adopting authority for the highways should be consulted at the earliest opportunity regarding the use of soakaways for highways drainage.
- Consideration of site levels and slopes should be taken into account during the design.
- The construction of all soakaways should be in accordance with the current building regulations.
- Soakaways should not be placed within 5m of a proposed building.
- Placement of soakaways needs to be considered so as to avoid ponding of water down slope.
- The base of a soakaway should not be below the highest recorded water level.
- The Environment Agency prefer 1m of dry soil to be present between the base of a soakaway and the water table to provide attenuation for contamination.

xvi GEOTECHNICAL ASSESSMENT – FOUNDATIONS

If soft or hard spots are encountered during foundation excavation then they should be replaced with suitably compacted material or the footings deepened to suitable strata, to avoid differential settlement.

If strata of differing bearing character (e.g. sand and clay) are encountered at foundation levels within the excavations for a single plot then the excavation depths should be altered as appropriate to ensure the foundations rest on a single stratum, or strata that will not induce differential settlement. Where this is impractical then GRM should be contacted to assess a reinforced concrete detail or an alternative foundation solution (e.g. piles or vibro-replacement).

NOTES ON LIMITATIONS

General

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

GRM Development Solutions Limited accepts no responsibility or liability for:

a) the consequences of this document being used for any purpose or project other than for which it was commissioned, and

b) the consequences of this document being used by any third party with whom an agreement has not been executed.

Phase I Environmental Audits/ Desk Studies

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only to the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, GRM Development Solutions Limited reserves the right to review such information and as considered necessary and appropriate to modify the opinions accordingly. It should be noted that any risks identified in a Phase 1 report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase II Environmental Audits (Contamination Investigations)

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, ground and groundwater conditions to allow a reasonable risk assessment to be made. The objectives of the investigation have been limited to establishing the risks associated with potential human targets, building materials, and controlled waters.

The amount of exploratory work and chemical testing undertaken has necessarily been restricted by the short timescale available, and the locations of exploratory holes have been restricted to the areas unoccupied by the building(s) on the site and by buried services. A more comprehensive investigation may be required if the site is to be redeveloped as, in addition to risk assessment, a number of important engineering and environmental issues need to be resolved.

For these reasons if costs have been included in relation to site remediation these must be considered as provisional only and must, in any event, be confirmed by a commercial adviser.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. Whilst exploratory testing is intended to gain an accurate representation of the site, the very nature of sampling and testing is such that it cannot ensure that all localised conditions are detected

The risk assessment and opinions provided take in to consideration, inter alia, currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Phase II Geo-environmental Investigations (Combined Geotechnical and Contamination Investigations)

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environment risks together with engineering and development implications. If costs have been included in relation to site development a commercial adviser must confirm these.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site for each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time the site work was conducted. It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected on the basis of the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

The risk assessment and opinions provided take in to consideration, inter alia, currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

APPENDIX B

TRANS PENNINE TRAIL

NEW BOUNDARY WALL - 2m GRASS VERGE TO TRANS PENNINE TRAIL

NEW BOUNDARY WALL - 2m GRASS VERGE TO TRANS PENNINE TRAIL

BIN STORE

BIN STORE

7no CYCLE HOOPS

BIN STORE

BIN STORE

6no SECURE HOOPS

16no PARKING SPACES
(inc 2no DISABLED BAYS
1no AIRBNB BAY)

6no CYCLE HOOPS
(below canopy)

COAL DROPS
PAVILION

8no PARKING SPACES
(inc 1no DISABLED BAY
2no LARGE VAN BAYS)

VAN PARKING BAY

VAN PARKING BAY

14no PARKING SPACES
(inc 1no DISABLED BAY
2no LARGE VAN BAYS)

INDUSTRIAL BLOCK

VAN PARKING BAY

VAN PARKING BAY

OFFICE BLOCK

1no SPACE
FOR AIRBNB

2no
CYCLE HOOPS

1:12
ACCESS RAMP

SIGNAL HOUSE

4no
CYCLE
HOOPS

BRIDGE STREET

ROOF PLAN

ACCESS LANE -
UNMADE SURFACE

RED HATCH -
AREA OF ROAD SURFACE MADE GOOD

STOTTERCLIFFE ROAD

P06	RED LINE BOUNDARY UPDATED TO INCLUDE AREA OF RESURFACING TO ACCESS LANE | JW	17/09/2025
P05	ACCESS POINT TO TPT AT WEST OF SITE REMOVED | JW	13/08/2025
P04	INDUSTRIAL BLOCK DESIGN REVISED, AND PARKING LAYOUT AMENDED, FOLLOWING LA COMMENTS | JW	09/07/2025
P03	CYCLE PARKING AMENDED; CHANGES MADE TO PARKING TO ACCOMMODATE TRACKING | JW	09/06/2025
P02	PLANNING ISSUE | JW	25/02/2025
P01	TREES ADDED FOLLOWING ECOLOGY REVIEW | JW	29/01/2025
-	DRAWING ISSUE | AXIS	24/01/2025

FILE X:\27845_OldCoalDrops\Drawing\CAD 27845_A(01)XX_Site Plan.dwg TAB |A(01)xx — Last Printed 09.17.2025 17.47.05

Revision

AXIS architecture
Talbot Chambers 2-6 North Church Street Sheffield S1 2DH
tel: +44(0)114 2490944 fax: +44(0)114 2490966 www.axis-architecture.com

Coal Drops
Land at St Mary's Street
Penistone
Fairbank Investments Ltd

Proposed Site Plan

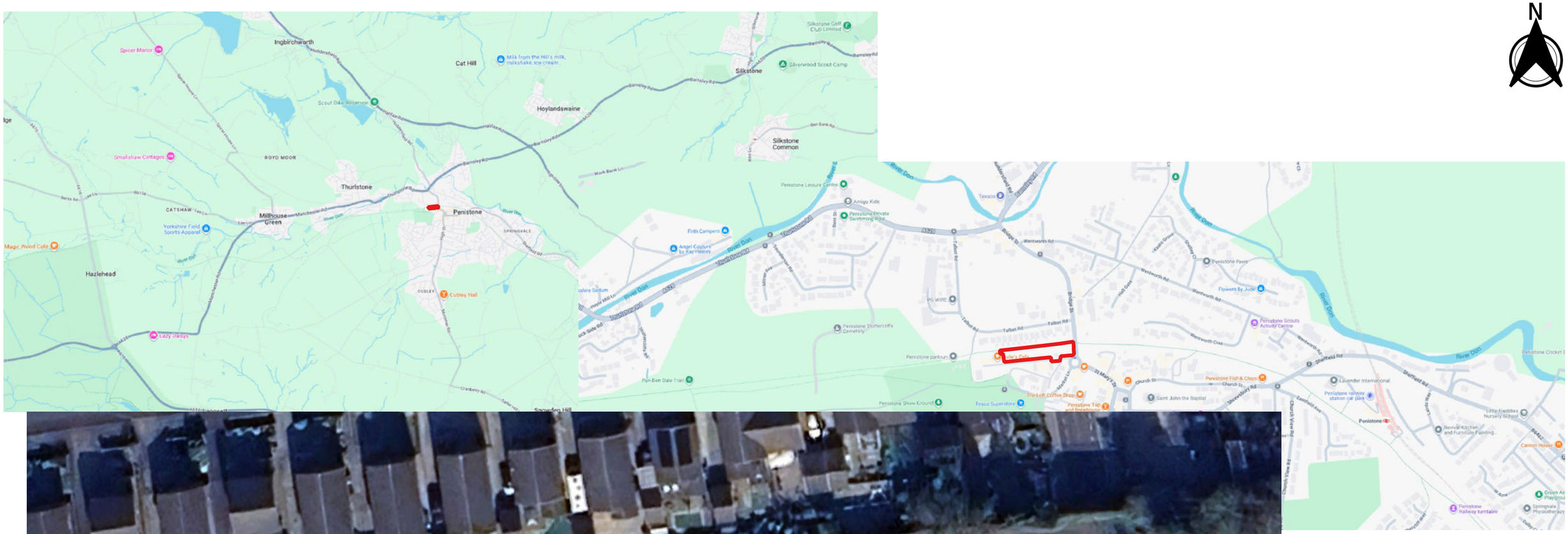
A1 Scale	A3 Scale	Date	Drawn By
1:200	1:400	JAN 2025	A X i S

Drawing Number: 27845 A(01) 02
Revision: P06

PLANNING

© COPYRIGHT EXISTS ON ALL DESIGN AND INFORMATION SHOWN
DO NOT SCALE for manufacture. Verify all dimensions prior to construction

APPENDIX C

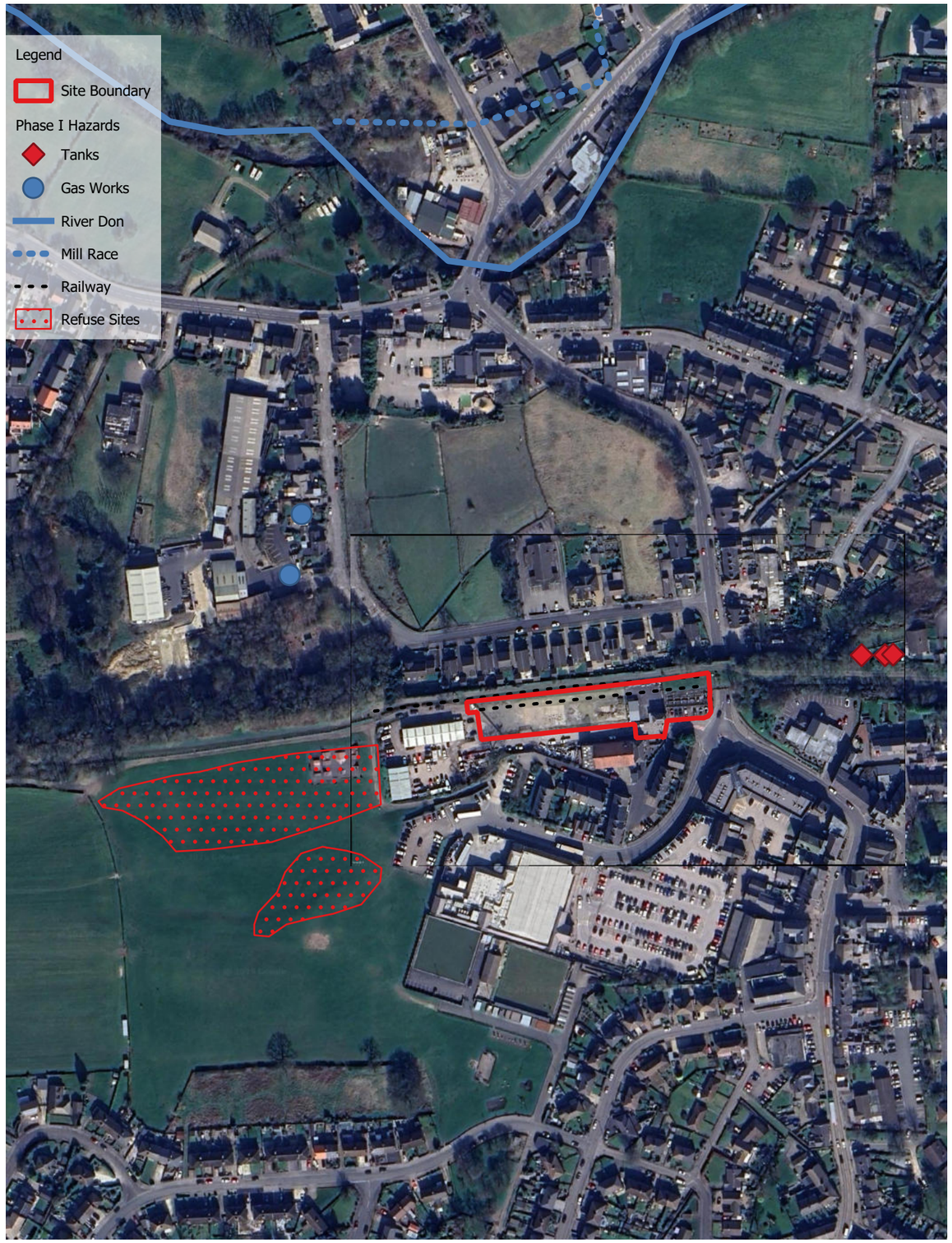




NOTES:	CLIENT: Fairbank Investments	PROJECT No: P11083	DATE: 11/2025	DESIGN/DRAWN: JAW
	PROJECT: Saint Mary's Street, Penistone	DRAWING NUMBER: SL&BP	ISSUE: Issue	
	TITLE: Site Location and Boundary Plan	© GRM Development Solutions Ltd © Crown Copyright. AL 100014100		

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APPENDIX D







NOTES:

CLIENT: Fairbank Investments

PROJECT: Saint Mary's Street, Penistone

TITLE: Proposed Exploratory Hole Location Plan

PROJECT No: P11083

DATE: 11/2025

DESIGN/DRAWN: PW

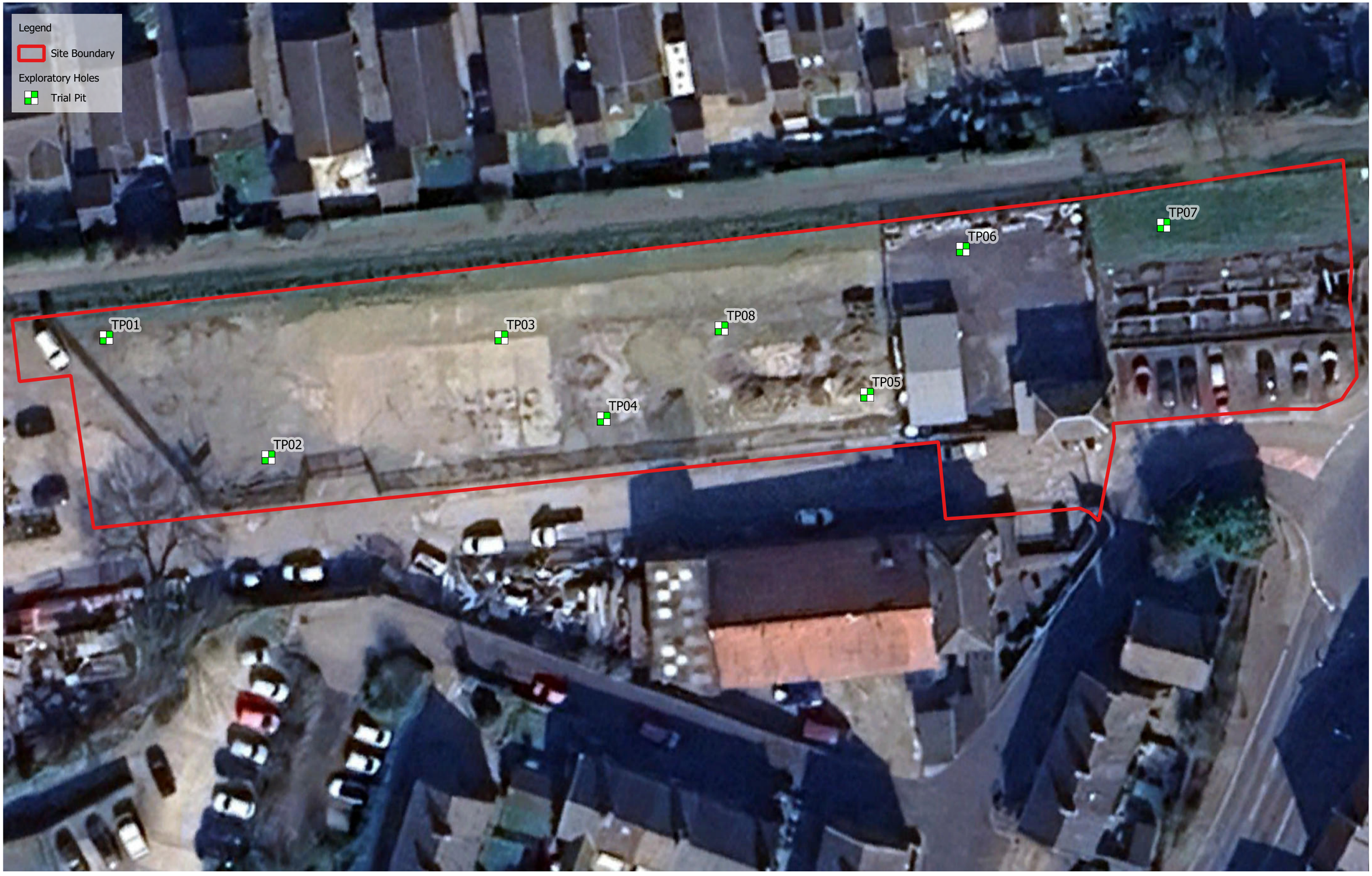
DRAWING NUMBER: PHI HP

ISSUE: Issue

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APPENDIX E



NOTES:	CLIENT: Fairbank Investments	PROJECT No: P11083	DATE: 11/2025	DESIGN/DRAWN: PW
	PROJECT: Saint Mary's Street, Penistone	DRAWING NUMBER: EHLP	ISSUE: Issue	
	TITLE: Exploratory Hole Location Plan	© GRM Development Solutions Ltd © Crown Copyright. AL 100014100		

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APPENDIX F

GRM Development Solutions Ltd
Laurus House,
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Trial Pit Log

Trial Pit No TP01
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20 0.10 - 0.20	D ES					Medium dense, brown and black, slightly clayey, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of subangular to subrounded sandstone, brick, glass, clinker and coal. Rare cobbles of brick. Sulphury odour. MADE GROUND
				0.80			Yellow, SANDSTONE. Fine to medium grained. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
	1.00 - 1.10	D		1.10			End of Pit at 1.100m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60
2.00

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Trial Pit Log

Trial Pit No TP02
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	D					Loose, brown and black, slightly clayey, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded brick, clinker, glass, sandstone and coal. Rare cobbles of brick and sandstone. Sulphury smell. MADE GROUND
	0.20 - 0.30	ES					
	0.70 - 0.80	D		0.65			Stiff, grey and brown mottled orange, slightly sandy, silty CLAY. Sand is fine to medium. Abundant siltstone lithorelicts. PENNINE LOWER COAL MEASURES FROMATION
	0.80		HVP=70				
	0.80		HVP=74				
	0.80		HVP=90				
				1.20			Yellow and grey, thinly bedded SILTSTONE. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
				1.40			End of Pit at 1.400m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Substantial side collapses during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60 × 1.50

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Email: info@grm-uk.com

Trial Pit Log

Trial Pit No TP03
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							GRAVEL of sandstone. MADE GROUND
	0.30 - 0.40 0.30 - 0.40	D ES		0.20 0.40			Medium dense, black, slightly clayey, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded coal, sandstone, clinker, brick and glass. MADE GROUND
							End of Pit at 0.400m

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60 × 2.00

Reason for termination of Trial Pit:
Abandoned due to buried service.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Trial Pit Log

Trial Pit No TP04
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20 0.10 - 0.20	D ES					Loose, black and grey, slightly clayey, very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded clinker, glass, sandstone, brick. Large metal and timber boulders recovered from 0.9m. Sand content increases with depth. MADE GROUND
	0.30 - 0.40	D					
	1.00 - 1.10	D					
▼	1.40 - 1.50 1.40 - 1.50	D ES					
				1.70			Yellow and grey, thinly bedded SILTSTONE. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
				1.80			End of Pit at 1.800m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Substantial side collapses during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
Recovered wet from 1.5m. Strong hydrocarbon smell.

Trial Pit Dimensions (m):
0.60
1.50

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Trial Pit Log

Trial Pit No TP05
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							GRAVEL of sandstone (ballast). MADE GROUND
	0.20 - 0.30 0.20 - 0.30	D ES		0.20			Medium dense, black, slightly clayey, very gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded brick, sandstone, clinker, plastic and glass. Rare cobbles of brick. MADE GROUND
	0.70 - 0.80	D		0.70			Stiff, brown mottled grey, slightly sandy, silty CLAY. Sand is fine to medium. Abundant siltstone lithorelicts. PENNINE LOWER COAL MEASURES FROMATION
	0.85 - 0.95	D		0.85			Yellow mottled orange, thinly bedded SILTSTONE. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
				1.00			End of Pit at 1.000m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60
2.00

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Email: info@grm-uk.com

Trial Pit Log

Trial Pit No TP06
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							GRAVEL of sandstone. MADE GROUND
	0.25 - 0.35 0.25 - 0.35	D ES		0.20			Medium dense, black, slightly clayey, very gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded brick, sandstone, clinker, plastic, glass. Rare cobbles of brick. MADE GROUND
	0.55 - 0.65	D		0.55			Yellow, GRAVEL. Gravel is fine to coarse of subangular to subrounded SILTSTONE. RELAID PENNIE LOWER COAL MEASURES FORMATION
	1.10 - 1.20	D		1.10			Soft, grey, slightly sandy, silty CLAY. Sand is fine. Abundant rootlets. BURRIED TOPSOIL
				1.25			Yellow, thinly bedded SILTSTONE. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
				1.35			End of Pit at 1.350m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60
2.00

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Trial Pit Log

Trial Pit No TP07
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30 0.20 - 0.30	D ES		0.30			Grass over, brown, clayey, gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded brick, sandstone, plastic and glass. MADE GROUND
							End of Pit at 0.300m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled:
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60
2.00

Reason for termination of Trial Pit:
Shallow pit for environmental sample.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

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Burton-on-Trent, DE14 2WH
Tel (HQ): 01283 551249
Email: info@grm-uk.com

Trial Pit Log

Trial Pit No TP08
Sheet 1 of 1

Site Name: St Mary's Street, Penistone

Ground Level (mAOD)

Client: Fairbank Investments

GRM Project Ref: P11083

Coordinates E N

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20 0.10 - 0.20	D ES					Medium dense, brown and black, slightly clayey, very gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular to subrounded brick, plastic, glass, clinker and sandstone. Rare cobbles of brick. MADE GROUND
	0.40 - 0.50	D		0.40 0.50			Stiff, yellow mottled brown, slightly sandy, silty CLAY. Sand is fine to medium. Abundant siltstone lithorelicts. PENNINE LOWER COAL MEASURES FROMATION
							Yellow, thinly bedded SILTSTONE. Rare pockets of clay. Recovered as gravel. PENNINE LOWER COAL MEASURES FROMATION
				1.00			End of Pit at 1.000m

1
2
3
4

Date Excavated: 26/11/2025
Date Backfilled: 26/11/2025
Shoring: None available.
Stability: Stable during excavation.
Plant Used: Tracked 5 tonne Kubota.
Logged by: JAW

Groundwater Observations:
None encountered.

Trial Pit Dimensions (m):
0.60
1.50

Reason for termination of Trial Pit:
Bedrock, no further penetration possible.

General Remarks:

Relative density is approximate and determined by observation only.

Version: DRAFT

Scale: 1:25

APPENDIX G

CONSTRUCTION TESTING SOLUTIONS
A PHENNA GROUP COMPANY

7 - 11 Harding Street
Leicester
LE1 4DH

GRM Development Solutions
Laurus House
First Avenue
Centrum 100
Burton Upon Trent
DE14 2WH

Analytical Test Report: L25/12843/GRM - 25-93164

Your Project Reference:	**P11083 St Mary's Street, penistone**		
Your Order Number:	P11083	Samples Received / Instructed:	28/11/2025 / 28/11/2025
Report Issue Number:	1	Sample Tested:	28/11 to 05/12/2025
Samples Analysed:	9 sample(s)	Report issued:	05/12/2025

Signed

James Gane
Analytical Services Manager
CTS

Notes:

General

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

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

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

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

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

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

Uncertainty of measurement values are available on request.

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

Asbestos

Please note: Where futher analaysis is required samples identified as containing asbestos are screened and tested on an as recevied basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accrediation

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

Deviating Samples

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

Accreditation Key

This report shall not be reproduce except in full

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

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

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

Date of Issue: 27.08.25

Issued by: J. Gane

Issue No: 4

Rev No: 27

CONSTRUCTION TESTING SOLUTIONS
A PHENNA GROUP COMPANY
7 - 11 Harding Street
Leicester
LE1 4DH

L25/12843/GRM - 25-93164
Project Reference - P11083 St Mary's Street, penistone
Analytical Test Results - Solid

Lab Reference			651953	651956	651957	651958	651959	651960
Client Sample ID			-	-	-	-	-	-
Client Sample Location			TP01	TP03	TP04	TP04	TP05	TP07
Client Sample Type			D	D	D	D	D	D
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			0.10	0.30	0.10	1.40	0.20	0.20
Depth - Bottom (m)			0.20	0.40	0.20	1.50	0.30	0.30
Date of Sampling			26/11/2025	26/11/2025	26/11/2025	26/11/2025	26/11/2025	26/11/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Sand	Clay	Sand	Sand	Clay	Loam
Determinant	**Units**	**Accreditation**						
Arsenic	(mg/kg)	MCERTS	23	20	18	16	35	16
Cadmium	(mg/kg)	MCERTS	2.6	1.8	1.5	2.0	2.7	2.2
Chromium (Total)	(mg/kg)	UKAS	38	20	13	1.8	16	71
Copper	(mg/kg)	MCERTS	240	88	60	130	420	120
Lead	(mg/kg)	MCERTS	150	90	170	130	1400	240
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	36	23	15	24	28	27
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	160	71	110	120	500	340
Total Phenols	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
pH	pH Units	MCERTS	8.5	8.2	8.5	8.3	8.0	7.7
Sulphate (Water soluble as SO_4)	(mg/l)	u	92	54	62	85	31	21
Acenaphthene	(mg/kg)	MCERTS	0.29	< 0.20	< 0.20	0.34	0.33	1.2
Acenaphthylene	(mg/kg)	UKAS	1.1	< 0.20	< 0.20	< 0.20	0.92	1.8
Anthracene	(mg/kg)	UKAS	3.0	0.28	0.27	0.57	3.6	5.2
Benzo (a) anthracene	(mg/kg)	MCERTS	6.9	1.4	1.2	0.73	10	25
Benzo (a) pyrene	(mg/kg)	MCERTS	5.0	1.7	1.5	0.58	7.0	32
Benzo (b) fluoranthene	(mg/kg)	MCERTS	5.5	2.0	1.5	0.67	6.7	29
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	2.5	1.4	1.1	0.43	2.7	19
Benzo (k) fluoranthene	(mg/kg)	MCERTS	2.5	0.82	0.67	0.30	3.3	13
Chrysene	(mg/kg)	MCERTS	5.4	1.2	1.1	0.70	7.7	22
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	0.77	0.33	0.26	< 0.20	1.1	4.8
Fluoranthene	(mg/kg)	MCERTS	18	2.1	2.4	1.3	15	41
Fluorene	(mg/kg)	MCERTS	0.63	< 0.20	< 0.20	0.48	0.85	1.0
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	3.0	1.5	1.1	0.39	3.1	22
Naphthalene	(mg/kg)	MCERTS	0.55	0.50	0.27	0.34	0.60	0.54
Phenanthrene	(mg/kg)	MCERTS	13	0.75	1.4	1.3	5.2	12
Pyrene	(mg/kg)	MCERTS	14	2.0	2.3	1.9	14	40
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	82	17	16	10	83	270
SOM (via TOC)	(%)	UKAS	15	11	9.1	6.5	21	21
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

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L25/12843/GRM - 25-93164

Project Reference - P11083 St Mary's Street, penistone

Analytical Test Results - Solid

Lab Reference			651961
Client Sample ID			-
Client Sample Location			TP08
Client Sample Type			D
Client Sample Number			-
Depth - Top (m)			0.20
Depth - Bottom (m)			0.30
Date of Sampling			26/11/2025
Time of Sampling			-
Sample Matrix			Sand
Determinant	**Units**	**Accreditation**	
Arsenic	(mg/kg)	MCERTS	10
Cadmium	(mg/kg)	MCERTS	1.9
Chromium (Total)	(mg/kg)	UKAS	270
Copper	(mg/kg)	MCERTS	74
Lead	(mg/kg)	MCERTS	530
Mercury	(mg/kg)	UKAS	< 2.5
Nickel	(mg/kg)	MCERTS	31
Selenium	(mg/kg)	u	< 8.0
Zinc	(mg/kg)	MCERTS	240
Total Phenols	(mg/kg)	MCERTS	< 1.0
Cyanide (Total)	(mg/kg)	MCERTS	< 1.0
Chromium (Hexavalent)	(mg/kg)	u	< 1.0
pH	pH Units	MCERTS	8.8
Sulphate (Water soluble as SO_4)	(mg/l)	u	130
Acenaphthene	(mg/kg)	MCERTS	1.5
Acenaphthylene	(mg/kg)	UKAS	0.55
Anthracene	(mg/kg)	UKAS	3.5
Benzo (a) anthracene	(mg/kg)	MCERTS	11
Benzo (a) pyrene	(mg/kg)	MCERTS	14
Benzo (b) fluoranthene	(mg/kg)	MCERTS	13
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	9.7
Benzo (k) fluoranthene	(mg/kg)	MCERTS	5.6
Chrysene	(mg/kg)	MCERTS	9.8
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	2.2
Fluoranthene	(mg/kg)	MCERTS	24
Fluorene	(mg/kg)	MCERTS	1.1
Indeno (1, 2, 3,-cd) pyrene	(mg/kg)	MCERTS	10
Naphthalene	(mg/kg)	MCERTS	0.50
Phenanthrene	(mg/kg)	MCERTS	13
Pyrene	(mg/kg)	MCERTS	21
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	140
SOM (via TOC)	(%)	UKAS	13
Asbestos	-	UKAS	No Asbestos Detected

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L25/12843/GRM - 25-93164

Project Reference - P11083 St Mary's Street, penistone

Analytical Test Results - Chemical Analysis

Lab Reference			651954	651955	651957	651958	651961
Client Sample ID			-	-	-	-	-
Client Sample Location			TP01	TP02	TP04	TP04	TP08
Client Sample Type			D	D	D	D	D
Client Sample Number			-	-	-	-	-
Depth - Top (m)			1.00	0.70	0.10	1.40	0.20
Depth - Bottom (m)			1.10	0.80	0.20	1.50	0.30
Date of Sampling			26/11/2025	26/11/2025	26/11/2025	26/11/2025	26/11/2025
Time of Sampling			-	-	-	-	-
Sample Matrix			Sand	Clay	Sand	Sand	Sand
Determinant	**Units**	**Accreditation**					
Water soluble sulphate (as SO_4)	(mg/l)	u	27	50	62	85	130
pH Value	pH Units	MCERTS	8.4	8.6	8.5	8.3	8.8

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Project Reference - P11083 St Mary's Street, penistone

Analytical Test Results - VPH / EPH

Lab Reference			651953	651956	651957	651958	651959	651960
Client Sample ID			-	-	-	-	-	-
Client Sample Location			TP01	TP03	TP04	TP04	TP05	TP07
Client Sample Type			D	D	D	D	D	D
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			0.10	0.30	0.10	1.40	0.20	0.20
Depth - Bottom (m)			0.20	0.40	0.20	1.50	0.30	0.30
Date of Sampling			26/11/2025	26/11/2025	26/11/2025	26/11/2025	26/11/2025	26/11/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Sand	Clay	Sand	Sand	Clay	Loam
Determinant	**Units**	**Accreditation**						
Benzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	0.01	0.01	< 0.01	< 0.01	0.02	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C_5 to C_6 [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06	< 0.06
Aliphatic >C_6 to C_8 [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	0.20	< 0.06	< 0.06
Aliphatic >C_8 to C_{10} [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	3.4	< 0.06	< 0.06
Aliphatic >C_{10} to C_{12} [EH_2D_AL]	(mg/kg)	MCERTS	5.8	6.5	3.1	240	5.7	5.8
Aliphatic >C_{12} to C_{16} [EH_2D_AL]	(mg/kg)	MCERTS	12	11	5.8	1100	13	13
Aliphatic >C_{16} to C_{21} [EH_2D_AL]	(mg/kg)	MCERTS	21	13	15	1000	11	11
Aliphatic >C_{21} to C_{35} [EH_2D_AL]	(mg/kg)	MCERTS	51	32	80	280	38	75
Aliphatic >C_{35} to C_{40} [EH_2D_AL]	(mg/kg)	MCERTS	14	6.2	13	13	6.2	17
Aromatic >C_5 to C_7 [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C_7 to C_8 [HS_MS_1D_AR]	(mg/kg)	MCERTS	0.01	0.01	< 0.01	< 0.01	0.02	< 0.01
Aromatic >C_8 to C_{10} [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.06	< 0.06	< 0.06	0.88	< 0.06	< 0.06
Aromatic >C_{10} to C_{12} [EH_2D_AR]	(mg/kg)	MCERTS	< 1.0	1.5	< 1.0	33	1.5	1.8
Aromatic >C_{12} to C_{16} [EH_2D_AR]	(mg/kg)	MCERTS	8.3	8.6	2.6	470	27	30
Aromatic >C_{16} to C_{21} [EH_2D_AR]	(mg/kg)	MCERTS	28	16	13	630	140	190
Aromatic >C_{21} to C_{35} [EH_2D_AR]	(mg/kg)	MCERTS	120	51	59	300	340	570
Aromatic >C_{35} to C_{40} [EH_2D_AR]	(mg/kg)	MCERTS	56	13	21	33	36	100
Total >C_5 to C_{40} [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	320	160	210	4200	620	1000

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L25/12843/GRM - 25-93164
Project Reference - P11083 St Mary's Street, penistone
Analytical Test Results - VPH / EPH

Lab Reference			651961
Client Sample ID			-
Client Sample Location			TP08
Client Sample Type			D
Client Sample Number			-
Depth - Top (m)			0.20
Depth - Bottom (m)			0.30
Date of Sampling			26/11/2025
Time of Sampling			-
Sample Matrix			Sand
Determinant	**Units**	**Accreditation**	
Benzene	(mg/kg)	MCERTS	< 0.01
Toluene	(mg/kg)	MCERTS	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01
m&p Xylene	(mg/kg)	MCERTS	< 0.02
o-Xylene	(mg/kg)	MCERTS	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01
Aliphatic >C_5 to C_6 [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C_6 to C_8 [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C_8 to C_{10} [HS_MS_1D_AL]	(mg/kg)	MCERTS	< 0.06
Aliphatic >C_{10} to C_{12} [EH_2D_AL]	(mg/kg)	MCERTS	14
Aliphatic >C_{12} to C_{16} [EH_2D_AL]	(mg/kg)	MCERTS	42
Aliphatic >C_{16} to C_{21} [EH_2D_AL]	(mg/kg)	MCERTS	63
Aliphatic >C_{21} to C_{35} [EH_2D_AL]	(mg/kg)	MCERTS	81
Aliphatic >C_{35} to C_{40} [EH_2D_AL]	(mg/kg)	MCERTS	30
Aromatic >C_5 to C_7 [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01
Aromatic >C_7 to C_8 [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.01
Aromatic >C_8 to C_{10} [HS_MS_1D_AR]	(mg/kg)	MCERTS	< 0.06
Aromatic >C_{10} to C_{12} [EH_2D_AR]	(mg/kg)	MCERTS	< 10.0
Aromatic >C_{12} to C_{16} [EH_2D_AR]	(mg/kg)	MCERTS	14
Aromatic >C_{16} to C_{21} [EH_2D_AR]	(mg/kg)	MCERTS	110
Aromatic >C_{21} to C_{35} [EH_2D_AR]	(mg/kg)	MCERTS	350
Aromatic >C_{35} to C_{40} [EH_2D_AR]	(mg/kg)	MCERTS	170
Total >C_5 to C_{40} [EH_2D+HS_1D_Total]	(mg/kg)	MCERTS	870

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Project Reference - P11083 St Mary's Street, penistone

Sample Descriptions

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
651953	-	TP01	D	-	Dark brown gravelly silty sand with occasional organic matter	8.5	33	82
651954	-	TP01	D	-	Brown gravelly slightly clayey silty sand	-	-	71
651955	-	TP02	D	-	Light brown silty clay	-	-	100
651956	-	TP03	D	-	Dark brown gravelly sandy clay with occasional organic matter	7.7	50	61
651957	-	TP04	D	-	Grey gravelly silty sand	12	30	76
651958	-	TP04	D	-	Made Ground- grey gravelly very silty sand with frequent hydrocarbon odour	17	55	100
651959	-	TP05	D	-	Made Ground- dark brown gravelly silty clay with frequent brick fragments	18	23	100
651960	-	TP07	D	-	Dark brown gravelly silty loam with frequent organic matter wood	28	28	100
651961	-	TP08	D	-	Dark brown gravelly silty sand with occasional organic matter	11	38	100

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Project Reference - P11083 St Mary's Street, penistone

Sample Comments

Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Comments
651953	-	TP01	D	-	VPH/BTEX - Sample taken from container with headspace.
651954	-	TP01	D	-	
651955	-	TP02	D	-	
651956	-	TP03	D	-	VPH/BTEX - Sample taken from container with headspace.
651957	-	TP04	D	-	
651958	-	TP04	D	-	VPH/BTEX - Sample taken from container with headspace.
651959	-	TP05	D	-	
651960	-	TP07	D	-	
651961	-	TP08	D	-	T/EPH; 1/10 dark extract

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Project Reference - P11083 St Mary's Street, penistone

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

Test Code	Test Name / Reference	Sample condition for analysis	Sample Preparation	Test Details
ANIONSS	MS - CL - Anions by Aquakem (2:1Extract)	Oven dried	Passing 2mm test sieve	Determination of Anions (inc Sulphate, chloride etc.) in soils by Aquakem. Analysis is based on a 2:1 water to soil extraction ratio
SKALARCNS	MS - CL - Cyanide by Skalar	As received	Passing 10mm test sieve	Determination of cyanide (total / free / complex) in soil using a Skalar segmented flow analyser
SKALARHCS	MS - CL - Hexavalent Chromium by Skalar	As received	Passing 10mm test sieve	Determination of hexavalent chromium in soil using Skalar segmented flow analyser
ICPMETS	MS - CL - ICP Metals	Air dried	Passing 10mm test sieve	Determination of metals in soils via ICP
PHS	MS - CL - pH in Soils	As received	Passing 10mm test sieve	Determination of pH in soils using a pH probe (using a 1:3 soil to water extraction)
PAHASRDS	MS - CL - PAH (As Received)	As received	Passing 10mm test sieve	Determination of Polyaromatic hydrocarbons in soil via GC-MS
SKALARPHS	MS - CL - Phenols by Skalar	As received	Passing 10mm test sieve	Determination of total phenols in soil using Skalar segmented flow analyser
TOCS	MS - CL - TOC Eltra	Air Dried	Passing 10mm test sieve	Determination of Total Organic Carbon in soils
GCXGCS	MS - CL - TPH & EPH by GCXGC	As received	Passing 10mm test sieve	Determination of TPH and EPH in soils via GCxGC-FID
CWGS	Calculation from VPH-S and EPH-S	As received	Passing 10mm test sieve	Determination of TPH CWG (Volatile Petroleum Hydrocarbons and Extractable Petroleum Hydrocarbons) in soils via Headspace-GC-MS and GC-GC-FID respectively
VPHS	MS - CL - VPH	As received	Passing 10mm test sieve	Determination of VPH in soils via Headspace-GC-MS
ASB	MS - AS - Asbestos	-	-	Fibre identification is in accordance with in house documented methods which are based on the procedure documented in the HSE Document HSG 248 "Asbestos: The analysts guide for sampling, analysis and clearance procedures"
SAMPLEPREP	MS - CL - Sample Preparation	-	-	Preparation of samples (including determination of moisture content) to allow for subsequent analysis

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Project Reference - P11083 St Mary's Street, penistone

HWOL TPH Acronym Index

Acronym	Description
HS	Headspace Analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics and Aromatics
AL	Aliphatics Only
AR	Aromatics Only
2D	GC-GC - Double Coil Gas Chromatography
#1	EH_Total but with humics mathmatically subtracted
#2	EH_Total but with fatty acids mathmatically subtracted
_	Operator - underscore to separate acronyms (except for +)
+	Operator to indicate cumlative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

APPENDIX H

LABORATORY REPORT

Contract Number: PSL25/9536

Report Date: 19 December 2025

Client's Reference: P11083

Client Name: GRM Developent Solutions Ltd
Laurus House
First Avenue
Centrum 100
Burton-on-Trent
DE14 2WH

For the attention of: Paul Wardle

Contract Title: St Mary's Street, Penistone

Date Received: 2/12/2025
Date Commenced: 2/12/2025
Date Completed: 19/12/2025

Notes: Opinions and Interpretations are outside the UKAS Accreditation

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

Checked and Approved Signatories:

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

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awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP02		D	0.70	0.80	Brown slightly sandy CLAY.
TP06		D	1.10	1.20	Brown slightly sandy slightly gravelly CLAY.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

St Mary's Street, Penistone

Contract No:
PSL25/9536
Client Ref:
P11083

SUMMARY OF SOIL CLASSIFICATION TESTS

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

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Water Content %	Linear Shrinkage	Particle Density Mg/m^3	Liquid Limit %	Plastic Limit %	Plasticity Index %	Passing 0.425mm %	Remarks
TP02		D	0.70	0.80	16.4			39	19	20	100	Medium Plasticity CIM
TP06		D	1.10	1.20	24.7			44	20	24	90	Medium Plasticity CIM

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

SYMBOLS : NP = Non Plastic

UKAS TESTING 4043

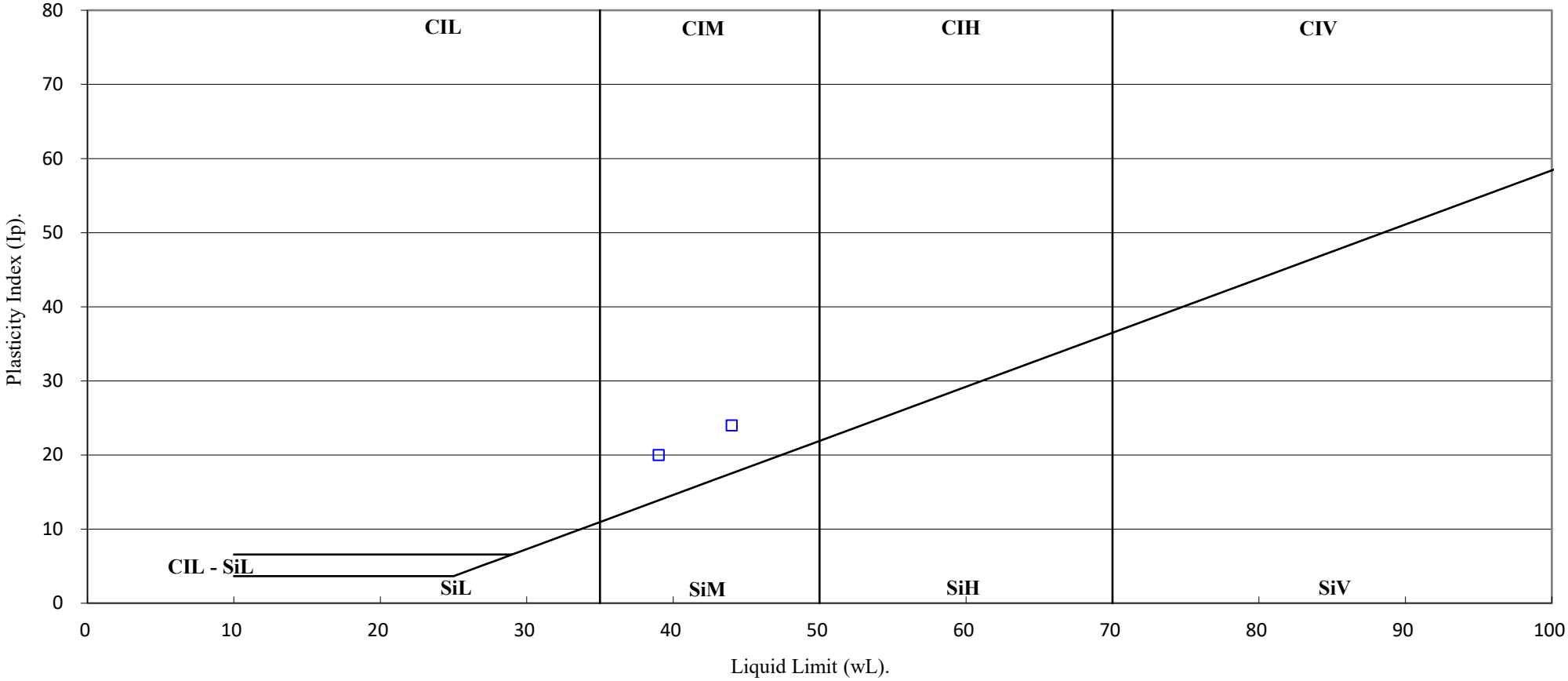
PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

St Mary's Street, Penistone

Contract No:
PSL25/9536
Client Ref:
P11083

PLASTICITY CHART

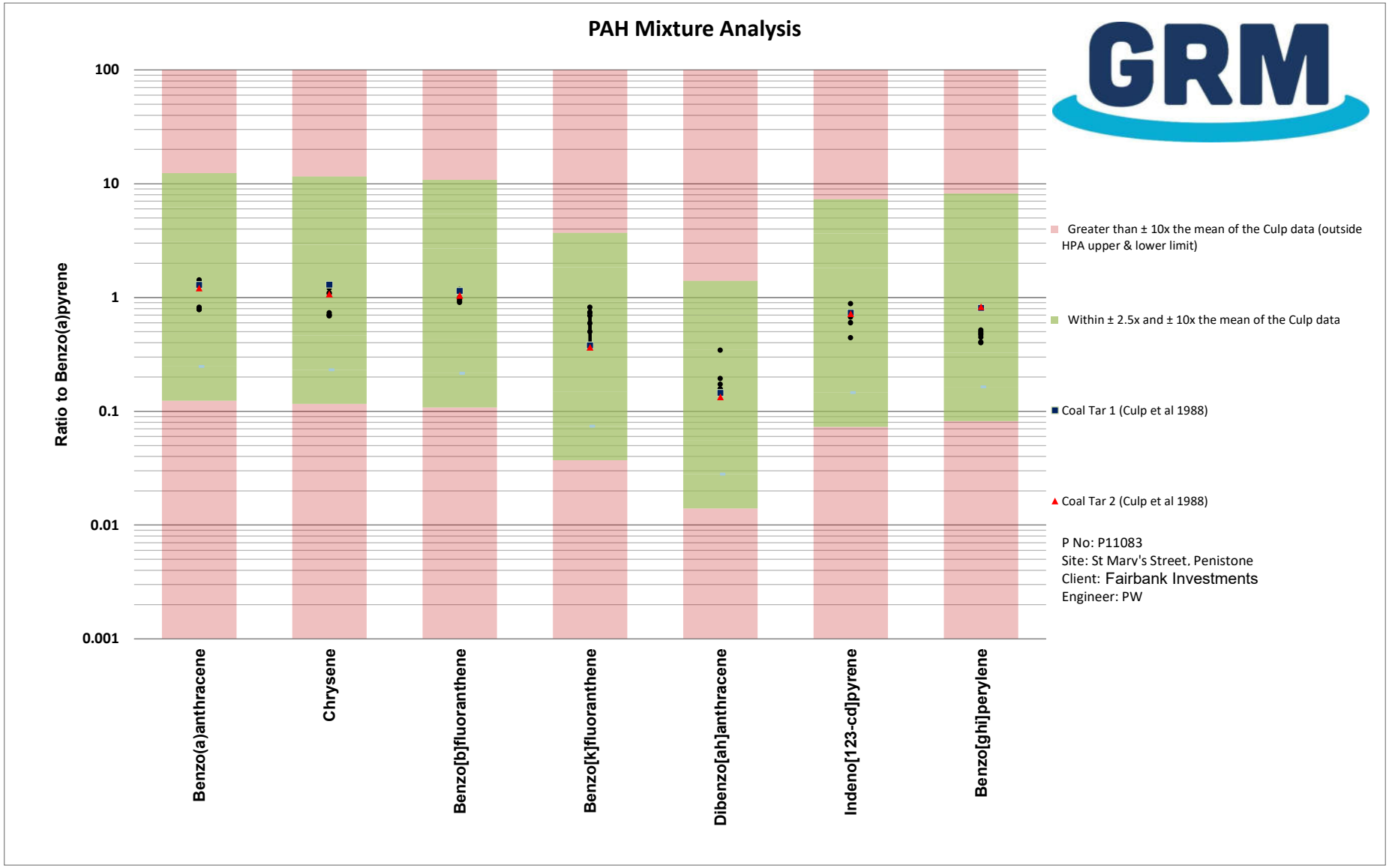
BS EN ISO 14688-2:2017 Clause 4.4



UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**St Mary's Street, Penistone**	**Contract No:**
		PSL25/9536
		Client Ref:
		P11083

APPENDIX I

PAH Mixture Analysis



APPENDIX J

	GRM TIER 1 ASSESSMENT CRITERIA		
LAND USE	Residential without Plant Uptake		
CONTAMINANT	**Metals and Inorganic Compounds**		
[a] Arsenic	40		
[a] Cadmium	150		
[b] Chromium III	910		
[a] Chromium VI	21		
[a] Lead	310		
[b/c] Mercury	11		
[b] Selenium	430		
[b] Nickel	180		
[b] Phenols	690		
[b] Copper	7100		
[b] Zinc	40000		
[d] Cyanide	34		
	Organic Compounds		
BTEX	**1% SOM**	**2.5% SOM**	**6% SOM**
[a] Benzene	0.89	1.64	3.3
[b] Toluene	880	1900	3900
[b] Ethylbenzene	83	190	440
[b] *o* - xylene	88	210	480
[b] *m* - xylene	82	190	450
[b] *p* - xylene	79	180	430
Non Genotoxic PAHs			
[b] Acenaphthene	3000	4700	6000
[b] Acenaphthylene	2900	4600	6000
[b] Anthracene	31000	35000	37000
[b] Fluoranthene	1500	1600	1600
[b] Fluorene	2800	3800	4500
[b] Naphthalene	2.3	5.6	13
[b] Phenanthrene	1300	1500	1500
[b] Pyrene	3700	3800	3800
Genotoxic PAHs			
[a/e] Benzo(a)pyrene	5.3	5.3	5.3
ALIPHATIC HYDROCARBONS			
[b] C5-C6	42	78	160
[b] C6-C8	100	230	530
[b] C8-C10	27	65	150
[b] C10-C12	130	330	770
[b] C12-C16	1100	2400	4400
[b] C16-35	65000	92000	110000
AROMATIC HYDROCARBONS			
[b] C5-7 (benzene)	370	690	1400
[b] C7-8 (toluene)	860	1800	3900
[b] C8-C10	47	110	270
[b] C10-C12	250	590	1200
[b] C12-C16	1800	2300	2500
[b] C16-C21	1900	1900	1900
[b] C21-C35			

Notes

a C4SL - SP1010 (2014) - Benzene (2.5% SOM) and Benzo(a)pyrene values (1% and 2.5% SOM) have been calculated using default C4SL parameters in CLEA v1.071

b LQM/CIEH S4UL values (2015). Publication number S4UL3066.

c S4UL for inorganic Hg used.

d Atkins ATRISKsoil Value

e Benzo(a)pyrene is a surrogate marker for the 8 genotoxic PAHs (Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(ah)anthracene, Ideno(1,2,3-cd)pyrene)

All values in mg/kg unless otherwise stated

GRM TAC 02-2024

	GRM TIER 1 ASSESSMENT CRITERIA		
LAND USE	Commercial Industrial		
CONTAMINANT	**Metals and Inorganic Compounds**		
[a] Arsenic	640		
[a] Cadmium	410		
[b] Chromium III	8600		
[a] Chromium VI	49		
[a] Lead	2330		
[b/c] Mercury	11		
[b] Selenium	12000		
[b] Nickel	980		
[b] Phenols	690		
[b] Copper	68000		
[b] Zinc	730000		
[d] Cyanide	280		
	Organic Compounds		
BTEX	**1% SOM**	**2.5% SOM**	**6% SOM**
[a] Benzene	27	50	98
[b] Toluene	56000	110000	180000
[b] Ethylbenzene	5700	13000	27000
[b] *o* - xylene	6600	15000	33000
[b] *m* - xylene	6200	14000	31000
[b] *p* - xylene	5900	14000	30000
Non Genotoxic PAHs			
[b] Acenaphthene	84000	97000	100000
[b] Acenaphthylene	83000	97000	100000
[b] Anthracene	520000	540000	540000
[b] Fluoranthene	23000	23000	23000
[b] Fluorene	63000	68000	71000
[b] Naphthalene	190	460	1100
[b] Phenanthrene	22000	22000	23000
[b] Pyrene	54000	54000	54000
Genotoxic PAHs			
[a/e] Benzo(a)pyrene	76	76	76
ALIPHATIC HYDROCARBONS			
[b] C5-C6	3200	5900	12000
[b] C6-C8	7800	17000	40000
[b] C8-C10	2000	4800	11000
[b] C10-C12	9700	23000	47000
[b] C12-C16	59000	82000	90000
[b] C16-35	1600000	1700000	1800000
AROMATIC HYDROCARBONS			
[b] C5-7 (benzene)	26000	46000	86000
[b] C7-8 (toluene)	56000	110000	180000
[b] C8-C10	3500	8100	17000
[b] C10-C12	16000	28000	34000
[b] C12-C16	36000	37000	38000
[b] C16-C21	28000	28000	28000
[b] C21-C35			

Notes

a C4SL - SP1010 (2014) - Benzene (2.5% SOM) and Benzo(a)pyrene values (1% and 2.5% SOM) have been calculated using default C4SL parameters in CLEA v1.071

b LQM/CIEH S4UL values (2015). Publication number S4UL3066.

c S4UL for inorganic Hg used.

d Atkins ATRISKsoil Value

e Benzo(a)pyrene is a surrogate marker for the 8 genotoxic PAHs (Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenzo(ah)anthracene, Ideno(1,2,3-cd)pyrene)

All values in mg/kg unless otherwise stated

GRM TAC 02-2024

Contaminant Thresholds for Subsurface Water Pipes

Contaminant	**Thresholds** (mg/kg)
Corrosion	
Wrapped Steel	pH<7 Cond >400µS/cm
Wrapped Ductile Iron	pH<5 Cond >400µS/cm, he not neutral
Copper	pH<5 >8 and Eh +ve
Toxic Substances	
Chromium (total) (Cr)	Applies to above pipe materials
Organic Contaminants	
VOC's	0.5 PE/0.125 PVC
BTEX & MTBE	0.1 PE/0.03 PVC
SVOC	2 PE/1.4 PVC
Phenols	2 PE/0.4 PVC
Cresols & Chlorinated Phenols	2 PE/0.04 PVC
Mineral Oil C11-C20	10 PE
Mineral Oil C21 - C40	500
Ether/Ketone/Amines, Nitrobenzene/Aldehydes	0.5 PE/0.02-1 PVC

Notes.

It is not recommended that water pipes should be laid in sites where these substances are identified or suspected
Local Utility Companies should be consulted prior to pipe specifications being finalised.
Ref: Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites. UKWIR Ref. No. 10/WM/03/21. 2010.

GRM Controlled Waters Tier 1 Assessment Criteria

Table 1a

UKDWS (µg/l)		EQS freshwater (µg/l)*	EQS other surface water (µg/l)* (Including saline waters)
Parameter	**Concentration**		
Acrylamide	0.1	-	-
Aluminium	200	-	-
Total Ammonia (as N)	-	200 (See Table 3)	-
Ammonia (Unionised as N)	-	-	21
Ammonium (NH4)	500	-	-
Antimony	5	-	-
Arsenic	10	50 (dissolved)	25 (dissolved)
Benzene	1	10	8
Boron	1,000	750#	7,000
Bromate	10	-	-
Cadmium	5	See Table 2	0.2
Chromium	50	-	-
Chromium (III)	-	4.7	-
Chromium (VI)	-	3.4	0.6
Chloride	250,000	188,000#	-
Conductivity (µS/cm at 20°C)	2,500	-	-
Copper	2,000	1 (dissolved & bioavailable)	3.76 (where DOC <1mg/l)
Cyanide	50	1	1
1, 2 dichloroethane	3	10	10
Dichloromethane	-	20	20
Epichlorohydrin	0.4***	-	-
Fluoride	1,500	See Table 4	5,000
Hydrogen ion (pH)	<6.5 or >9.5	-	<6.0 or >9.0
Iron	200	1000 (dissolved)	1000 (dissolved)
Lead (ii)	10	1.2 (dissolved & bioavailable)	1.3
Manganese	50	123 (bioavailable)	-
Mercury	1	0.07 (dissolved)	0.07 (dissolved)
Mineral Oil (TPH##)	10	5000 (total) ****	5000 (total) ****
Nickel	20	4 (dissolved & bioavailable)	8.6
Nitrate	50,000	-	-
Nitrite	500	-	-
Phenol	0.5	7.7	7.7
Polycyclic Aromatic Hydrocarbons *#	0.1	0.00017	0.00017
Fluoranthene	-	0.0063	0.0063
Naphthalene	-	2	2
Benzo(a)pyrene	0.01	0.00017	0.00017
Benzo(b)fluoranthene	-	use BaP as marker	use BaP as marker
Benzo(k)fluoranthene	-	use BaP as marker	use BaP as marker
Benzo(g,h,i)perylene	-	use BaP as marker	use BaP as marker
Indeno(1,2,3-cd)pyrene	-	use BaP as marker	use BaP as marker
Anthracene	-	0.1	0.1
Selenium	10	7.5#	-
Sodium	200,000	150,000#	-
Sulphate	250,000	188,000#	-
Tetrachloroethene and Trichloroethene	10	10	10
Tetrachloroethane	-	140	1848
Tetrachloromethane (Carbon Tetrachloride)	3	12	12
Toluene	700***	74	74
Xylene	500***	30*	30*
Ethylbenzene	300***	20**	20**
1,1,1-Trichloroethane	-	100*	100*
Trichlorobenzenes	-	0.4	0.4
Tricholoromethane (chloroform)	-	2.5	2.5
Trihalomethanes Total ###	100	-	-
Tributyltin	-	0.0002	0.0002
Vinyl chloride	0.5	-	-
Zinc	5000	10.9 (dissolved & bioavailable) + background concentration - See table 5	6.8 (dissolved) + 1.1

Table 1b

Pesticides	UKDWS (µg/l)	EQS freshwater (µg/l)*	EQS other surface water (µg/l)* (Including saline waters)
Aldrin	0.03	-	
Dieldrin	0.03	-	-
Heptachlor	0.03	-	-
Heptachlor epoxide	0.03	-	-
other pesticides	0.1	-	-
Cyclodiene pesticides: Sum of Aldrin, Dieldrin, Endrin & Isodrin	-	0.01 (sum)	0.005
DDT total	-	0.025	0.025
Pesticides: Total	0.5	-	-

Table 2

EQS for Hardness Related Substances*						
Substance	**EQS Type**	**EQS (µg/l) for hardness classes (mg/l $CaCO_3$)**				
		Class 1: <40	Class 2: 40-50	Class 3: 50-100	Class 4: 100-200	Class 5: >200
Cadmium (dissolved)	Annual average	<0.08	0.08	0.09	0.15	0.25

Reference

*# Drinking water standards based on PAH - benzo(b)fluoranthene + benzo(k)fluoranthene + benzo(ghi)perylene + indeno(1,2,3-cd)pyrene

* The Water Framework Directive (Standards and Classification) Directions (England and Wales) Directions 2015

** Provisional EQS Value

*** WHO Drinking Water Standard

**** EA PPG3

* The River Basin Districts Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Directions 2010 - Now Withdrawn

Groundwater Drinking Water Protected Zones Only

Speciated TPH thresholds - available from WHO, 2005

the specified compounds are chloroform, bromoform, dibromochloromethane and bromodichloromethane

Table 3 Ammonia - inland waters (high status)*		
Akailinity (as mg/l CaCO3)	**Altitude**	**EQS (ug/l)**
<10	Any	200
10 to 50	Any	200
50 to 100	<80m	300
50 to 100	>80m	200
100 to 200	<80m	300
100 to 200	>80m	200
>200	Any	300

The Appropriate Agency has categorised a river, or part of a river, by type, in accordance with paragraphs 1(1) and 1(2) of Schedule 2 - standards for high, good, moderate or poor

"Alkalinity" is the concentration of CaCO3 in mg/l.

"Altitude" means the site's altitude above mean sea level in metres.

Total ammonia in the environment comprises two principal forms: the ionised ammonium ion (NH4+) and un-ionised ammonia (NH3). The proportion of ionised and un-ionised ammonia can be calculated from total ammonia, taking into account salinity, temperature and pH. The proportion of unionised ammonia increases with increasing temperature and pH, but decreases with increasing salinity. Of the three main factors affecting ammonia speciation, salinity appears to be relatively unimportant. Temperature and pH, however, have a much more significant effect. At pH 8.5, the proportion of un-ionised ammonia is approximately 10 times that at pH 7.5 and, for every 9°C increase in temperature, the proportion of un-ionised ammonia approximately doubles. At the pH of most biological systems, ammonia exists predominantly in the ionised form (NH4+).

Table 4 Substance	EQS Type	Freshwater EQS (mg/l) based on hardness (mg/l $CaCO_3$)*	
		<50	>50
Fluoride (dissolved)	AA	1	5
	MAC	3	15

Table 5 Ambient Background Concentrations (i) for dissolved zinc in freshwaters in England and Wales*	
Catchment/Group of catchments (ii)	*ABC (µg/l)*
Tyne	4.8
Tees	4.1
Ouse, Humber	2.9
Nene	4.0
Great Ouse	3.1
River Stour	3.0
Blackwater/Chelmer	3.6
Lee	3.3
Thames	2.0
Test	2.0
Avon/Hants	3.1
Exe	1.4
Dart	1.7
Clywd/Conwy	2.0
Dee	2.9
Eden	1.2
Anglesey	3.0
Tamar	2.9
Fal	5.8
Camel	7.1
Tone/Parrett	3.3
Frome, Bristol Avon	2.3
Wye	2.0
Usk	2.2
Taff	2.8
Neath	2.8
Loughar	3.9
Tywi	2.0
Teifi	2.5
Rheidol/Ystwyth	4.1
Dovey	3.2
Glaslyn	2.6
All other freshwaters not listed above	1.4

(i) Ambient Background Concentration is an estimate of background concentration based on a low percentile of monitoring data. Ambient Background Concentration ABC is the environmental concentration expected where no (or only minor) anthropogenic inputs are present. (ii) Freshwater Ambient Background Concentrations in England and Wales are delineated by Hydrometric Area, details of which can be found on the website of the Centre for Ecology & Hydrology.

APPENDIX K

Waste Classification Report

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

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

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

WGSJD-0IUU7-3E29Q

Report is invalid if pages are removed.

Job name

P11083 - St Mary's Street, Penistone

Description/Comments

Project

P11083

Site

St Mary's Street, Penistone

Classified by

Name:
George Salloway
Date:
11 Dec 2025 09:10 GMT
Telephone:
01283 551 249

Company:
GRM Development Solutions Ltd
Laurus House
First Avenue
Burton on Trent
DE14 2WH

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

HazWasteOnline™ Certification: CERTIFIED

Course	Date
Hazardous Waste Classification	06 Dec 2018
Most recent 3 year Refresher	03 Dec 2024

Next 3 year Refresher due by Dec 2027

Purpose of classification

2 - Material Characterisation

Address of the waste

St Mary's Street, Penistone **Post Code** N/A

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Construction Industry.

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

Foundation Arisings.

Description of the waste

Made ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01	0.10	Non Hazardous		3
2	TP03	0.30	Non Hazardous		5
3	TP04	0.10	Non Hazardous		7
4	TP04[2]	1.40	Hazardous	HP 7, HP 11	9
5	TP05	0.20	Non Hazardous		12
6	TP07	0.20	Non Hazardous		14
7	TP08	0.20	Non Hazardous		16

Related documents

#	Name	Description
1	GRM Validation Suite - WM3 V1.2.GB	waste stream template used to create this Job

Report

Created by: George Salloway

Created date: 11 Dec 2025 09:10 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	18
Appendix B: Rationale for selection of metal species	19
Appendix C: Version	20

Classification of sample: TP01

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

Sample details

Sample name:
TP01
Sample Depth:
0.10 m
Moisture content:
8.5%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 8.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		23 mg/kg	1.32	27.988 mg/kg	0.0028 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	2.6 mg/kg	1.285	3.08 mg/kg	0.00024 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		38 mg/kg	1.462	51.188 mg/kg	0.00512 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		240 mg/kg	1.126	249.044 mg/kg	0.0249 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	150 mg/kg		138.249 mg/kg	0.0138 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		36 mg/kg	1.579	52.407 mg/kg	0.00524 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<**LOD**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		160 mg/kg	1.245	183.552 mg/kg	0.0184 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
12	pH			PH		8.5 pH		8.5 pH	8.5 pH		
13	acenaphthene		201-469-6	83-32-9		0.29 mg/kg		0.267 mg/kg	0.0000267 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				1.1	mg/kg		1.014	mg/kg	0.000101 %	✓	
			205-917-1	208-96-8									
15		anthracene				3	mg/kg		2.765	mg/kg	0.000276 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				6.9	mg/kg		6.359	mg/kg	0.000636 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				5	mg/kg		4.608	mg/kg	0.000461 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				5.5	mg/kg		5.069	mg/kg	0.000507 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				2.5	mg/kg		2.304	mg/kg	0.00023 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				2.5	mg/kg		2.304	mg/kg	0.00023 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				5.4	mg/kg		4.977	mg/kg	0.000498 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				0.77	mg/kg		0.71	mg/kg	0.000071 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				18	mg/kg		16.59	mg/kg	0.00166 %	✓	
			205-912-4	206-44-0									
24		fluorene				0.63	mg/kg		0.581	mg/kg	0.0000581 %	✓	
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				3	mg/kg		2.765	mg/kg	0.000276 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.55	mg/kg		0.507	mg/kg	0.0000507 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				13	mg/kg		11.982	mg/kg	0.0012 %	✓	
			201-581-5	85-01-8									
28		pyrene				14	mg/kg		12.903	mg/kg	0.00129 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				320	mg/kg		294.931	mg/kg	0.0295 %	✓	
				TPH									
										Total:	0.108 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0295%)

Classification of sample: TP03

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

Sample details

Sample name:
TP03
Sample Depth:
0.30 m
Moisture content:
7.7%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 7.7% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		20 mg/kg	1.32	24.519 mg/kg	0.00245 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	1.8 mg/kg	1.285	2.148 mg/kg	0.000167 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20 mg/kg	1.462	27.141 mg/kg	0.00271 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		88 mg/kg	1.126	91.995 mg/kg	0.0092 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	90 mg/kg		83.565 mg/kg	0.00836 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		23 mg/kg	1.579	33.731 mg/kg	0.00337 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<**LOD**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		71 mg/kg	1.245	82.056 mg/kg	0.00821 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
12	pH			PH		8.2 pH		8.2 pH	8.2 pH		
13	acenaphthene		201-469-6	83-32-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			205-917-1	208-96-8									
15		anthracene				0.28	mg/kg		0.26	mg/kg	0.000026 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				1.4	mg/kg		1.3	mg/kg	0.00013 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				1.7	mg/kg		1.578	mg/kg	0.000158 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				2	mg/kg		1.857	mg/kg	0.000186 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				1.4	mg/kg		1.3	mg/kg	0.00013 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				0.82	mg/kg		0.761	mg/kg	0.0000761 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				1.2	mg/kg		1.114	mg/kg	0.000111 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				0.33	mg/kg		0.306	mg/kg	0.0000306 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				2.1	mg/kg		1.95	mg/kg	0.000195 %	✓	
			205-912-4	206-44-0									
24		fluorene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				1.5	mg/kg		1.393	mg/kg	0.000139 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.5	mg/kg		0.464	mg/kg	0.0000464 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				0.75	mg/kg		0.696	mg/kg	0.0000696 %	✓	
			201-581-5	85-01-8									
28		pyrene				2	mg/kg		1.857	mg/kg	0.000186 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				160	mg/kg		148.561	mg/kg	0.0149 %	✓	
				TPH									
										Total:	0.0508 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0149%)

Classification of sample: TP04

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

Sample details

Sample name:
TP04
Sample Depth:
0.10 m
Moisture content:
12%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 12% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		18 mg/kg	1.32	21.22 mg/kg	0.00212 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	1.5 mg/kg	1.285	1.721 mg/kg	0.000134 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		13 mg/kg	1.462	16.964 mg/kg	0.0017 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		60 mg/kg	1.126	60.315 mg/kg	0.00603 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	170 mg/kg		151.786 mg/kg	0.0152 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15 mg/kg	1.579	21.154 mg/kg	0.00212 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<**LOD**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		110 mg/kg	1.245	122.249 mg/kg	0.0122 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
12	pH			PH		8.5 pH		8.5 pH	8.5 pH		
13	acenaphthene		201-469-6	83-32-9		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<**LOD**

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			205-917-1	208-96-8									
15		anthracene				0.27	mg/kg		0.241	mg/kg	0.0000241 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				1.2	mg/kg		1.071	mg/kg	0.000107 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				1.5	mg/kg		1.339	mg/kg	0.000134 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				1.5	mg/kg		1.339	mg/kg	0.000134 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				1.1	mg/kg		0.982	mg/kg	0.0000982 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				0.67	mg/kg		0.598	mg/kg	0.0000598 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				1.1	mg/kg		0.982	mg/kg	0.0000982 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				0.26	mg/kg		0.232	mg/kg	0.0000232 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				2.4	mg/kg		2.143	mg/kg	0.000214 %	✓	
			205-912-4	206-44-0									
24		fluorene				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				1.1	mg/kg		0.982	mg/kg	0.0000982 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.27	mg/kg		0.241	mg/kg	0.0000241 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				1.4	mg/kg		1.25	mg/kg	0.000125 %	✓	
			201-581-5	85-01-8									
28		pyrene				2.3	mg/kg		2.054	mg/kg	0.000205 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				210	mg/kg		187.5	mg/kg	0.0187 %	✓	
				TPH									
										Total:	0.0596 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0187%)

Classification of sample: TP04[2]

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

Sample details

Sample name:
TP04[2]
Sample Depth:
1.40 m
Moisture content:
17%
(dry weight correction)

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

Hazard properties

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.359%)

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

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.359%)

Determinands

Moisture content: 17% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	18.056 mg/kg	0.00181 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	2 mg/kg	1.285	2.197 mg/kg	0.000171 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		1.8 mg/kg	1.462	2.249 mg/kg	0.000225 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		130 mg/kg	1.126	125.099 mg/kg	0.0125 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	130 mg/kg		111.111 mg/kg	0.0111 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		24 mg/kg	1.579	32.4 mg/kg	0.00324 %	✓	

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		120	mg/kg	1.245	127.663	mg/kg	0.0128 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
12	pH			PH		8.3	pH		8.3	pH	8.3 pH		
13	acenaphthene		201-469-6	83-32-9		0.34	mg/kg		0.291	mg/kg	0.0000291 %	✓	
14	acenaphthylene		205-917-1	208-96-8		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
15	anthracene		204-371-1	120-12-7		0.57	mg/kg		0.487	mg/kg	0.0000487 %	✓	
16	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.73	mg/kg		0.624	mg/kg	0.0000624 %	✓	
17	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.58	mg/kg		0.496	mg/kg	0.0000496 %	✓	
18	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.67	mg/kg		0.573	mg/kg	0.0000573 %	✓	
19	benzo[ghi]perylene		205-883-8	191-24-2		0.43	mg/kg		0.368	mg/kg	0.0000368 %	✓	
20	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.3	mg/kg		0.256	mg/kg	0.0000256 %	✓	
21	chrysene	601-048-00-0	205-923-4	218-01-9		0.7	mg/kg		0.598	mg/kg	0.0000598 %	✓	
22	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
23	fluoranthene		205-912-4	206-44-0		1.3	mg/kg		1.111	mg/kg	0.000111 %	✓	
24	fluorene		201-695-5	86-73-7		0.48	mg/kg		0.41	mg/kg	0.000041 %	✓	
25	indeno[123-cd]pyrene		205-893-2	193-39-5		0.39	mg/kg		0.333	mg/kg	0.0000333 %	✓	
26	naphthalene	601-052-00-2	202-049-5	91-20-3		0.34	mg/kg		0.291	mg/kg	0.0000291 %	✓	
27	phenanthrene		201-581-5	85-01-8		1.3	mg/kg		1.111	mg/kg	0.000111 %	✓	
28	pyrene		204-927-3	129-00-0		1.9	mg/kg		1.624	mg/kg	0.000162 %	✓	
29	TPH (C6 to C40) petroleum group			TPH		4200	mg/kg		3589.744	mg/kg	0.359 %	✓	
										Total:	0.402 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.359%)

Classification of sample: TP05

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

Sample details

Sample name:
TP05
Sample Depth:
0.20 m
Moisture content:
18%
(dry weight correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		35	mg/kg	1.32	39.162	mg/kg	0.00392 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	2.7	mg/kg	1.285	2.941	mg/kg	0.000229 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	19.818	mg/kg	0.00198 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		420	mg/kg	1.126	400.74	mg/kg	0.0401 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	1400	mg/kg		1186.441	mg/kg	0.119 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		28	mg/kg	1.579	37.48	mg/kg	0.00375 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<**LOD**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		500	mg/kg	1.245	527.421	mg/kg	0.0527 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1	mg/kg		<1	mg/kg	<0.0001 %		<**LOD**
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<**LOD**
12	pH			PH		8	pH		8	pH	8pH		
13	acenaphthene		201-469-6	83-32-9		0.33	mg/kg		0.28	mg/kg	0.000028 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				0.92	mg/kg		0.78	mg/kg	0.000078 %	✓	
			205-917-1	208-96-8									
15		anthracene				3.6	mg/kg		3.051	mg/kg	0.000305 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				10	mg/kg		8.475	mg/kg	0.000847 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				7	mg/kg		5.932	mg/kg	0.000593 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				6.7	mg/kg		5.678	mg/kg	0.000568 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				2.7	mg/kg		2.288	mg/kg	0.000229 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				3.3	mg/kg		2.797	mg/kg	0.00028 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				7.7	mg/kg		6.525	mg/kg	0.000653 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				1.1	mg/kg		0.932	mg/kg	0.0000932 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				15	mg/kg		12.712	mg/kg	0.00127 %	✓	
			205-912-4	206-44-0									
24		fluorene				0.85	mg/kg		0.72	mg/kg	0.000072 %	✓	
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				3.1	mg/kg		2.627	mg/kg	0.000263 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.6	mg/kg		0.508	mg/kg	0.0000508 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				5.2	mg/kg		4.407	mg/kg	0.000441 %	✓	
			201-581-5	85-01-8									
28		pyrene				14	mg/kg		11.864	mg/kg	0.00119 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				620	mg/kg		525.424	mg/kg	0.0525 %	✓	
				TPH									
										Total:	0.281 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0525%)

Classification of sample: TP07

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

Sample details

Sample name:
TP07
Sample Depth:
0.20 m
Moisture content:
28%
(dry weight correction)

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

Hazard properties

None identified

Determinands

Moisture content: 28% Dry Weight Moisture Correction applied (MC)

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		16 mg/kg	1.32	16.504 mg/kg	0.00165 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	2.2 mg/kg	1.285	2.209 mg/kg	0.000172 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		71 mg/kg	1.462	81.071 mg/kg	0.00811 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		120 mg/kg	1.126	105.552 mg/kg	0.0106 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	240 mg/kg		187.5 mg/kg	0.0187 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<**LOD**
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		27 mg/kg	1.579	33.318 mg/kg	0.00333 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<**LOD**
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		340 mg/kg	1.245	330.627 mg/kg	0.0331 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<**LOD**
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<**LOD**
12	pH			PH		7.7 pH		7.7 pH	7.7 pH		
13	acenaphthene		201-469-6	83-32-9		1.2 mg/kg		0.938 mg/kg	0.0000938 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				1.8	mg/kg		1.406	mg/kg	0.000141 %	✓	
			205-917-1	208-96-8									
15		anthracene				5.2	mg/kg		4.063	mg/kg	0.000406 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				25	mg/kg		19.531	mg/kg	0.00195 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				32	mg/kg		25	mg/kg	0.0025 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				29	mg/kg		22.656	mg/kg	0.00227 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				19	mg/kg		14.844	mg/kg	0.00148 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				13	mg/kg		10.156	mg/kg	0.00102 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				22	mg/kg		17.188	mg/kg	0.00172 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				4.8	mg/kg		3.75	mg/kg	0.000375 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				41	mg/kg		32.031	mg/kg	0.0032 %	✓	
			205-912-4	206-44-0									
24		fluorene				1	mg/kg		0.781	mg/kg	0.0000781 %	✓	
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				22	mg/kg		17.188	mg/kg	0.00172 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.54	mg/kg		0.422	mg/kg	0.0000422 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				12	mg/kg		9.375	mg/kg	0.000938 %	✓	
			201-581-5	85-01-8									
28		pyrene				40	mg/kg		31.25	mg/kg	0.00313 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				1000	mg/kg		781.25	mg/kg	0.0781 %	✓	
				TPH									
										Total:	0.175 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0781%)

Classification of sample: TP08

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

Sample details

Sample name:
TP08
Sample Depth:
0.20 m
Moisture content:
11%
(dry weight correction)

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

Hazard properties

None identified

Determinands

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

#	Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10 mg/kg	1.32	11.895 mg/kg	0.00119 %	✓	
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	1.9 mg/kg	1.285	2.2 mg/kg	0.000171 %	✓	
3	chromium { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		270 mg/kg	1.462	355.514 mg/kg	0.0356 %	✓	
4	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		74 mg/kg	1.126	75.059 mg/kg	0.00751 %	✓	
5	lead { lead compounds with the exception of those specified elsewhere in this Annex }	082-001-00-6			1	530 mg/kg		477.477 mg/kg	0.0477 %	✓	
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %		<LOD
7	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		31 mg/kg	1.579	44.112 mg/kg	0.00441 %	✓	
8	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %		<LOD
9	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		240 mg/kg	1.245	269.127 mg/kg	0.0269 %	✓	
10	phenol	604-001-00-2	203-632-7	108-95-2		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
11	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
12	pH			PH		8.8 pH		8.8 pH	8.8 pH		
13	acenaphthene		201-469-6	83-32-9		1.5 mg/kg		1.351 mg/kg	0.000135 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
14		acenaphthylene				0.55	mg/kg		0.495	mg/kg	0.0000495 %	✓	
			205-917-1	208-96-8									
15		anthracene				3.5	mg/kg		3.153	mg/kg	0.000315 %	✓	
			204-371-1	120-12-7									
16		benzo[a]anthracene				11	mg/kg		9.91	mg/kg	0.000991 %	✓	
		601-033-00-9	200-280-6	56-55-3									
17		benzo[a]pyrene; benzo[def]chrysene				14	mg/kg		12.613	mg/kg	0.00126 %	✓	
		601-032-00-3	200-028-5	50-32-8									
18		benzo[b]fluoranthene				13	mg/kg		11.712	mg/kg	0.00117 %	✓	
		601-034-00-4	205-911-9	205-99-2									
19		benzo[ghi]perylene				9.7	mg/kg		8.739	mg/kg	0.000874 %	✓	
			205-883-8	191-24-2									
20		benzo[k]fluoranthene				5.6	mg/kg		5.045	mg/kg	0.000505 %	✓	
		601-036-00-5	205-916-6	207-08-9									
21		chrysene				9.8	mg/kg		8.829	mg/kg	0.000883 %	✓	
		601-048-00-0	205-923-4	218-01-9									
22		dibenz[a,h]anthracene				2.2	mg/kg		1.982	mg/kg	0.000198 %	✓	
		601-041-00-2	200-181-8	53-70-3									
23		fluoranthene				24	mg/kg		21.622	mg/kg	0.00216 %	✓	
			205-912-4	206-44-0									
24		fluorene				1.1	mg/kg		0.991	mg/kg	0.0000991 %	✓	
			201-695-5	86-73-7									
25		indeno[123-cd]pyrene				10	mg/kg		9.009	mg/kg	0.000901 %	✓	
			205-893-2	193-39-5									
26		naphthalene				0.5	mg/kg		0.45	mg/kg	0.000045 %	✓	
		601-052-00-2	202-049-5	91-20-3									
27		phenanthrene				13	mg/kg		11.712	mg/kg	0.00117 %	✓	
			201-581-5	85-01-8									
28		pyrene				21	mg/kg		18.919	mg/kg	0.00189 %	✓	
			204-927-3	129-00-0									
29		TPH (C6 to C40) petroleum group				870	mg/kg		783.784	mg/kg	0.0784 %	✓	
				TPH									
										Total:	0.215 %		

Key

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

Supplementary Hazardous Property Information

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

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 5000 mg/kg (0.5%) because: No free phase product present.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0784%)

Appendix A: Classifier defined and non GB MCL determinands

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

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

- **lead compounds with the exception of those specified elsewhere in this Annex**

GB MCL index number: 082-001-00-6
Description/Comments: Least-worst case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following MCL protocols, considers many simple lead compounds to be Carcinogenic category 2
Additional Hazard Statement(s): Carc. 2; H351
Reason for additional Hazards Statement(s):
20 Nov 2021 - Carc. 2; H351 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html. Review date 29/09/2015

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

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

- **pH** (CAS Number: PH)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Description/Comments: Unknown Oil

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on risk phrases

cadmium {cadmium sulfide}

Worst case species based on risk phrases

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

No hexavalent chromium recorded above the laboratory limit of detection.

copper {dicopper oxide; copper (I) oxide}

Most likely common species

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

No hexavalent chromium recorded above the laboratory limit of detection.

mercury {mercury dichloride}

Worst case species based on risk phrases

nickel {nickel dihydroxide}

Worst case species based on risk phrases

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

Worst case species based on risk phrases

zinc {zinc oxide}

No hexavalent chromium recorded above the laboratory limit of detection. Shallow soils unlikely to be in a reactive or soluble form.

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

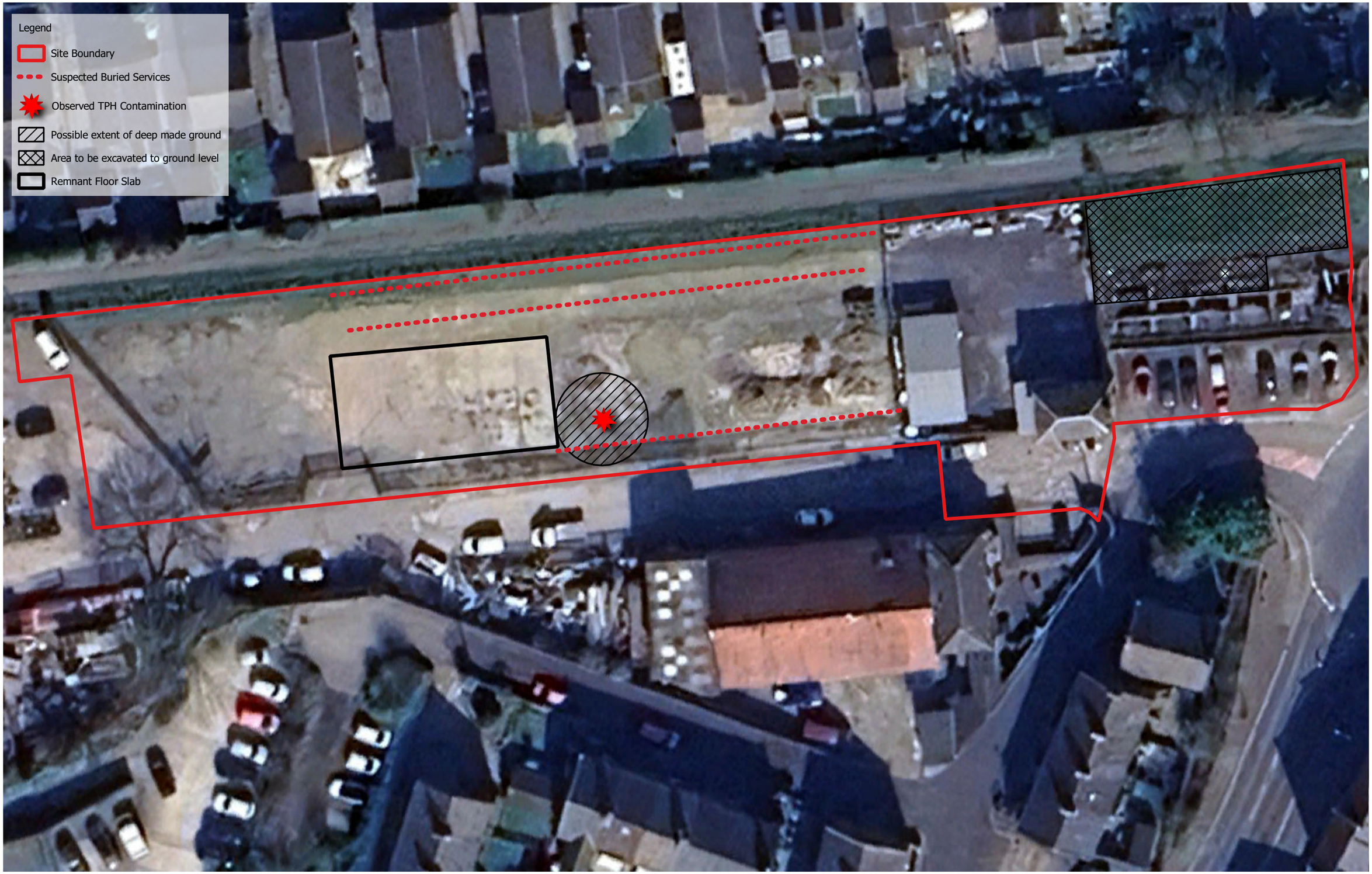
Worst case species

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2025.343.6918.12497 (09 Dec 2025)
HazWasteOnline Database: 2025.339.6914.12493 (07 Dec 2025)

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

APPENDIX L



NOTES:

CLIENT: Fairbank Investments

PROJECT: Saint Mary's Street, Penistone

TITLE: Post Ground Investigation Hazard Plan

PROJECT No: P11083

DATE: 11/2025

DESIGN/DRAWN: PW

DRAWING NUMBER: HP

ISSUE: Issue

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