DUNELM GEOTECHNICAL & ENVIRONMENTAL

REPORT NO: M30412

GEOENVIRONMENTAL APPRAISAL FOR LAND AT

BLACKMOORFOOT ROAD, CROSLAND HILL ROAD, HUDDERSFIELD

PREPARED FOR:

M&R INVESTMENT PROPERTY LIMITED

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Contract Name	Blackmoorfoot Road, Crosland Hill Road, Huddersfield

REPORT REVISIONS

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M30412_01_00	27.06.2024	Phase 1 and 2 Geoenvironmental Appraisal
M30412_02_00	05.07.2024	Revised
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VERIFICATION

Revision No.	Issue Date		Written By	Checked By	Verified By
M30412_04_00	30.08.2024	**Initials**	TBB	KJ	KJ
		Signature	Redacted	Redacted	Redacted

BLACKMOORFOOT ROAD, HUDDERSFIELD – EXECUTIVE SUMMARY

SUMMARY OF GEOENVIRONMENTAL ISSUES

Issue	Remarks
Grid Reference	411658, 414685.
Proposed Development	Seven new commercial units, with new access road and associated infrastructure.
Former Uses	Industrial/Commercial properties. Historically a former quarry.
Present Uses	Disused caravan dealership.
Made Ground	Up to 20.00m deep within the centre of the site.
Natural Ground	Strong yellowish brown sandstone.
Contamination	Asbestos fibres were recorded within two locations and suspected asbestos sheeting was observed bagged onsite.
Hazardous Gas	CS2 measures.
Mining & Quarrying	Site was a former quarry that was later backfilled.
Foundation Solution	Piled foundations.
Groundwater & Excavations	No major groundwater flows encountered. Shallow surface excavations are unstable. Buried obstructions were encountered in WS01 and WS01A, as well as sandstone cobbles/boulders recorded in the boreholes.
Highways	A CBR of at least 5% should be achievable within re-engineered granular made ground.
Remediation and Preparatory Works	Asbestos watching brief required on site. Subsequent removal of made ground around the vicinity of WS05 and TP05, and the replacement with certified clean cover in areas of proposed soft standing. Obstructions encountered a5 1.50 – 2.00m which should be considered.
Recommendations for Further SI Works	Following demolition of existing buildings, an additional contamination assessment will need to be conducted.

The executive summary is intended as a synopsis only. Further detail and limitations of the assessment is provided within the main body of the Report.

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M30412_02_00	Site Features
M30412_03_00	Exploratory Hole Location Plan
M30412_04_00	Preliminary Conceptual Site Model
M30412_05_00	Refined Conceptual Site Model
M30412_06_00	Cross Section
Client Drawing	PROPOSED SCHEME, Drwg No: 1005, KPP Job No: 2406

APPENDIX B - Photographic Survey

APPENDIX C - Desk Study Information

APPENDIX D - Exploratory Hole Records

APPENDIX E - Chemical Testing Results

APPENDIX F - Geotechnical Testing Results

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APPENDIX H - Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

1 INTRODUCTION

1.1 SCOPE OF INVESTIGATION

Dunelm Geotechnical and Environmental Limited (Dunelm) were instructed by Dudleys Consulting Engineers on behalf of M&R Investment Property Ltd to undertake a Geoenvironmental Appraisal of land at Blackmoorfoot Road, Crosland Hill Road, Huddersfield HD4 5NE.

It is proposed to redevelop the site by demolishing the existing structures and constructing seven new commercial warehouses, complete with associated parking, road access to the south and a new retaining wall along the southern boundary. The proposed development layout is illustrated on Client Drawing No. 1005, PROPOSED SCHEME presented in Appendix A to this report.

The objectives of this exploratory phase of investigation were as follows:

- To determine the land use history of the site from an inspection of available Ordnance Survey (OS) plans.
- To determine the environmental setting of the site from available sources.
- To determine whether past mining may have had an influence on the site.
- To determine the ground conditions beneath the site.
- To assess risks from ground contamination.
- To provide recommendations for foundations.

This report may be regarded as providing a Preliminary Risk Assessment (Phase 1) and Generic Quantitative Risk Assessment (Phase 2) in accordance with the Environment Agency's guidance document Land Contamination Risk Management.

Conditions of offer and notes on limitations relevant to all Dunelm geoenvironmental investigations are described in Appendix H and should be read in conjunction with this report.

2 SITE RECONNAISSANCE

2.1 GENERAL

The centre of the site is located at Ordnance Survey Grid Reference 411658, 414685, covering approximately 3.34 hectares. The site is situated to the north of Blackmoorfoot Road, approximately 3.2km southwest of Huddersfield town centre. The site location is shown on Drawing No. DUN_M30412_01_00 presented in Appendix A to this report.

A preliminary site inspection was undertaken on 27th March 2024, and a selection of site photographs are presented in Appendix B to this report. Existing site features are shown on Drawing No. DUN_M30412_02_00 presented in Appendix A to this report.

2.2 SITE DESCRIPTION

The site is an irregular shaped plot of land, predominantly covered with handstanding, currently occupied with a disused caravan dealership. The site is divided into seven different sections separated by hedgerows and mounds, along with being tiered. Four distinct different levels can be observed, with each tiered section differing in height by approximately 2.00 – 3.00m, with the highest level to the west.

Much of the site was used a parking for the caravans and was mainly gravel surfaced although small areas of macadam and concrete can be observed in the southern and eastern areas. The lowest area to the furthest east was entirely a macadam covered car park. The central areas had several water taps and electrical units on them as well as having several tower lights, indicating a large number of services underneath, which can be confirmed with recorded concrete 'scarring' located throughout.

Two commercial units are situated in the southwestern portion, which were primarily used as offices, workshops, a garage and a café. Whilst access into the buildings was unavailable during the time of the

walkover, it could be seen these buildings are brick built, two storeys, with metal sheeting roofing, with signage outside indicating one was used a garage with an inspection pit.

Small outbuildings used as toilets were in the southeast, along with a small underground storage unit located in the bank to the northeast. The toilets and storage unit were empty.

Small mounds were recorded, with one in the northwestern corner and another running parallel with the road along the southern border of the site. These mounds were comprised of excavated soil, although loose bricks, concrete, plastic sheeting and macadam was also observed in the mounds. In addition, fly-tipped waste can be observed outside the site gates to the south-west and east, which was comprised of car batteries, glass, timber, tyres and general waste.

A large propane tank was recorded centrally in the site, lying on top of the gravel surface. Upon inspection, the tank was believed empty, and no obvious signs of contamination could be observed within the vicinity. In addition to the propane tank, several bags of possible asbestos sheeting were recorded close to the building in the southwestern corner of the site.

The site was surrounded with several semi mature and mature trees, with the majority of the trees located along the southern border. A steep vegetated slope (c. 2.00 – 3.00m high) runs along the southern boundary, with a retaining wall separating the site from the adjacent road. A larger overgrown 'hollow' area can be recorded in the southeastern portion of the site, comprised of steep slopes, c.3.00m high, sloping downwards. Access into this area was not possible.

The site is surrounded by Blackmoorfoot Road to the south and Standard Drive to the west. An existing quarry, Wellfield Quarry, lies past the road to the south, and industrial warehouses for fireworks are recorded to the northwest and west. Residential housing borders the site to the north and east. Access onto site is via through metal gates off Blackmoorfoot Road to the southwest, which leads onto a macadam road that runs through to the site.

Whilst tiered, the site is relatively flat lying, with a gentle slope towards the east. The four distinct tiers of the site are highest to the west, with the highest tier lying between 212m – 211m AOD (Above Ordnance Datum), and the final tier lying between 201m – 199m AOD.

3 SITE HISTORY

To determine the history of the site, extracts from historical Ordnance Survey (OS) plans have been examined. Copies of these plans are provided in Appendix C to this report.

A summary of the history of the on-site and off-site features is presented below. It is not the intention of this report to describe in detail all the changes that have occurred on or adjacent to the site, only those pertinent to the site.

SUMMARY OF HISTORICAL INFORMATION

OS Map Edition	On-site Features	Off-site Features
1854	Site part of a large agricultural field.	Immediate N/E/W – Undeveloped fields. S – 'Blackmoorfoot Road'. 50m S – Sandstone quarry. 100m N – Village of Croswell.
1892	Site split into three fields. 'Spinkwell Quarries' located on the western and central fields.	Immediate NW – Several large quarries. 25m E – Quarry. 35m N – Quarry. 100m S – Pond.
1905	Spinkwell quarries expand into the eastern portion of the site. Building recorded in the southeast.	Immediate NW – Quarries labelled as 'old quarries'. 25m E & 35m N – Quarry expansion.
1913	Quarries expanded to the north and additional building in the southwest. Large quarry to east labelled as 'Manor House Quarry'.	155m N – Quarries infilled and firework factory recorded. 25m E – Lablled as 'Old Quarry'. 80m SW – 'Matlock House Quarry'. 135m S – 'Wellfield Quarry'.
1930	Manor House Quarry expansion into the eastern portion.	50m S – Quarry backfilled. 150m N – Firework factory expansion. 200m NE – Residential Housing.
1960	Manor House Quarry expanded to the north, and east and southwest areas being backfilled and labelled as 'refuse tip'.	40m N – Residential Housing. 55m E – Industrial 'Works'. 60m NW – Firework Factory expansion. 80m SW – Matlock House Quarry expansion and infilled with refuse tip. 100m S – Pond backfilled. 100m SE – Large body of water. 165m S – Wellfield Quarry expansion to the south and infilled with refuse tip to the north.
1982	Sprinkwell Quarry and Manor House Quarry have been backfilled along with the refuse tips. One refuse tip remains to the south of the site. Building to southeast and southwest demolished. Site now labelled as a 'caravan sales depot'. New existing building to southwest.	25m S – Large commercial building. 120m NE – Residential housing. 165m S – Wellfield Quarry expanded into the south.
1992	Site entirely backfilled, with depot building located centrally and additional building to the southwest.	Immediate NW – Fireworks factory expansion. 50m SE – Quarry. 50m S – Tank.
2003	No significant change.	Immediate NE & E – Residential housing.
2024	No significant change.	No significant change.

4 ENVIRONMENTAL SETTING

4.1 INFORMATION SOURCES

The environmental setting of the site was determined through reference to the following:

- British Geological Survey (BGS) 1: 50,000 scale sheet No 77 Huddersfield (2003).
- BGS 1: 10,000 scale sheet No. SE11SW (2000).
- Groundsure Report (including historical map extracts).
- BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings.*

4.2 GEOLOGY

The site is shown to be underlain by made ground deposits.

The site is shown not to be underlain by recorded superficial drift deposits.

The solid geology underlying the site is recorded to be the Rough Rock Sandstone Formation, comprising yellowish brown coarse grained sandstone.

No faults are shown in the vicinity of the site.

The Groundsure report includes ground hazard information from the British Geological Survey showing that there is a moderate to high hazard of subsidence from compressible ground on the site.

4.3 MINING AND QUARRYING

The site is not in an area affected by shallow coal mining.

The Groundsure report and historical plans indicates the sites has been affected by four historic quarries since the earliest available mapping. The 'Manor House Quarry' to the east and several quarries called as a group the 'Spinkwell Quarries' to the centre and south. These were recorded as sandstone quarries, with the last one backfilled c.1982.

4.4 HYDROLOGY

There are no surface water features on or in the vicinity of the site. The nearest surface water feature is an artificial pond located c.320m to the south.

There are no licensed surface water abstraction within 150m of the site.

There are no recorded discharge consents within 150m of the site.

There are no recorded pollution incidents within 150m of the site.

The site is not recorded as being situated within a zone of flooding from rivers and sea.

The site is not recorded as being situated within a zone of flooding from surface water in localised areas across the site with the highest risk 1 in 30 a year, 0.3m to 1.0m in depth.

4.5 HYDROGEOLOGY

Using the Environment Agency's Policy and Practice for the Protection of Groundwater the solid geology beneath the site is classified as a Secondary (A) Aquifer – with permeable layers. These formations, although not producing large quantities of water for abstraction, are important for supplying base flows to rivers.

The site lies does not lie within a source protection zone.

Whilst there are no active groundwater abstractions.

The site is not recorded to lie within a zone of groundwater flooding.

4.6 LANDFILLS AND OTHER POTENTIAL GAS SOURCES

Whilst no active landfills are recorded, the Groundsure report and historic maps indicate the site was used as

a refuse tip between 1960 and 1982, although no details of the infilled material is available.

An active landfill site is recorded 38m to the south, operated by Johnsons Wellfield Quarries Limited. This landfill has had its license since 2006 and is recorded to take inert waste.

In addition, two historic landfills were recorded within 250m of the site, the closest 33m southwest, recorded as a former quarry and was active between 1977 and 1988, during which time the landfill was infilled with inert and commercial waste.

Historical plans indicate that a pond located 100m to the south of the site was backfilled prior to 1982. Consequently, there may be made ground at this location together with organic sediments that could represent a potential source of gas.

The geological plan indicates an area of infilled ground throughout the centre of the site. This appears to represent an infilled sandstone quarry that formerly existed at that location. The nature of the infill is unknown; however, this feature could represent a potential source of gas.

In addition, due to the number of historic quarries within close proximity, there is a possibility that small unrecorded local waste tips may have existed prior to the introduction of waste licencing regulations.

4.7 RADON GAS

In accordance with the procedure described in BRE Publication BR211 *Radon: Guidance on Protective Measures for New Dwellings*, 3 – 5% of homes in this area are above the action level, therefore basic radon protection measures are required for new buildings on the site. Details of appropriate protective measures are shown in the above publication.

Whilst the BRE guidance was prepared in relation to domestic buildings, it is also considered generally appropriate to non-domestic structures, especially where the form of construction is similar to housing such as small office buildings.

4.8 UNEXPLODED ORDNANCE

The site lies within an area of low risk from unexploded bombs (UXO) as shown on the Zetica risk assessment map included in Appendix C to this report.

5 PREVIOUS INVESTIGATION

Dunelm have examined the following previous ground investigation reports relating to the site:

- *Geoenvironmental Appraisal of land at Crosland Hill, Huddersfield, prepared by Lithos Consulting Limited on behalf of Redrow Homes. Ref 3649/2A, dated March 2021.*

A summary of the works undertaken is shown in the table below, together with the main findings.

SUMMARY OF PREVIOUS INVESTIGATION

Item	Main findings
Overview	Site slopes to the north-east with several terraces and retaining walls. The site is occupied with Lowdhams caravans sales, with a number of sales offices, showrooms and maintenance works on site.
Siteworks	• 35 No. trial pits to >3.20m for general site coverage. • 28 No. rotary probeholes to <27.00m to determine base and extent of former quarries. • 10 No. stitch probeholes to <19.80m to determine line and profile of the buried highwalls of the quarries.
Made ground	Composed of three distinct units, the subbase, the quarry infill and the quarry arisings. • The subbase was comprised of a sandy gravel to <0.60m bgl. • The quarry infill was comprised of a dark brown sandy clayey gravel of brick, pottery, clinker, wood, plastic and metal with a moderate cobble and boulder content of sandstone, to <2.80m depth.

	• The quarry arisings was comprised of a light brown slightly sandy gravel of sandstone with a high cobble and boulder content of sandstone to a depth of <22.50m bgl.
Natural ground	Encountered at depths between 1.00m and 22.50m bgl, was typically recorded as a weathered orangish brown sandy gravel of sandstone overlaying bedrock of medium strong fine grained sandstone.
Groundwater	None was encountered during the initial siteworks. Perched water was recorded during the subsequent monitoring rounds to depths between 3.58m and 11.58m bgl.
Monitoring wells	14 No. monitoring wells were installed, with response zones ranging from 1.00 – 12.00m depth, into both the made ground and natural ground.
Contamination	4 out of 30 samples detected Tier 1 exceedances of the toxic metals arsenic, lead and zinc within the top 0.80m of made ground. 5 out of 30 samples detected trace asbestos chrysotile fibres within the top 0.80m of made ground. 9 out of 30 samples detected Total Petroleum Hydrocarbons exceedances within the top 0.50m of made ground.
Geotechnical	• Particle sized distribution testing classified the made ground as predominantly a clayey sandy gravel with occasional clayey, sandy, gravelly cobbles. • Atterberg Limits classified the natural material as low shrinkability. • Compaction testing recorded a maximum dry density of between 1.88 - 2.04 Mg/m^3 and an Optimum Moisture Content of between 9 – 12%. • Sulphate testing recorded sub-surface concrete should be designed to DS-1 / AC-1.
Gas assessment	Based on recent revised guidance, CS1 measures were recommended on site i.e gas protection measures are not required. No radon measures are required (although recommended) .

6 SITE WORKS AND LABORATORY TESTING

6.1 CONCEPTUAL SITE MODEL

A preliminary conceptual site model, including an assessment of potential pollutant linkages, has been determined based on the desk study information presented above.

The site has been previously used a quarry and backfilled with a refuse tip, therefore it is possible that contamination is present.

Potential sources include the onsite historic refuse tip, the backfilled quarries, the former vehicle inspection building and the above ground oil tanks. In additional, the fly tipped material and bagged possible ACMs will have to be considered.

The following commonly occurring potential contaminants should be tested for as part of an investigation:

- Heavy metals
- Asbestos
- Polycyclic Aromatic Hydrocarbons (PAHs)
- Total Petroleum Hydrocarbons (TPH)

The main receptors include future site users and the underlying Secondary A aquifer.

6.2 GROUND INVESTIGATION DESIGN

The initial ground investigation design, as determined by Dunelm was based on the preliminary conceptual site model and is summarised below:

- Trial pits to enable the made ground and natural soils to be examined and buried obstructions to be identified.

- Mini percussion boreholes to enable the made ground and natural soils to be examined.
- Rotary openhole boreholes to investigate the depth to the bedrock beneath the site.
- Rotary cored boreholes to investigate the nature of the rock beneath the site.
- Appropriate sampling to enable chemical and geotechnical testing to be carried out.
- Installation of monitoring wells to enable subsequent groundwater and gas measurements.

6.3 SUMMARY OF INVESTIGATION

The exploratory holes were advanced between 8th and 19th April 2024. Records for each of the exploratory holes are included in Appendix D of this report and the locations are shown on Drawing No. M30412_03_00 presented in Appendix A.

• Trial pits:	TP01 to 05	to maximum 4.00 m bgl
• Window sampled boreholes:	WS01 to 05	to maximum 5.45 m bgl
• Rotary openhole boreholes with rotary core follow-on:	BH02 to 05	to maximum 23.00m bgl

Whilst also located to provide a general coverage across site, the exploratory positions were also located for the following reasons:

- The rotary boreholes were located to determine the depth of the infilled quarry recorded on the historic plans.
- The window sampled boreholes were located to determine the ground conditions of areas not located within the infilled quarry and provide a good spread across site.
- The machine excavated trial pits were located to try identify the location of the recorded side wall of the quarry.

No access was available for site investigation plant to the far eastern side of the site due to an impassable retaining wall and no access from the adjacent road to the east. In addition, no access was possible inside the on-site buildings.

Combined gas and groundwater monitoring wells were installed in five boreholes drilled (WS02, BH02 - 05), with the response zone of each well screened into made ground.

All exploratory holes were completed as planned with the exception of BH01 which was not excavated due to time constraints.

6.4 CHEMICAL TESTING

Appropriate samples were delivered to a UKAS and MCERTS accredited laboratory with a schedule of testing drawn up by Dunelm. The laboratory test results are presented in Appendix E to this report and discussed in Section 8. Selected samples were tested for the following suite of determinands:

- *pH, metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, selenium and zinc), Soil Organic Matter (SOM), water-soluble sulphate, Polycyclic Aromatic Hydrocarbons (PAHs: US EPA 16 suite), Total Petroleum Hydrocarbons (TPH) and asbestos.*

6.5 GEOTECHNICAL TESTING

Samples of natural soil were delivered to a UKAS accredited geotechnical laboratory with a schedule of testing drawn up by Dunelm. The geotechnical laboratory test results are presented in Appendix F to this report. Material properties assessed using the results are considered further in the following Section.

7 GROUND CONDITIONS AND MATERIAL PROPERTIES

7.1 GENERAL

The site is underlain entirely in deep made ground, with the natural strata (sandstone rock) only encountered in the boreholes.

7.2 TOPSOIL

Topsoil was not encountered.

7.3 MADE GROUND

Made ground was encountered across the entirety of the site to depths <20.00m bgl. The made ground consisted of predominantly a granular composition which includes a dark greyish brown clayey sand gravel or a clayey very gravelly sand with gravel of sandstone, quartzite, brick, slate, clinker and slag like material with a high cobble and boulder content. With depth, this becomes an orangish brown sandy gravel with a cobbles/boulders becoming sandstone. Rare pockets of ashy made ground was also recorded.

7.4 HARDSTANDING

A surface layer of macadam was present in five exploratory holes (TP02, 03, 05 and WS04 and 05) between 0.05m and 0.10m thickness.

7.5 BURIED OBSTRUCTIONS

Buried concrete obstructions were encountered in WS01 and WS01A at depths from 1.20m to 2.00m respectively.

Due to the site's historical usage, whilst additional obstructions were not encountered in the remaining exploratory holes, it may be possible that they lie undetected elsewhere on the site.

7.6 NATURAL SOILS

Due to the depth of the made ground encountered, natural soils were not recorded on site.

7.7 ROCK HEAD

Sandstone interbedded with occasional siltstone/mudstone was encountered in the bases of BH01 – 05, at depths ranging from 16.50m to 20.00m bgl.

Point load strength index, $I_{s(50)}$ were undertaken from samples of sandstone. These results can be converted to equivalent uniaxial compressive strengths by multiplying the $I_{s(50)}$ by a correlation factor 'k' calculated by Brook, and a 'k' value of 24 is assumed for sandstone. The results are present below:

Stratum	Is(50) (MPa) Lowest Perpendicular	Is(50) (MPa) Highest Perpendicular	Is(50) (MPa) Average Perpendicular	Average Uniaxial Compressive Strength Perpendicular (MPa)
Sandstone	0.98	3.74	2.57	61.68

Stratum	Is(50) (MPa) Lowest Parallel	Is(50) (MPa) Highest Parallel	Is(50) (MPa) Average Parallel	Average Uniaxial Compressive Strength Parallel (MPa)
Sandstone	0.02	2.64	1.97	48.28

The laboratory results confirm that the sandstone is classified as weak to strong rock, based on the values published in BS EN ISO 14689:2017.

A geological cross-sectional drawing of the site was produced highlighting where the rock head was encountered, which can be seen in Drawing No. DUN_M30412_06_00 in Appendix A.

7.8 EXCAVATION STABILITY

During excavation of the trial pits, the side walls were observed to be generally unstable.

7.9 GROUNDWATER

Water seepages were encountered in TP03 at 0.25m and WS03 at 0.50m. Due to water seepages not being recorded in the remaining exploratory holes and only recorded in the made ground, it is believed this water to be perched.

Groundwater monitoring has been carried out following the completion of fieldwork and the groundwater levels recorded are shown in Appendix G.

7.10 HYDROCARBON CONTAMINATION

No visual or olfactory evidence of hydrocarbon contamination was noted during the investigation.

7.11 CONCRETE IN AGGRESSIVE GROUND

To enable buried concrete to be designed to resist sulfate attack, samples of made ground from depths corresponding to the anticipated foundation depth have been tested for water-soluble sulfate and pH.

The maximum water-soluble sulfate concentration is 62mg/l and the lowest recorded pH value is 6.0.

Based on the above results, Design Sulfate Class DS-1 and ACEC Classification AC-1 would be appropriate for buried concrete at the site.

7.12 QUARRY HIGHWALL

Out of the five trial pits excavated, only 1 identified the high wall of the backfilled quarry. TP05 recorded the highwall at 2.00m depth, which was then followed along and excavated alongside to a final depth of 3.00m

The highwall was identified as sandstone, however due to the instability of the side walls, further information could not be recorded.

8 CHEMICAL TESTING RESULTS

8.1 SELECTION OF CHEMICAL TESTING

This section represents the ‘risk assessment’ process required in accordance with the Environment Agency’s guidance document Land Contamination Risk Management.

Contaminants identified in association with the former site uses have been discussed in Section 6.1.

Significant thicknesses of made ground were encountered in all of the exploratory locations during the ground investigation.

Due to access restraints, the underlying ground beneath the existing buildings could not be tested, therefore it is recommended that following demolition, further sampling should be undertaken and an addition contamination assessment conducted.

Appropriate chemical testing has been undertaken taking into account potential contaminants identified and evidence of contamination recorded during the ground investigation.

Laboratory test certificates are presented in Appendix E to this report. The test results are presented in the following sections.

8.2 GENERIC ASSESSMENT CRITERIA FOR INORGANIC CONTAMINATION

Generic Assessment Criteria (GAC) appropriate to current UK practice for the assessment of inorganic contamination are shown in the table below. These criteria are dependent on the nature of the proposed development. In addition, some contaminants depend on other soil parameters as shown.

GENERIC ASSESSMENT CRITERIA FOR HUMAN HEALTH

All values in mg/kg	Residential with homegrown produce (based on 6% SOM)	Residential without homegrown produce (based on 6% SOM)	Commercial (based on 6% SOM)	Allotments (based on 6% SOM)	Public Open space (resi) (based on 6% SOM)
Arsenic	37	40	**640**	43	79
Cadmium	11	85	**190**	1.9	120
Chromium (Total)	910	910	**8,600**	18,000	1,500
Chromium (VI)	6	6	**33**	1.8	7.7
Copper	2,400	7,100	**68,000**	520	12,000
Lead	200*	310*	**2,300***	80*	630
Mercury	40	56	**1,100**	19	120
Nickel	130	180	**980**	53	230
Selenium	250	430	**12,000**	88	1,100
Zinc	3,700	40,000	**730,000**	620	81,000

Soil Screening Values from The LQM/CIEH S4ULs for Human Health Risk Assessment (2015). *taken from DEFRA C4SL database.

8.3 MADE GROUND (INORGANIC CONTAMINANTS)

A summary of the results of inorganic testing on made ground samples is shown in the table below.

INORGANIC TEST RESULTS – MADE GROUND

Contaminant	Units	No. of made ground samples tested	No. of samples exceeding GAC	Generic Assessment Criteria	Maximum concentration
pH	-	17	0	5 to 11	8.6
Arsenic	mg/kg	12	0	640	82
Cadmium	mg/kg	12	0	190	0.8
Chromium (Total)	mg/kg	12	0	8,600	24
Chromium VI	mg/kg	12	0	33	<1.0
Copper	mg/kg	12	0	68,000	190
Lead*	mg/kg	12	0	2,300*	230
Mercury	mg/kg	12	0	1,100	0.51
Nickel	mg/kg	12	0	980	24
Selenium	mg/kg	12	0	12,000	<0.5
Zinc	mg/kg	12	0	730,000	95
Asbestos	-	12	3	Present	Chrysotile fibre bundles

Soil Screening Values from The LQM/CIEH S4ULs for human Health Risk Assessment (2015) for a commercial end use. *Taken from DEFRA C4SL database.

Significant inorganic contamination has not been encountered in the 17 samples tested.

8.4 ASBESTOS TESTING

The made ground has been found to contain asbestos in three samples within two locations (WS05 and TP05) reported as 'Chrysotile present as fibres bundles'.

Subsequent quantification testing recorded asbestos total mass between 0.003% and 0.009%, below the 0.1% hazardous waste threshold.

8.5 ORGANIC CONTAMINATION

The selection of hydrocarbon (organic) testing was based on the conceptual model and the assessment of potential contamination sources presented in earlier sections of this report.

Analysis for organic determinands has been carried out in general accordance with the EA Report: *The UK Approach for Evaluating Human Health Risks from Petroleum Hydrocarbons in Soils* (2005). Consequently, samples of made ground were tested for the following:

- Polycyclic Aromatic Hydrocarbon compounds (US EPA 16 suite)
- Total Petroleum Hydrocarbons (C4 – C40)

Appropriate samples were tested for Soil Organic Matter (SOM) and the results ranged between 0.3% and 2.7%.

An assessment of selected PAH compounds is shown in the following table together with Generic Assessment Criteria (GAC) from the LQM guidance.

SUMMARY OF RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS

Contaminant	**Generic Assessment Criteria** (mg/kg)					**No. of samples tested**	**No. of samples with value greater than GAC**	**Maximum concentration (mg/kg)**
	Residential with home grown produce	**Residential without home grown produce**	**Allot ments**	**Comm / industrial**	**Public Open Space (resi)**			
Naphthalene	2.3	2.3	4.1	**190**	4,900	11	0	0.04
Acenaphthylene	170	2,900	28	**83,000**	15,000	11	0	<0.03
Acenaphthene	210	3,000	34	**84,000**	15,000	11	0	0.06
Fluorene	170	2,800	27	**63,000**	9,900	11	0	0.05
Phenanthrene	95	1,300	15	**22,000**	3,100	11	0	0.30
Anthracene	2400	31,000	380	**520,000**	74,000	11	0	0.08
Fluoranthene	280	1,500	52	**23,000**	3,100	11	0	0.92
Pyrene	620	3,700	110	**54,000**	7,400	11	0	0.85
Benzo(a)anthracene	7.2	11	2.9	**170**	29	11	0	0.33
Chrysene	15	30	4.1	**350**	57	11	0	0.34
Benzo(b)fluoranthene	2.6	3.9	0.99	**44**	7.1	11	0	0.36
Benzo(k)fluoranthene	77	110	37	**1,200**	190	11	0	0.15
Benzo(a)pyrene	2.2	3.2	0.97	**35**	5.7	11	0	0.30
Indeno(1,2,3,-cd)pyrene	27	45	9.5	**500**	82	11	0	0.13
Dibenz(a,h)anthracene	0.24	0.31	0.14	**3.5**	0.57	11	0	0.03
Benzo(g,h,i)perylene	320	360	290	**3,900**	640	11	0	0.14

Soil Screening Values from the LQM/CIEH S4ULs for Human Health Risk Assessment (2015) for 1% SOM soil, for a commercial end use.

All samples tested fall below the relevant guideline values.

In addition, subsequent testing on six samples for Total Petroleum Hydrocarbons (C4 – C40) has resulted in no samples exceeding the GAC threshold during this investigation.

9 ASSESSMENT OF CONTAMINATION RISKS

9.1 SUMMARY OF CONTAMINATION SOURCES

MADE GROUND

The majority of the site is underlain by a layer of granular made ground up to 20.00m thick.

Testing has concluded that the made ground is locally contaminated with asbestos fibres of Chryotile around the vicinities of WS05 and TP05, with no other elevated concentrations of inorganic contaminants detected.

HYDROCARBON CONTAMINATION

No significant hydrocarbon contamination was encountered during this investigation.

9.2 HAZARD ASSESSMENT

Asbestos fibres were recorded in three samples, as well as potential sheeting observed on site, therefore potential risks to future site users is present. It is therefore advised that earthworks are supervised by a qualified asbestos surveyor. All works should be undertaken in accordance with the Control of Asbestos Regulations 20212.

The results of the risk assessment process for significant sources of contamination in accordance with Land Contamination: Risk Management are summarised above. The following section describes the results of the 'Hazard Assessment' process in which unacceptable risks are identified. Pathways and receptors are considered below. Contamination sources and pollutant linkages are shown in the revised Conceptual Site Model presented as Drawing No. M30412_05_00 in Appendix A to this report.

Given the immobile nature of the contamination identified and low levels of mobile contaminants as well as the absence of groundwater recorded, it is not considered to be a significant risk of contamination to controlled waters i.e. the underlying Secondary Aquifer.

PATHWAYS

The proposed end use of the development is industrial. Potential contaminant pathways to humans therefore include:

- ingestion of soil (outdoors) / dust (indoors).
- skin contact with soil (outdoors) / dust (indoors).
- inhalation of dust (outdoors and indoors).

RECEPTORS

Significant potential receptors are as follows:

- end users of the site (warehouse/office workers).

Transient risks to construction workers will be addressed by the adoption of appropriate health and safety measures and consequently this receptor group has not been considered further.

Based on the revised Conceptual Site Model, unacceptable risks have been identified and further action will be required as discussed in the following section.

9.3 PRELIMINARY OPTIONS APPRAISAL

This section identifies feasible remediation options for each relevant pollutant linkage; it does not represent a detailed evaluation of all possible remedial options. In practice, there may be a number of ways to reduce or control unacceptable risks, all of which have advantages and limitations in particular cases.

MADE GROUND

The made ground has been found to contain asbestos. It is understood that once developed, the majority of the site will be covered by apparatus, buildings or hardstand areas and therefore the asbestos would be satisfactorily isolated from future site users. If this strategy is adopted, a site health and safety plan should be produced in accordance with a CAR-SOIL assessment (Control of Asbestos Regulations 20212), for the retention of the building management company. This plan should ensure that future maintenance and development work is undertaken with due regard to the possibility that asbestos could be encountered and should set out the precautions that should be taken.

The areas of proposed soft standing around the vicinity of WS05 and TP05 will require the subsequent removal and replacement with a certified clean cover, at a minimum thickness of 0.60m.

All operatives working on the site which may come in to contact with made ground containing asbestos should be supplied with appropriate PPE (determined by the contractors risk assessment of the works) which in addition to standard PPE should include the following:

- Disposable overalls Type 5 (BS EN ISO 13982-1) fitted with a hood: waterproof overalls may be required.
- Boots without laces as laced boots are difficult to decontaminate.
- Protective gloves should be single-use disposable gloves and if latex only 'low protein powder-free' gloves.
- Respirators may be required subject to the contractors risk assessment.

All disposable PPE should be disposed of as asbestos waste. Should the contractors risk assessment deem necessary, a decontamination unit may be required on site.

If during redevelopment works on site any noxious, fibrous, brightly coloured, drummed, liquid, etc waste is encountered, works should cease in these areas and further advice should be sought from a suitably qualified consultant.

Approval of the above recommendations should be sought from the appropriate regulatory authorities prior to commencement of site redevelopment. In addition, utility companies should be informed at an early stage of the ground conditions within which buried services will be placed.

9.4 WASTE CLASSIFICATION

Samples have been initially assessed using HazWasteOnline software, and the results are presented in Appendix E to this report. In view of the above results samples of made ground have been initially classified as Non Hazardous Waste.

These test results should not be regarded as being representative of materials on site for landfill export purposes since preparatory and excavation works often result in mixing of different types of materials. It is therefore recommended that Waste Classification testing from individual stockpiles is carried out immediately prior to transport to landfill sites.

9.5 WASTE ACCEPTANCE CRITERIA

Prior to material being removed form site, Waste Acceptance Criteria (WAC) testing is recommended to enable the receiving landfill operator to confirm acceptability of the material.

The waste classification should be confirmed with the individual landfill accepting the waste prior to disposal. These test results should not be regarded as being representative of materials on site for landfill export purposes since preparatory and excavation works often result in mixing of different types of materials. In addition, further testing of individual stockpiles, including asbestos quantification, is recommended prior to transport to landfill sites.

It should be noted that the above conclusions relate to the specific samples tested during this investigation. and therefore, material excavated during re-development will not necessarily have the same classification. It is recommended that waste materials varying from the samples tested and intended to be removed from site

are tested individually to determine the classification of the waste.

9.6 REMEDIATION STRATEGY IF REQUIRED

A Remediation Strategy will be required by the regulatory authorities prior to site redevelopment. The Remediation Strategy document would describe the objectives of the proposed remedial works; a Method Statement is normally required from the Contractor undertaking the works, describing how these objectives are to be met. Validation of the remediation works should be undertaken by a suitably qualified engineer.

10 HAZARDOUS GAS

10.1 INTRODUCTION

This gas risk assessment has been carried out in accordance with the following publications:

- CIRIA Report C665 – *Assessing risks posed by hazardous ground gases to buildings*, 2007.
- BS8485:2015+A1:2019 – *Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.*

In order to assess the potential risks associated with gas at this site, a number of factors have been considered. These are discussed below.

10.2 POTENTIAL GAS SOURCES

The site is in an area susceptible to radon emissions and as such basic radon protection measures are required for new buildings at the site.

Potential sources of methane and carbon dioxide gas identified from the geoenvironmental appraisal are summarised in the table below. The table also gives an indication of the likely gas generation potential and the risk of gas generation increasing in the future.

SUMMARY OF IDENTIFIED GAS SOURCES AND ASSOCIATED GENERATION POTENTIAL

Source	Details	Generation potential of source	Risk of gas generation increasing in future
Onsite historic landfill site.	Site was an active refuse tip between 1960 and 1982. Waste types include inert, commercial and household.	High	Low
Onsite backfilled sandstone quarry.	The geological plan indicates an area of infilled ground throughout the centre of the site. This appears to represent an infilled sandstone quarry that formerly existed at that location.	High	Low
Offsite historic landfill within 250m	Two historic landfills were recorded within 250m of the site, the closest 33m southwest, recorded as a former quarry and was active between 1977 and 1988.	Moderate	Very low
Offsite backfilled pond	Backfilled pond located 100m south of site, backfilled prior to 1982.	Low	Very low

10.3 GAS PATHWAYS

Ground conditions encountered during the geoenvironmental investigation comprised predominantly granular made ground beneath the site. Consequently, a gas migration pathway to the surface is likely to exist.

10.4 GAS MONITORING

Given the above, gas monitoring wells were installed in five of the boreholes (BH02, BH03, BH04, BH05 and WS02) during the fieldwork with the response zone screened into the made ground. Details of the monitoring wells are shown in the logs presented in Appendix D.

The most recent guidance on gas risk assessment (CIRIA C665) includes recommendations for periods and frequencies for monitoring visits. These recommendations take into account the nature of the proposed development and the likely generation potential of the source and are shown in the table below.

RECOMMENDED MONITORING PERIODS AND FREQUENCIES

		Generation potential of source				
		Very low	Low	Moderate	High	Very high
		e.g. inert made ground	e.g. alluvium or dock silt	e.g. landfill site pre-1960s	e.g. shallow mine workings	e.g. domestic landfill site post-1960s
Sensitivity of development	High (residential with gardens)	6/3	9/6	12/6	24/12	24/24
	Moderate (flats)	6/2	6/3	9/6	12/12	24/24
	Low (commercial)	4/1	6/2	6/3	12/6	12/12
6/3 indicates six readings over 3 months. At least 2 readings should be during periods of low and falling atmospheric pressure						

The proposed development comprises commercial properties. It is considered that the generation potential of the gas source (taking into account the likelihood of future increases in gas generation) would be best classified as very high.

Gas monitoring at the site has been carried out on seven occasions with an additional visit over a total period of three months, between 30th April and 1st August 2024. All seven monitoring visits were carried out when barometric pressure was below 1000mbar, of which three visits were also during a period of falling barometric pressure.

Gas monitoring was carried out in accordance with current guidance and the results are attached. A summary of the monitoring results is shown in the table below.

SUMMARY OF GAS MONITORING RESULTS

Monitoring point	Range of gas concentrations recorded (% v/v)		Flow rates recorded (litre/hour)
	Methane (Peak)	Carbon Dioxide (Steady State)	
BH02	ND to 0.70	ND to 0.50	ND
BH03	ND to 1.40	ND to 4.60	ND
BH04	ND to 1.10	ND to 0.70	ND
BH05	ND to 1.50	ND to 3.30	ND
WS02	ND to 0.80	ND to 2.80	ND

ND: None detected

An assessment of the gas regime has been provided below.

10.5 SITE GAS REGIME

Where flow rates are shown as 'none detected', a default value of 0.1 litres/hour has been used in the assessment, representing the limit of detection of the measuring instrument.

No detectable gas flow rates were recorded in the five boreholes monitored during the seven visits undertaken (all less than 0.1 litres per hour).

Methane was detected in the seven visits undertaken to date. The maximum methane concentration was 1.5% v/v. Carbon dioxide concentrations of up to 4.6% v/v steady state were recorded.

Gas screening values for methane have been calculated based on the maximum *initial* (peak) readings obtained from the boreholes and the maximum *initial* (peak) flow rates.

Gas screening values for carbon dioxide have been calculated based on the maximum *steady state* readings obtained from the boreholes and the maximum *steady state* flow rates.

The gas screening values are shown in the table below together with the maximum gas concentration.

CALCULATED GAS SCREENING VALUES

Gas screening value - carbon dioxide (litre/hour)	Maximum concentration - carbon dioxide (% v/v)	Gas screening value – methane (litre/hour)	Maximum concentration – methane (% v/v)
0.0046	4.60%	0.0015	1.50%

Whilst the gas screening values shown above would place the site in Characteristic Situation CS1, due to methane exceeding 1% and a viable source of hazardous gas has been identified (the historic landfill), the site's Characteristic Situation will be increased the CS2.

Gas protection measures suitable for sites that are CS2 can be found in BS8485:2015+A1:2019.

As previously stated, basic radon protection measures are required for new buildings on the site.

The above findings should be approved in writing by the regulatory authorities prior to the commencement of redevelopment works. It may be the regulatory authorities require additional monitoring rounds to concede with CIRIA C665 standards.

11 FOUNDATIONS AND GEOTECHNICAL ISSUES

11.1 INTRODUCTION

The proposed development is understood to consist of seven commercial properties.

Ground conditions encountered during this investigation comprised made ground within the backfilled quarry up to 20.00m deep, consisting of a sandy gravel with frequent cobbles/boulders of sandstone. Outside the quarry, made ground typically was granular overlaying clay, exceeding depths of 5.45m. The underlying natural ground was only recorded in the rotary boreholes and consisted of sandstone interbedded with thin bands of mudstone/siltstone.

11.2 MINING

The site is not in an area affected by shallow coal mining.

The investigation has indicated that the majority of the site was occupied by a former quarry, which was later backfilled with quarry arisings and a historic refuse tip.

11.3 FOUNDATIONS

Due to the heterogeneous nature of the made ground, unacceptable total and differential settlements may occur if foundations are founded into the made ground. Therefore, foundations should be taken through the made ground into the underlying natural grounds of adequate bearing capacity considered to be the strong sandstone.

Therefore, it is considered that shallow foundations will not be suitable for the proposed structures and a

piled foundation solution is recommended. The nature and thickness of the deposits is such that skin friction should be generated within the sandstone rock head. However the variable ground conditions at the site include compressible soils which may give rise to negative skin friction and a competent piling contractor should take this into account during the design; this may result in increased pile length.

It should be noted that piled foundations can create preferential pathways for gas migration. In addition piling can result in contamination of groundwater beneath the site due to contaminated material being pushed down into natural strata. These issues should be considered prior to the final design of the piles and the design may need to be verified by the Environment Agency prior to construction.

It is recommended that piles are designed by a suitably qualified specialist. Obstructions should be anticipated within the made ground and the contractor should take this into account when designing piles and considering pile type; given the presence of numerous cobbles/boulders it is anticipated that pre-boring will be required.

Sub-surface concrete should be Design Sulphate Class DS-1, with the site allocated an ACEC Classification of AC-1.

11.4 FLOOR SLABS

Given the depth of made ground a piled slab may be required for sensitive structures.

11.5 BURIED OBSTRUCTIONS

Concrete obstructions were recorded around the vicinity of WS01 and WS01A at 1.20 – 2.00m depth. In addition, the backfilled quarry material was recorded to contain a high cobble and/or boulder content of sandstone. Given the historic usage of the site, it is very likely that further obstructions could lie unacted elsewhere on site.

These obstructions should be taken into consideration when the appointed contractor designs the proposed piles.

11.6 EXCAVATIONS

Observations made during the fieldwork indicate that groundwater flows will not be anticipated in shallow excavations. However, the rapid rate of advancement of the exploratory holes may mask minor seepages and it should be borne in mind that water levels fluctuate with a number of influences including season, rainfall, dewatering and pumping activities. Should perched water be encountered, a pumping method is recommended.

Excavation sides should be designed, constructed and supported in accordance with the recommendations given in CIRIA Report No. 97.

It is recommended that an adequate drainage system for surface water be installed by a competent contractor in order to prevent surface water ponding or collecting during and post construction, which may in turn lead to deterioration of the founding stratum.

Based on the nature of the ground conditions encountered, excavations should be within the capacity of normal earthworks plant although breaking out of relict foundations and other obstructions should be anticipated.

11.7 ROAD PAVEMENT DESIGN

Where the granular made ground is re-engineered it is considered that a CBR value of 5% should be achievable, however, this should be verified by insitu CBR testing on site and confirmed with the adopting authority.

12 CONCLUSIONS

12.1 GENERAL

The proposed development comprises the demolition of the existing buildings and the construction of seven new commercials units. Ground conditions encountered consisted of predominately granular made ground, although cohesive material was recorded. Natural ground was not encountered until depths between 16.50 – 20.00m

12.2 CONTAMINATION RISK ASSESSMENT

The made ground has been found to contain asbestos. It is understood that once developed, the majority of the site will be covered by apparatus, buildings or hardstand areas and therefore the asbestos would be satisfactorily isolated from future site users. If this strategy is adopted, a site health and safety plan should be produced in accordance with a CAR-SOIL assessment (Control of Asbestos Regulations 20212), for the retention of the building management company. This plan should ensure that future maintenance and development work is undertaken with due regard to the possibility that asbestos could be encountered and should set out the precautions that should be taken.

The areas of proposed soft standing around the vicinity of WS05 and TP05 will require the subsequent removal and replacement with a certified clean cover, at a minimum thickness of 0.60m.

12.3 HAZARDOUS GAS RISK ASSESSMENT

The site's Characteristic Situation will be CS2 due to methane exceeding 1% and a viable source of hazardous gas being identified (the historic landfill)

Basic radon protection measures are required for new buildings on the site.

12.4 MINING & QUARRYING

The site is not in an area affected by shallow coal mining.

The investigation has indicated that the majority of the site was occupied by a former quarry, which was later backfilled with quarry arisings and a historic refuse tip.

12.5 FOUNDATIONS AND GEOTECHNICAL ISSUES

Due to the heterogenous composition of the made ground, as well as its thickness, piled foundations are recommended for the proposed structures.

Design Sulfate Class DS-1 and ACEC Classification AC-1 would be appropriate for buried concrete at the site.

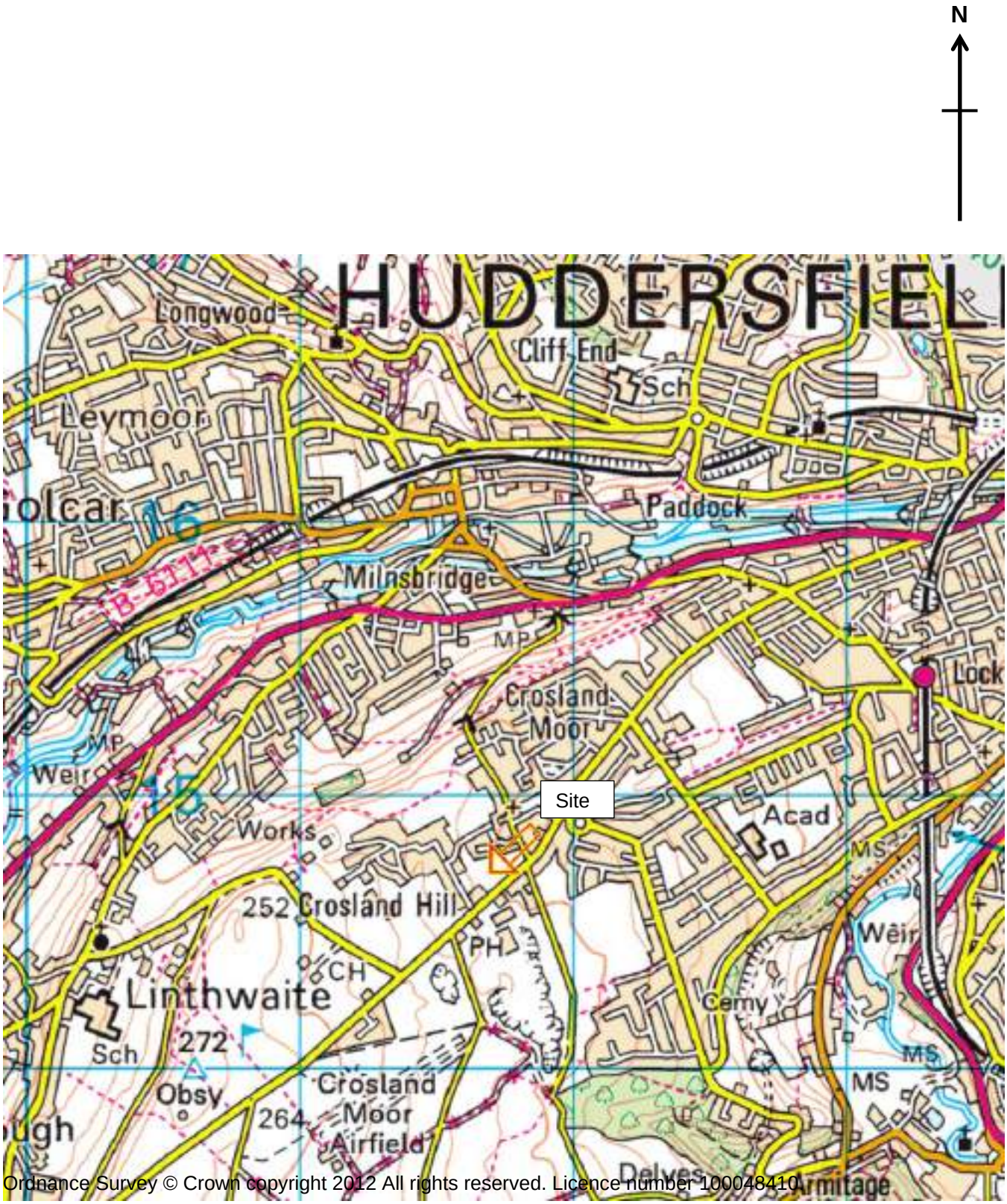
12.6 FURTHER WORKS

Additional trial pitting is recommended following demolition of existing buildings to investigate areas not previously accessible.

An asbestos survey of the existing building as well as the overall site is recommended

Appendix A

Drawings



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DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Contract:** Blackmoorfoot Road, Huddersfield			**Contract No:** M30412
	Client: M&R Investment Property Limited			
TEL: 0161 639 1775	**Drawing Title:** Site Location Plan			
Drawing & Revision No: M30412_01_00	**Date:** April 2024	**Scale:** 1:50,000	**Status:** Final	**Drawn by:** CA

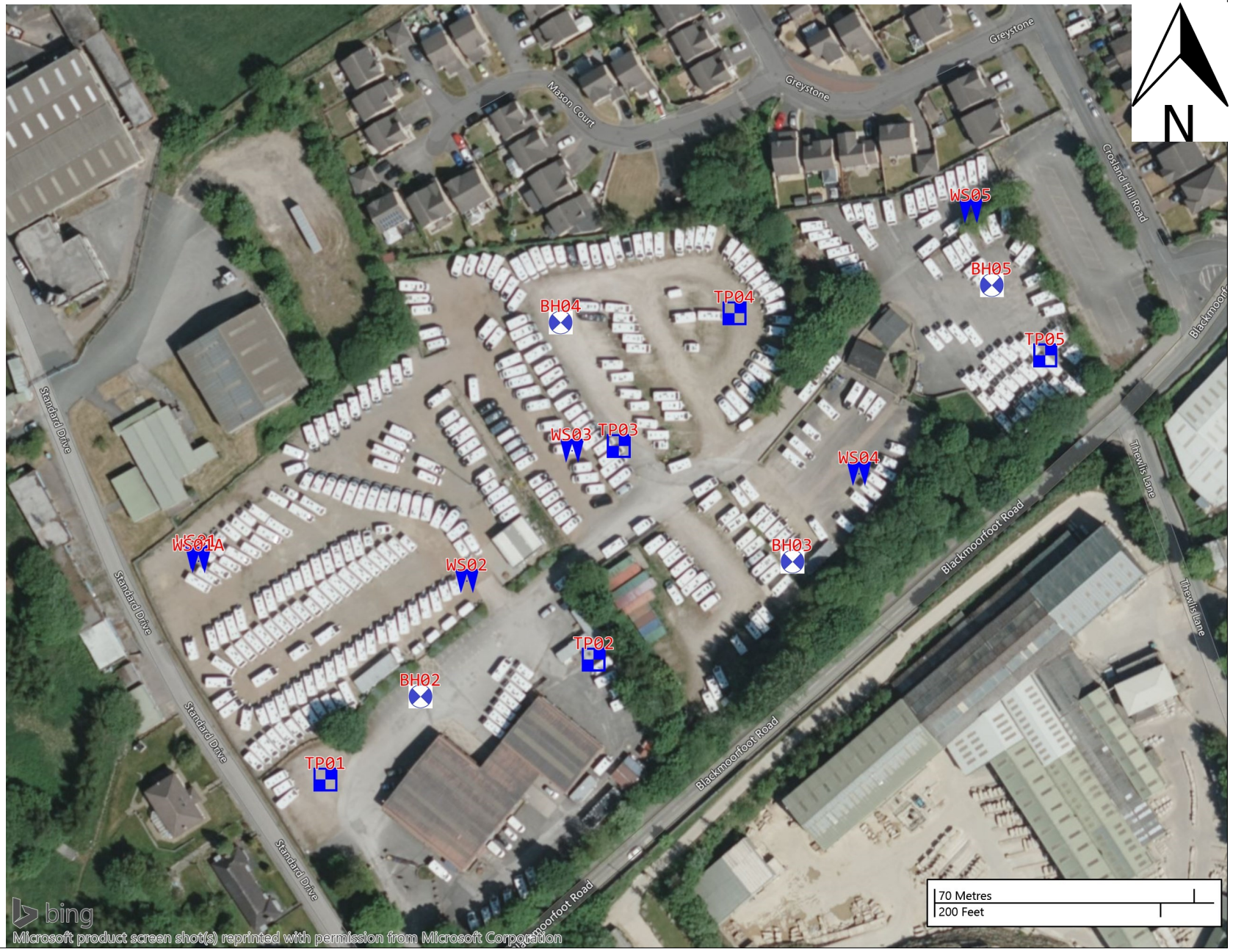
DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Contract:** Blackmoorfoot Road, Huddersfield			**Contract No:** M30412
	Client: M&R Investment Property Ltd			
TEL: 0161 639 1775	**Drawing Title:** Site Features Plan			
Drawing & Revision No: M30412_02_00	**Date:** March 2024	**Scale:** NTS	**Status:** Final	**Drawn by:** CA

Project Id:	M30412	Title:	Exploratory Hole Location Plan
Project Title:	Blackmoorfoot Road, Huddersfield	Scale:	1:1500
Client:	M&R Investment Property Limited	Drawing No:	M30412/02

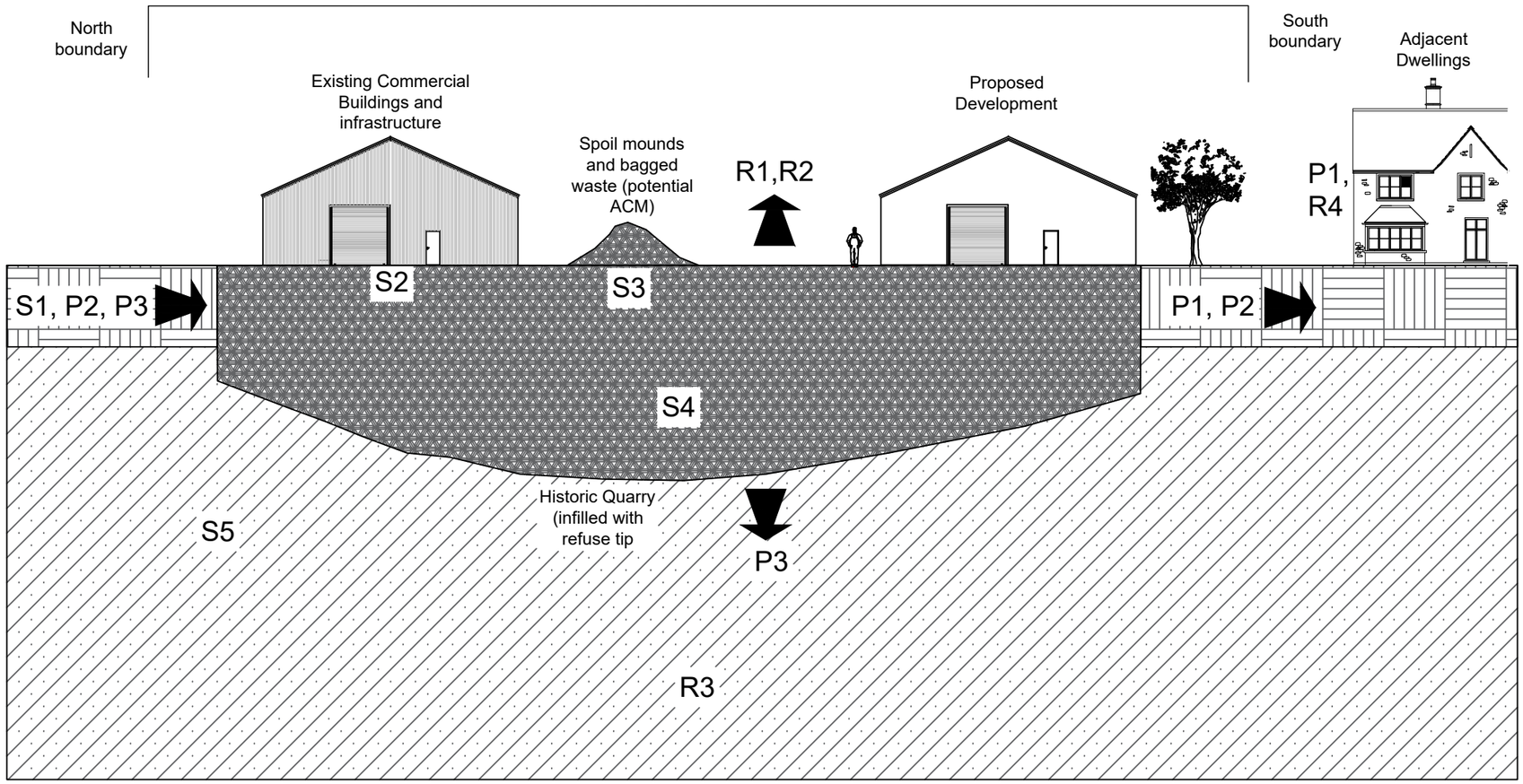
DUNELM GEOTECHNICAL & ENVIRONMENTAL

Legend Key

- Rotary Open Hole with Rotary Core Follow On
- Machine Excavated Trial Pit
- Windowless Sampling



Cross Section Through the Site (Approximately West to East)



Ground Conditions Summary

MADE GROUND

ROUGH ROCK SANDSTONE FORMATION

Pollutant Linkages

SOURCE	1. Possible contamination from made ground from historic usage. 2. Possible contamination from exiting commercial buildings and infrastructure. 3. Possible contamination of onsite spoil mounds and waste material (e.g bagged potential ACM). 4. Possible hazardous gas migration from onsite backfilled quarry with refuse tip. 5. Possible hazardous radon gas migration from underlying bedrock.
PATHWAY	1. Ingestion, inhalation and dermal contact of potential contamiantion within made ground. 2. Migration of hazardous gas. 3. Surface run off and infiltration of leachable contamiants.
RECEPTOR	1. Human Health (Future site users). 2. Portable water supply. 3. Secondary A Aquifer. 4. Human Health (Existing residential occupants).

DUNELM GEOTECHNICAL & ENVIRONMENTAL

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NOT TO SCALE: Contractor to check all dimensions on site before commencement of any works. No dimensions to be scaled from this drawing.

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CLIENT:

M&R Investment Property Limited

PROJECT TITLE:

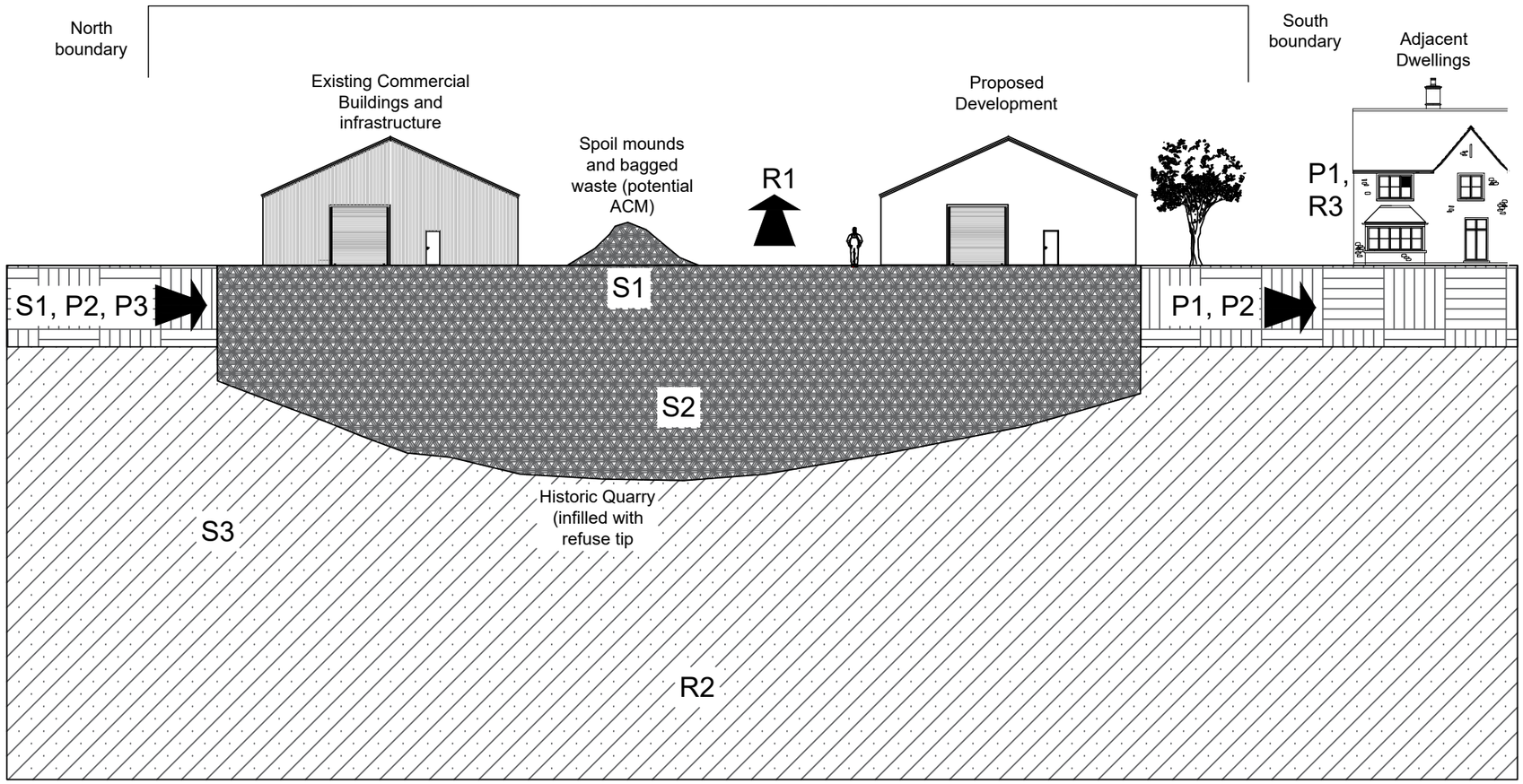
Land at Blackmoorfoot Road, Crosland Hill Road, Huddersfield

DRAWING TITLE:	DATE:
Preliminary Conceptual Site Model	April 2024

DRAWING NUMBER:	REVISION NUMBER:
M30412_04_00	V1

BT087 Issue 1

Cross Section Through the Site (Approximately West to East)



Ground Conditions Summary

MADE GROUND

ROUGH ROCK SANDSTONE FORMATION

Pollutant Linkages

SOURCE	1. Contamination from asbestos fibres and suspected asbestos sherting onsite. 2. Possible hazardous gas migration from onsite backfilled quarry with refuse tip. 3. Possible hazardous radon gas migration from underlying bedrock.
PATHWAY	1. Ingestion, inhalation and dermal contact of potential contamiantion within made ground. 2. Migration of hazardous gas. 3. Surface run off and infiltration of leachable contamiants.
RECEPTOR	1. Human Health (Future site users). 2 Secondary A Aquifer. 2. Human Health (Existing residential occupants).

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CLIENT:

M&R Investment Property Limited

PROJECT TITLE:

Land at Blackmoorfoot Road, Crosland Hill Road, Huddersfield

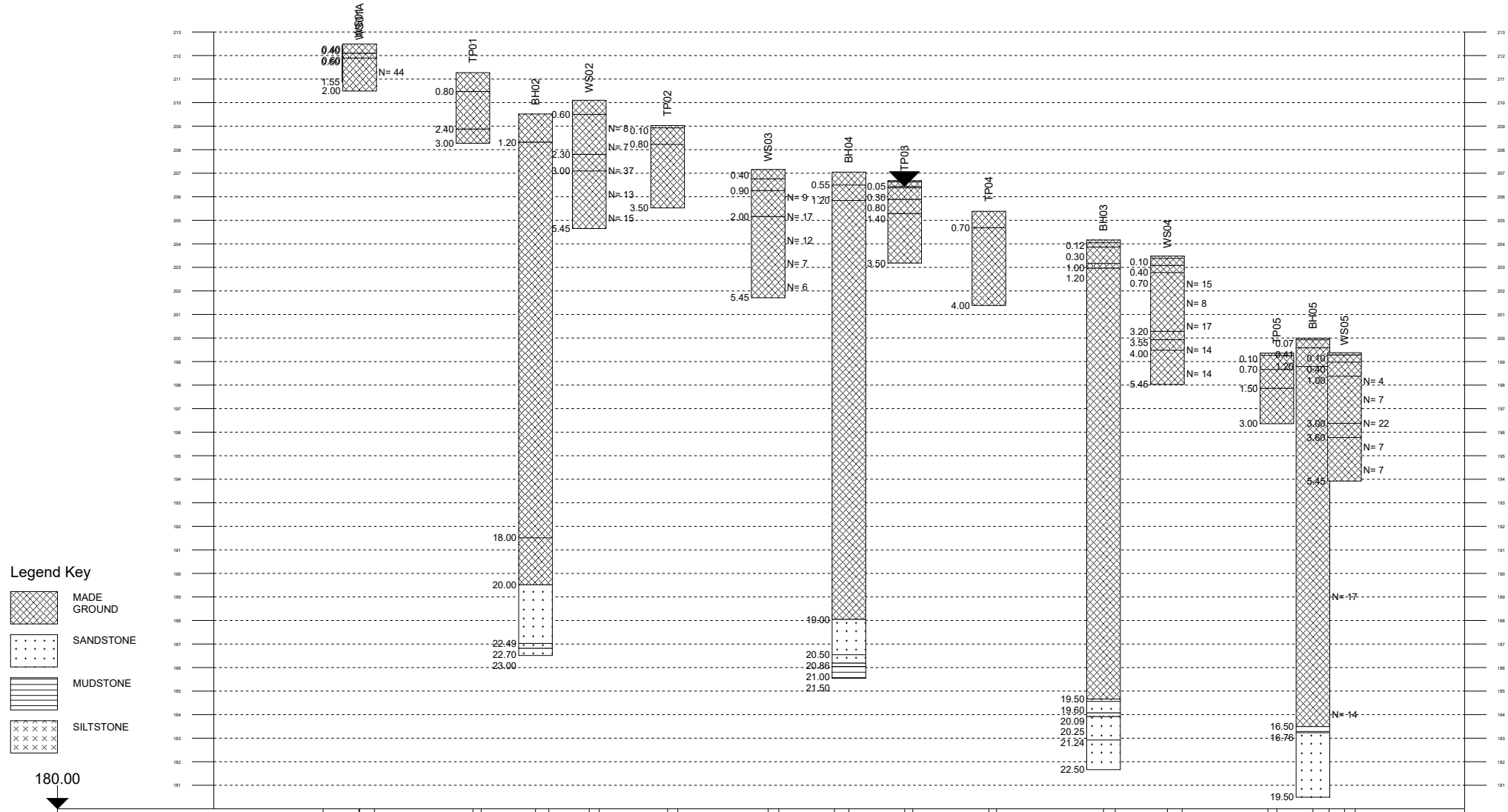
DRAWING TITLE:	DATE:
Refined Conceptual Site Model	June 2024

DRAWING NUMBER:	REVISION NUMBER:
M30412_05_00	V1

BT087 Issue 1

Project Id: M30412	Title: Cross Section Line
Project Title: Blackmoorfoot Road, Huddersfield	Vertical Scale: 1:238
Location: Huddersfield	Horizontal Scale: 1:3718
Client: M&R Investment Property Limited	Engineer: TBB

DUNELM GEOTECHNICAL & ENVIRONMENTAL



Chainage (m)	0.00	23.75	34.09	99.41	104.90	140.94	149.75	176.61	183.21	228.56	235.34	295.33	302.34	339.29	348.88	385.85	391.25	441.73	446.80	517.79	525.60	560.20	569.96	626.87	632.81	656.74	667.43	677.66	684.77
Elevation (mAOD)		212.49		211.27		209.52		210.10		209.03		207.16		207.05		206.69		205.38		204.16		203.48		199.36		199.99		199.38	
Offset (m)		0.39		0.35		2.32		2.04		2.30		0.12		0.39		0.37		1.85		1.66		0.85		3.04		2.27		0.65	

Notes:

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Do not scale from this drawing. Any descrepancies on site should be brought to the attention of KPP Architects Ltd.

Work and materials must comply with the current building regulations and codes of practice and be read in conjunction with building specifications and other sub-contractors information. All materials are to be installed in strict accordance with the recommendations of the manufacturers.

AREAS

UNIT 1	11,500 SQ FT
UNIT 2	11,500 SQ FT
UNIT 3	11,500 SQ FT
UNIT 4	21,250 SQ FT
UNIT 5	4,650 SQ FT
UNIT 6	4,650 SQ FT
UNIT 7	4,750 SQ FT
UNIT 8	4,750 SQ FT
UNIT 9	4,750 SQ FT
UNIT 10	2,750 SQ FT
UNIT 11	4,750 SQ FT
UNIT 12	2,000 SQ FT
UNIT 13	2,000 SQ FT
UNIT 14	2,000 SQ FT
UNIT 15	2,500 SQ FT
UNIT 16	2,500 SQ FT
UNIT 17	2,500 SQ FT
UNIT 18	3,600 SQ FT
TOTAL	103,900 SQFT

SITE AREA = 8.2 ACRES

Rev	Description	By	Chkd	Date
.	.	.	.	.

Client

PARK VALLEY HUDDERSFIELD

Project Title

BLACKMOORFOOT ROAD CROSSLAND HILL HUDDERSFIELD

Drawing Title

PROPOSED SCHEME 6

KPP ARCHITECTS

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W : www.kpp-leeds.co.uk

Scale	Size	Date	Drawn	Checked
1:1000	A3	MAR '23	JM	.

Status

SCHEME

KPP Job No **2406**

Rev **.**

Number **1005**

Appendix B

Photographic Survey

Exploratory Hole Photographs

1: TP01 - looking into the pit and the arisings.

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 1

Exploratory Hole Photographs

2: TP02 - looking into the pit and the arisings.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Project: Blackmoorfoot Road, Huddersfield** **Project No: M30412** **Carried out for: M&R Investment Property Limited**	**Plate** **2**

Exploratory Hole Photographs

3: TP03 - looking into the pit and the arisings.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Project: Blackmoorfoot Road, Huddersfield** **Project No: M30412** **Carried out for: M&R Investment Property Limited**	**Plate** **3**

Exploratory Hole Photographs

4: TP03A - looking into the pit and the arisings.

DUNELM	**Project: Blackmoorfoot Road, Huddersfield** **Project No: M30412** **Carried out for: M&R Investment Property Limited**	**Plate** **4**

Exploratory Hole Photographs

5: TP04 - looking into the pit and the arisings.

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 5

Exploratory Hole Photographs

6: TP05 - looking into the pit and the arisings.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Project: Blackmoorfoot Road, Huddersfield** **Project No: M30412** **Carried out for: M&R Investment Property Limited**	**Plate** **6**

Exploratory Hole Photographs

7: TP05A - looking into the pit, shwing the highwall and the arisings.

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 7

Exploratory Hole Photographs

1.20 – 2.00m

8: WS01A – Borehole photos

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 8

Exploratory Hole Photographs

1.20 – 4.00m

4.00 – 5.00m

9: WS02 - Borehole photos

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 9

Exploratory Hole Photographs

1.20 – 4.00m

4.00 – 5.00m

10: WS03 - Borehole photos

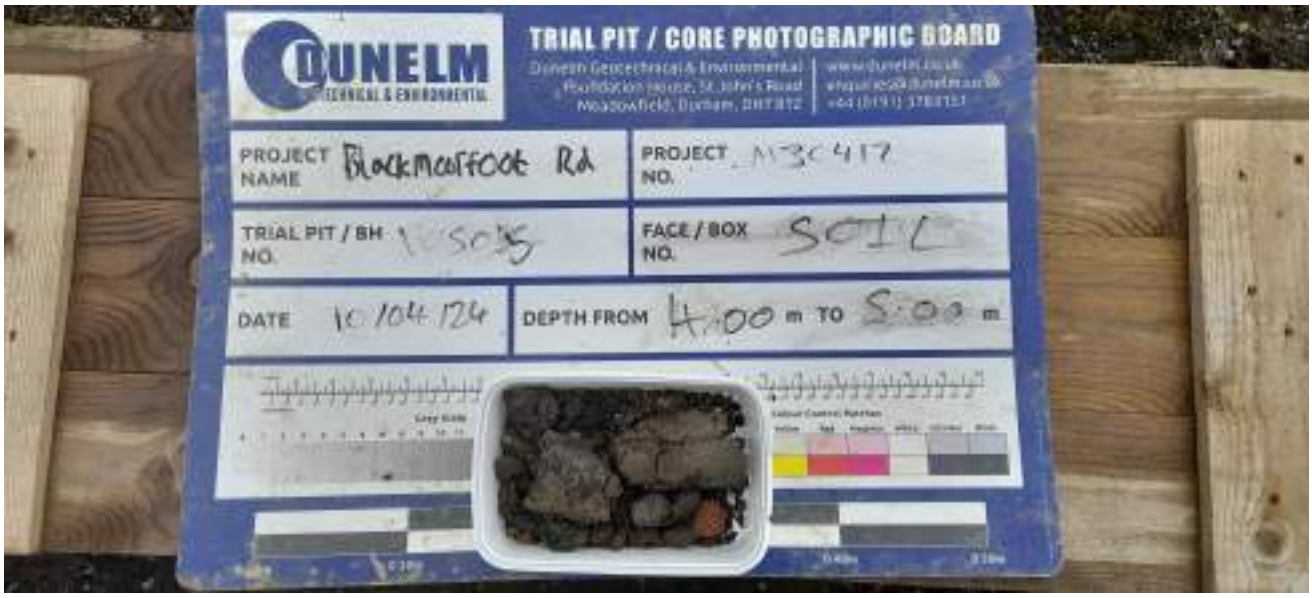
Exploratory Hole Photographs

1.20 – 4.00m

4.00 – 5.00m

11: WS04 - Borehole photos

Exploratory Hole Photographs



4.00 – 5.00m

12: WS05 - Borehole photos

Exploratory Hole Photographs

20.00 – 23.00m

13: BH02 - Borehole photos

Exploratory Hole Photographs

19.50 – 22.50m

14: BH03 - Borehole photos

Exploratory Hole Photographs

19.00 – 21.50m

15: BH04 - Borehole photos

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 15

Exploratory Hole Photographs

16.50 – 19.50m

16: BH05 - Borehole photos

Site Walkover Photographs

1: Looking north, onto the main access into the site.

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 1

Site Walkover Photographs

2: Looking southeast, towards the existing building onsite with the inspection pit inside.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	**Project: Blackmoorfoot Road, Huddersfield** **Project No: M30412** **Carried out for: M&R Investment Property Limited**	**Plate** **2**

Site Walkover Photographs

3: Looking south, towards the bagged suspected asbestos sheeting.

Site Walkover Photographs

4: Looking northeast, over former caravan parking area.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 4

Site Walkover Photographs

5: Looking south, into the large hollowed out area.

DUNELM	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 5

Site Walkover Photographs

6: Looking west, from the lowest tier to the next tier higher.

DUNELM GEOTECHNICAL & ENVIRONMENTAL	Project: Blackmoorfoot Road, Huddersfield Project No: M30412 Carried out for: M&R Investment Property Limited	Plate 6

Appendix C

Desk Study Information

Flood map for planning

Your reference	Location (easting/northing)	Created
<Unspecified>	**411687/414678**	**27 Mar 2024 8:32**

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is **any of the following:**

- bigger that 1 hectare (ha)
- In an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

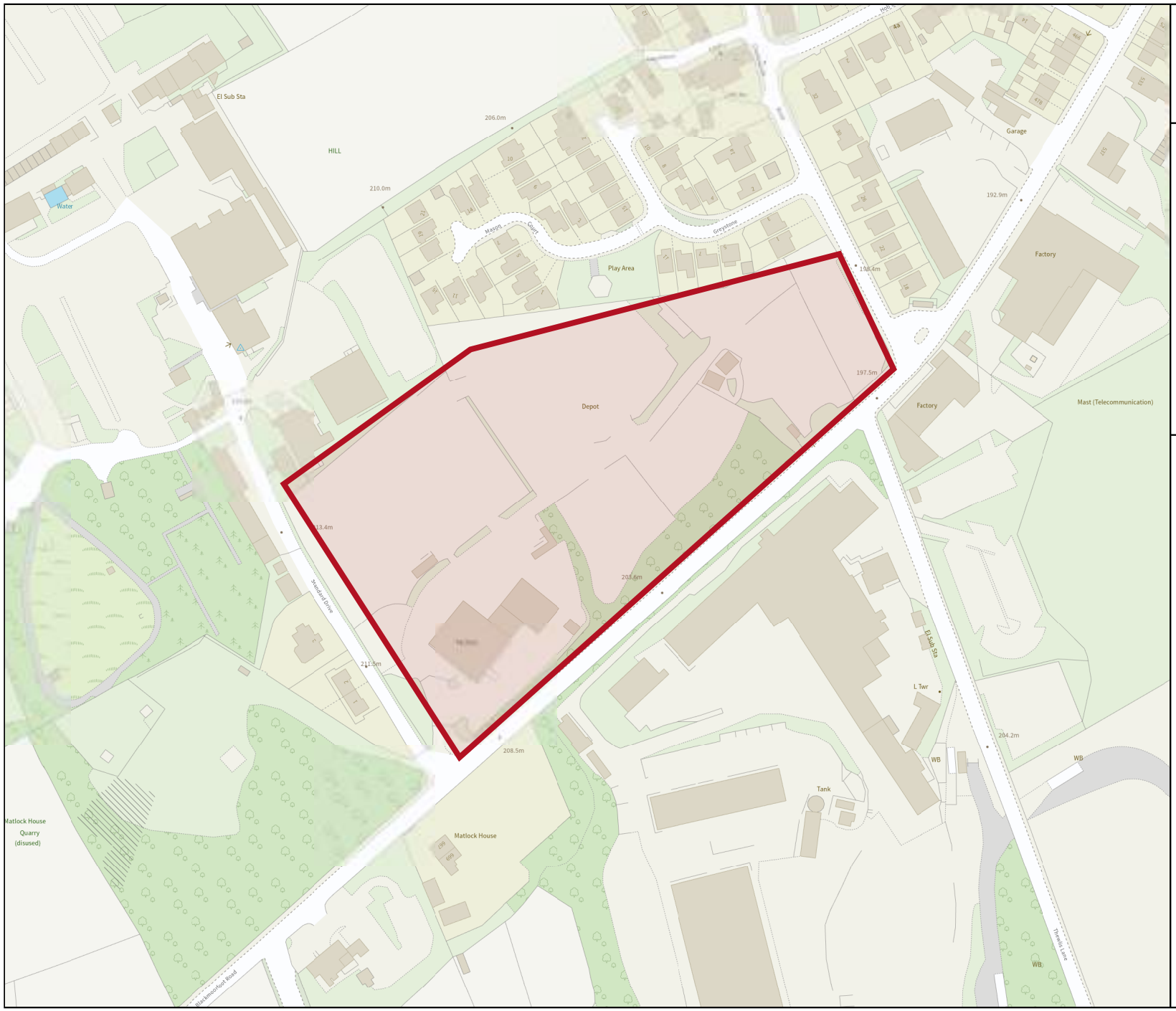
Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence **which** sets out the terms and conditions for using government data. https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

Use of the address and mapping data is subject to Ordnance Survey public viewing terms under Crown copyright and database rights 2022 OS 100024198. https://flood-map-for-planning.service.gov.uk/os-terms



Environment Agency

Flood map for planning

Your reference
<Unspecified>

Location (easting/northing)
411687/414678

Scale
1:2500

Created
27 Mar 2024 8:32

- Selected area
- Flood zone 3
- Flood zone 2
- Flood zone 1
- Flood defence
- Main river
- Water storage area

0 20 40 60m

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UNEXPLODED BOMB RISK MAP

zeticauxo

SITE LOCATION

Location: HD4 7AA,
Map Centre: 411900,414789

This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- **High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- **Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- **Low:** Areas indicated as having 15 bombs per 1000acre or less.

Miltary | **Industry** | **UXO find** | **Other**
Transport | **Docks** | **Luftwaffe targets**
Utilities | **Bombing decoy** | **Airfields**

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density.
Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then additional detailed research is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our pre-desk study assessments (PDSA) by emailing a site boundary and location to uxo@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: +44 (0) 1993 886682 **email:** uxo@zetica.com **web:** www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the accompanying notes on our website.

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

18, CROSLAND HILL ROAD, CROSLAND MOOR, HUDDERSFIELD, KIRKLEES, HD4 5NU

Order Details

Date: 26/03/2024

Your ref: PO4440

Our Ref: GS-J97-X98-MCL-N7D

Site Details

Location: 411679 414691

Area: 3.41 ha

Authority: Kirklees Council ↗

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Summary of findings p. 2 >

Aerial image p. 9 >

OS MasterMap site plan p.14 >

groundsure.com/insightuserguide ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	16	23	44	40	-
20 >	1.2 >	Historical tanks >	0	1	1	3	-
21 >	1.3 >	Historical energy features >	0	0	10	1	-
21	1.4	Historical petrol stations	0	0	0	0	-
22 >	1.5 >	Historical garages >	0	0	4	0	-
22	1.6	Historical military land	0	0	0	0	-
Page	**Section**	**Past land use - un-grouped >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
23 >	2.1 >	Historical industrial land uses >	19	27	58	51	-
29 >	2.2 >	Historical tanks >	0	7	2	4	-
30 >	2.3 >	Historical energy features >	0	0	25	1	-
31	2.4	Historical petrol stations	0	0	0	0	-
31 >	2.5 >	Historical garages >	0	0	9	0	-
Page	**Section**	**Waste and landfill >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
33 >	3.1 >	Active or recent landfill >	0	2	1	0	-
34 >	3.2 >	Historical landfill (BGS records) >	0	0	0	1	-
34 >	3.3 >	Historical landfill (LA/mapping records) >	6	2	13	13	-
36 >	3.4 >	Historical landfill (EA/NRW records) >	0	1	1	3	-
37	3.5	Historical waste sites	0	0	0	0	-
37 >	3.6 >	Licensed waste sites >	0	0	3	1	-
39 >	3.7 >	Waste exemptions >	0	0	0	4	-
Page	**Section**	**Current industrial land use >**	**On site**	**0-50m**	**50-250m**	**250-500m**	**500-2000m**
40 >	4.1 >	Recent industrial land uses >	1	1	14	-	-
42 >	4.2 >	Current or recent petrol stations >	0	0	1	0	-
42	4.3	Electricity cables	0	0	0	0	-
42	4.4	Gas pipelines	0	0	0	0	-
42	4.5	Sites determined as Contaminated Land	0	0	0	0	-

42 >	4.6 >	Control of Major Accident Hazards (COMAH) >	0	1	0	0	-
43 >	4.7 >	Regulated explosive sites >	0	0	1	0	-
43 >	4.8 >	Hazardous substance storage/usage >	0	0	1	0	-
44	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
44 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	11	0	-
46	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
46	4.12	Radioactive Substance Authorisations	0	0	0	0	-
46	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
46	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
46	4.15	Pollutant release to public sewer	0	0	0	0	-
47	4.16	List 1 Dangerous Substances	0	0	0	0	-
47	4.17	List 2 Dangerous Substances	0	0	0	0	-
47 >	4.18 >	Pollution Incidents (EA/NRW) >	0	0	1	1	-
47	4.19	Pollution inventory substances	0	0	0	0	-
48	4.20	Pollution inventory waste transfers	0	0	0	0	-
48	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
49	5.1	Superficial aquifer	None (within 500m)				
50 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
52 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
53	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
53	5.5	Groundwater vulnerability- local information	None (within 0m)				
54 >	5.6 >	Groundwater abstractions >	2	0	0	0	22
60 >	5.7 >	Surface water abstractions >	0	0	0	0	32
68 >	5.8 >	Potable abstractions >	0	0	0	0	8
70	5.9	Source Protection Zones	0	0	0	0	-
70	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
71	6.1	Water Network (OS MasterMap)	0	0	0	-	-

71	6.2	Surface water features	0	0	0	-	-
72 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
72 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
73 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
74	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
74	7.2	Historical Flood Events	0	0	0	-	-
74	7.3	Flood Defences	0	0	0	-	-
75	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
75	7.5	Flood Storage Areas	0	0	0	-	-
76	7.6	Flood Zone 2	None (within 50m)				
76	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding >					
77 >	8.1 >	Surface water flooding >	1 in 30 year, Greater than 1.0m (within 50m)				
Page	Section	Groundwater flooding >					
79 >	9.1 >	Groundwater flooding >	Negligible (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
80	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
81	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
81	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
81	10.4	Special Protection Areas (SPA)	0	0	0	0	0
81	10.5	National Nature Reserves (NNR)	0	0	0	0	0
82 >	10.6 >	Local Nature Reserves (LNR) >	0	0	0	0	1
82 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
82	10.8	Biosphere Reserves	0	0	0	0	0
83	10.9	Forest Parks	0	0	0	0	0
83	10.10	Marine Conservation Zones	0	0	0	0	0
83 >	10.11 >	Green Belt >	0	0	1	0	0
83	10.12	Proposed Ramsar sites	0	0	0	0	0

84	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
84	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
84	10.15	Nitrate Sensitive Areas	0	0	0	0	0
84	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
85 >	**10.17 >**	**SSSI Impact Risk Zones >**	1	-	-	-	-
86	10.18	SSSI Units	0	0	0	0	0
Page	Section	**Visual and cultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
87	11.1	World Heritage Sites	0	0	0	-	-
88	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
88	11.3	National Parks	0	0	0	-	-
88 >	**11.4 >**	**Listed Buildings >**	0	0	4	-	-
89	11.5	Conservation Areas	0	0	0	-	-
89	11.6	Scheduled Ancient Monuments	0	0	0	-	-
89	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	**Agricultural designations >**	On site	0-50m	50-250m	250-500m	500-2000m
90 >	**12.1 >**	**Agricultural Land Classification >**	Urban (within 250m)				
91	12.2	Open Access Land	0	0	0	-	-
91	12.3	Tree Felling Licences	0	0	0	-	-
91	12.4	Environmental Stewardship Schemes	0	0	0	-	-
91	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	**Habitat designations >**	On site	0-50m	50-250m	250-500m	500-2000m
92 >	**13.1 >**	**Priority Habitat Inventory >**	0	0	2	-	-
93 >	**13.2 >**	**Habitat Networks >**	2	0	1	-	-
93 >	**13.3 >**	**Open Mosaic Habitat >**	0	1	2	-	-
94	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	**Geology 1:10,000 scale >**	On site	0-50m	50-250m	250-500m	500-2000m
95 >	**14.1 >**	**10k Availability >**	Identified (within 500m)				
96 >	**14.2 >**	**Artificial and made ground (10k) >**	2	4	9	16	-
98	14.3	Superficial geology (10k)	0	0	0	0	-

98	14.4	Landslip (10k)	0	0	0	0	-
99 >	14.5 >	Bedrock geology (10k) >	1	0	4	4	-
100	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
101 >	15.1 >	50k Availability >	Identified (within 500m)				
102 >	15.2 >	Artificial and made ground (50k) >	1	2	2	3	-
103 >	15.3 >	Artificial ground permeability (50k) >	1	2	-	-	-
104	15.4	Superficial geology (50k)	0	0	0	0	-
104	15.5	Superficial permeability (50k)	None (within 50m)				
104	15.6	Landslip (50k)	0	0	0	0	-
104	15.7	Landslip permeability (50k)	None (within 50m)				
105 >	15.8 >	Bedrock geology (50k) >	1	0	1	1	-
106 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
106	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
107 >	16.1 >	BGS Boreholes >	1	0	0	-	-
Page	Section	Natural ground subsidence >					
108 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
109 >	17.2 >	Running sands >	Very low (within 50m)				
111 >	17.3 >	Compressible deposits >	Moderate (within 50m)				
113 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
114 >	17.5 >	Landslides >	Very low (within 50m)				
115 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
117 >	18.1 >	BritPits >	4	6	13	22	-
125 >	18.2 >	Surface ground workings >	15	24	60	-	-
129	18.3	Underground workings	0	0	0	0	0
129	18.4	Underground mining extents	0	0	0	0	-
129 >	18.5 >	Historical Mineral Planning Areas >	1	4	5	3	-

130 >	**18.6 >**	**Non-coal mining >**	1	0	1	0	0
131	18.7	JPB mining areas	None (within 0m)				
131	18.8	The Coal Authority non-coal mining	0	0	0	0	-
131 >	**18.9 >**	**Researched mining >**	2	4	1	0	-
132	18.10	Mining record office plans	0	0	0	0	-
132 >	**18.11 >**	**BGS mine plans >**	0	0	0	1	-
132	18.12	Coal mining	None (within 0m)				
132	18.13	Brine areas	None (within 0m)				
133	18.14	Gypsum areas	None (within 0m)				
133	18.15	Tin mining	None (within 0m)				
133	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
134	19.1	Natural cavities	0	0	0	0	-
134	19.2	Mining cavities	0	0	0	0	0
134	19.3	Reported recent incidents	0	0	0	0	-
134	19.4	Historical incidents	0	0	0	0	-
135	19.5	National karst database	0	0	0	0	-
Page	Section	**Radon >**					
136 >	**20.1 >**	**Radon >**	Between 3% and 5% (within 0m)				
Page	Section	**Soil chemistry >**	On site	0-50m	50-250m	250-500m	500-2000m
138 >	**21.1 >**	**BGS Estimated Background Soil Chemistry >**	1	1	-	-	-
138	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
138	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	**Railway infrastructure and projects >**	On site	0-50m	50-250m	250-500m	500-2000m
139	22.1	Underground railways (London)	0	0	0	-	-
139	22.2	Underground railways (Non-London)	0	0	0	-	-
140	22.3	Railway tunnels	0	0	0	-	-
140 >	**22.4 >**	**Historical railway and tunnel features >**	0	0	1	-	-
140	22.5	Royal Mail tunnels	0	0	0	-	-

140	22.6	Historical railways	0	0	0	-	-
141	22.7	Railways	0	0	0	-	-
141	22.8	Crossrail 1	0	0	0	0	-
141	22.9	Crossrail 2	0	0	0	0	-
141	22.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 30/05/2021

Site Area: 3.41ha

Recent site history - 2018 aerial photograph

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Capture Date: 01/07/2018

Site Area: 3.41ha

Recent site history - 2012 aerial photograph

Capture Date: 26/03/2012

Site Area: 3.41ha

Recent site history - 2000 aerial photograph

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Capture Date: 25/08/2000

Site Area: 3.41ha

Recent site history - 1999 aerial photograph

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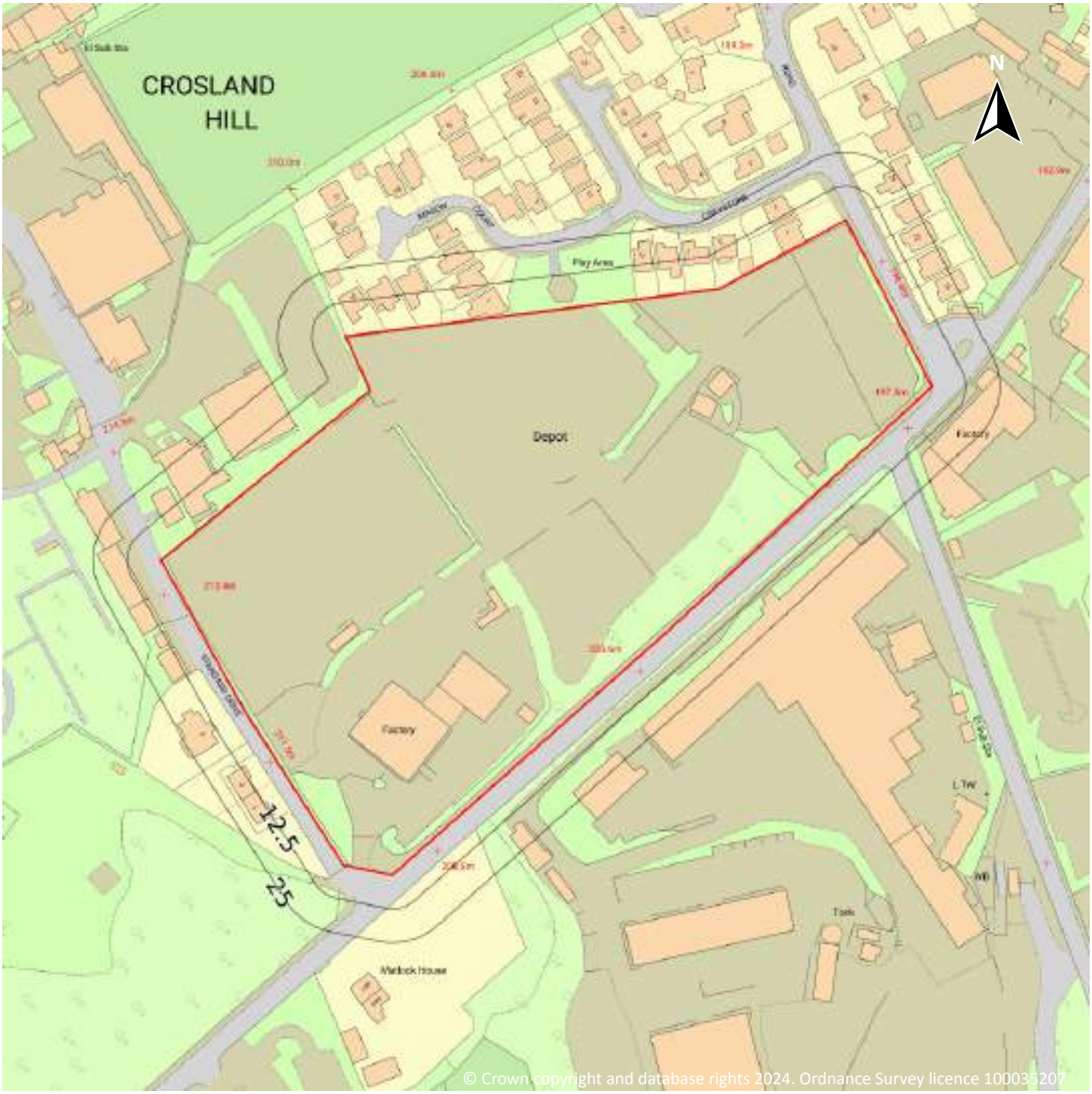
Capture Date: 05/09/1999

Site Area: 3.41ha

OS MasterMap site plan



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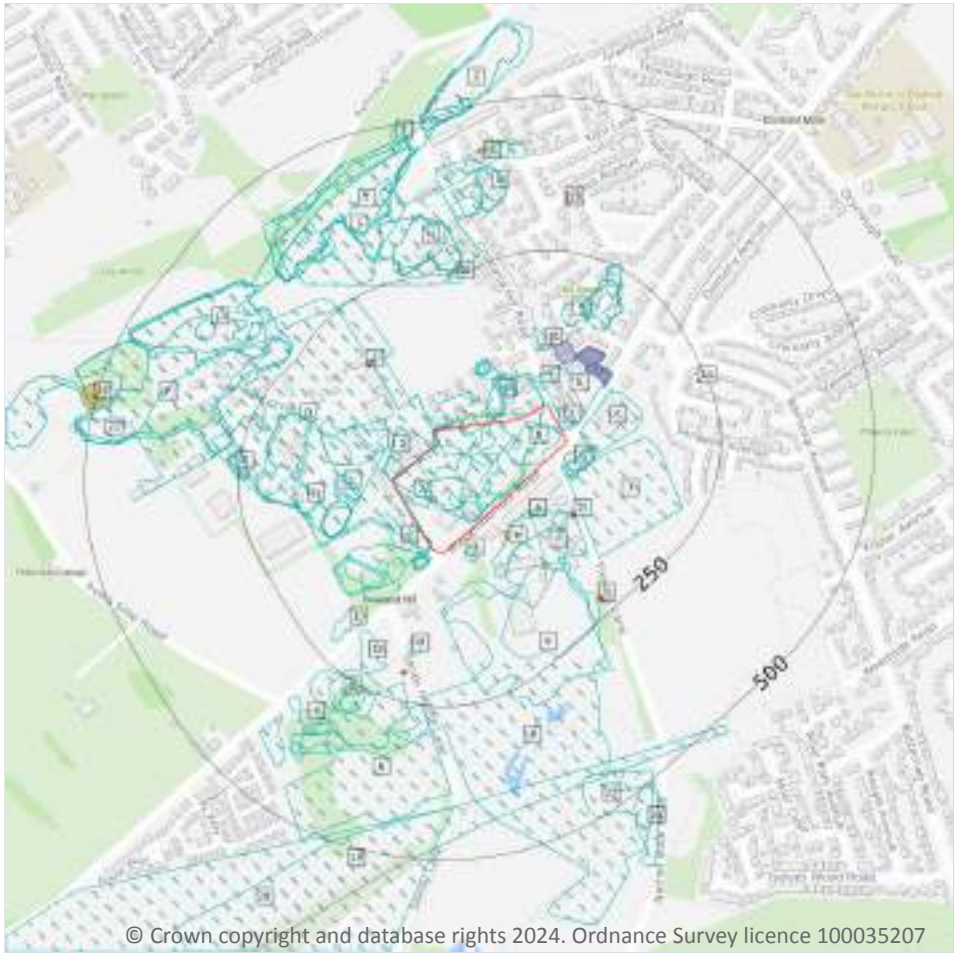
Site Area: 3.41ha

1 Past land use



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Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m	123

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Quarry**	**1905**	**1426582**

ID	Location	Land use	Dates present	Group ID
A	**On site**	**Unspecified Quarry**	**1969**	**1426584**
A	**On site**	**Unspecified Depot**	**1984**	**1428462**
A	**On site**	**Refuse Heap**	**1905**	**1436544**
A	**On site**	**Unspecified Quarries**	**1905**	**1465161**
A	**On site**	**Unspecified Heap**	**1948 - 1951**	**1469320**
A	**On site**	**Unspecified Quarries**	**1951**	**1474203**
A	**On site**	**Unspecified Quarries**	**1969**	**1479666**
A	**On site**	**Unspecified Quarries**	**1930 - 1948**	**1488098**
A	**On site**	**Unspecified Quarries**	**1951**	**1501995**
A	**On site**	**Unspecified Quarries**	**1969**	**1504168**
B	**On site**	**Unspecified Quarry**	**1969**	**1426583**
B	**On site**	**Unspecified Quarries**	**1951**	**1549554**
C	**On site**	**Unspecified Old Quarry**	**1905**	**1440673**
D	**On site**	**Unspecified Factory**	**1969 - 1984**	**1461152**
D	**On site**	**Fireworks Factory**	**1948 - 1951**	**1502495**
1	1m NE	Refuse Heap	1905	1436547
2	3m W	Unspecified Quarries	1905	1557356
E	9m NE	Unspecified Works	1969	1438173
C	11m SW	Unspecified Disused Quarry	1984	1448517
F	11m NE	Unspecified Quarry	1905	1426585
G	13m E	Unspecified Quarry	1905	1545158
C	13m SW	Sand Pit	1951	1411134
C	17m SW	Refuse Heap	1930	1494564
C	17m SW	Refuse Heap	1905	1526766
C	18m SW	Refuse Heap	1948	1510223
3	18m S	Gravel Pit	1905	1418781
4	24m NE	Unspecified Quarry	1905	1426589
5	24m E	Unspecified Works	1969 - 1984	1460156

ID	Location	Land use	Dates present	Group ID
G	25m E	Unspecified Quarry	1930 - 1948	1554410
G	25m E	Unspecified Quarries	1951	1450445
D	33m W	Unspecified Quarry	1930	1426580
H	35m SE	Unspecified Quarries	1905	1450444
6	38m SE	Unspecified Ground Workings	1951	1412153
7	42m E	Unspecified Disused Quarry	1984	1448516
D	46m W	Unspecified Old Quarry	1905	1440678
I	46m SE	Unspecified Quarry	1930	1488053
F	48m N	Unspecified Heaps	1969	1439500
F	50m N	Refuse Heap	1948	1436546
C	51m SW	Unspecified Old Quarry	1905	1440672
D	53m W	Unspecified Ground Workings	1951	1412154
J	56m W	Unspecified Heap	1969 - 1984	1481248
J	56m W	Unspecified Heap	1951	1545053
J	61m W	Refuse Heap	1905	1436536
J	61m W	Unspecified Heap	1948	1491433
8	64m S	Sandstone Quarry	1984	1532387
I	71m SE	Unspecified Quarry	1948 - 1951	1481165
D	72m W	Unspecified Heap	1948 - 1951	1556679
C	73m SW	Unspecified Quarry	1930	1496754
F	77m N	Unspecified Heap	1930 - 1948	1551949
C	78m SW	Unspecified Quarry	1948 - 1951	1512449
J	80m W	Unspecified Heap	1951	1487848
J	80m W	Unspecified Heap	1969 - 1984	1513507
J	80m W	Refuse Heap	1905	1436537
J	80m W	Unspecified Heap	1948	1534132
F	81m N	Refuse Heap	1905	1436545
F	82m N	Unspecified Heap	1951	1534507

ID	Location	Land use	Dates present	Group ID
9	83m S	Unspecified Quarry	1969	1499049
10	86m NE	Unspecified Quarry	1905	1426588
C	91m SW	Unspecified Quarry	1969	1490481
D	118m W	Unspecified Quarries	1905	1450458
12	121m W	Unspecified Pit	1948 - 1951	1481210
K	131m NE	Unspecified Disused Quarry	1969	1448515
D	144m W	Unspecified Old Quarry	1948 - 1951	1486956
K	145m NE	Unspecified Quarry	1948	1475840
M	151m S	Unspecified Quarry	1948	1426581
K	153m NE	Unspecified Quarry	1951	1475648
13	159m SW	Unspecified Quarry	1948 - 1951	1488188
K	160m NE	Unspecified Quarry	1930	1474241
14	169m SW	Unspecified Quarries	1930	1463276
K	219m NE	Unspecified Quarry	1956	1471347
N	220m S	Unspecified Disused Quarries	1984	1441826
P	224m W	Unspecified Quarry	1948	1489052
P	224m W	Unspecified Quarry	1905 - 1930	1536500
Q	228m SW	Unspecified Quarries	1948 - 1951	1531325
R	230m W	Unspecified Heap	1948 - 1951	1527007
R	230m W	Unspecified Heap	1969	1546677
16	234m N	Refuse Heap	1966	1436532
S	235m N	Chemical Works	1956	1526009
R	235m W	Unspecified Heap	1930	1547262
Q	248m SW	Unspecified Quarries	1930	1489710
T	249m N	Unspecified Quarry	1948	1491735
N	250m S	Unspecified Quarries	1969	1450443
Q	251m SW	Unspecified Quarries	1969	1464511
U	254m N	Unspecified Quarry	1930	1507538

ID	Location	Land use	Dates present	Group ID
U	255m N	Unspecified Quarry	1956	1501234
P	263m NW	Unspecified Disused Quarry	1969	1448507
P	263m NW	Unspecified Quarry	1951	1507241
S	264m NW	Chemical Works	1930	1488784
T	268m N	Unspecified Old Quarries	1905	1422095
R	272m W	Unspecified Quarry	1948	1554965
S	293m NW	Unspecified Quarry	1956	1537571
S	295m NW	Unspecified Quarry	1930	1474943
V	318m SW	Unspecified Quarry	1905	1426574
V	321m SW	Unspecified Quarry	1948 - 1951	1487559
17	323m NW	Unspecified Quarry	1930	1489402
V	324m SW	Refuse Heap	1905	1436540
V	326m SW	Refuse Heap	1905	1436543
W	327m N	Unspecified Quarry	1948 - 1956	1480560
T	328m NW	Chemical Works	1948	1524321
W	330m N	Unspecified Works	1975 - 1985	1499017
W	330m N	Unspecified Quarry	1930	1550538
S	332m NW	Unspecified Ground Workings	1975 - 1985	1503040
W	332m N	Unspecified Quarry	1905	1426586
S	334m NW	Unspecified Ground Workings	1966	1506666
T	346m NW	Unspecified Tanks	1930	1425767
V	365m SW	Unspecified Disused Quarries	1984	1441830
T	369m NW	Unspecified Tanks	1930 - 1948	1484943
V	384m SW	Refuse Heap	1984	1436542
W	386m N	Unspecified Old Quarry	1905	1440677
X	396m N	Unspecified Works	1966 - 1985	1470807
W	397m N	Unspecified Pit	1966	1451757
19	401m S	Disused Rifle Range	1905 - 1930	1524368

ID	Location	Land use	Dates present	Group ID
X	407m N	Unspecified Quarry	1930	1426587
20	414m S	Airfield	1969 - 1984	1463180
21	426m W	Refuse Heap	1984	1436538
22	432m S	Unspecified Quarry	1969	1491321
Y	470m N	Unspecified Pit	1905	1490884
Y	470m N	Unspecified Pit	1948	1483821
Z	485m N	Unspecified Quarries	1905	1450452
Z	485m N	Unspecified Quarry	1930 - 1948	1541288
Z	488m N	Unspecified Quarry	1956 - 1966	1508039
24	499m SE	Unspecified Quarry	1951	1483778

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**5**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
H	37m SE	Tanks	1982 - 1996	242953
I	120m SE	Unspecified Tank	1996 - 1999	235778
T	390m NW	Covered Tank	1913	229825
X	424m N	Unspecified Tank	1996	222870
23	484m W	Unspecified Tank	1995	242307

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	11

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
11	88m E	Electricity Substation	1995 - 1999	134743
L	145m NW	Electricity Substation	1995 - 1999	140055
L	145m NW	Electricity Substation	1982 - 1992	134968
L	146m NW	Electricity Substation	1982	133573
M	200m S	Electricity Substation	1995 - 1999	142671
M	202m S	Electricity Substations	1982	131570
M	203m S	Electricity Substation	1992	138639
O	221m SE	Electricity Substation	1992	136356
O	221m SE	Electricity Substation	1982 - 1999	135648
15	233m NE	Electricity Substation	1989	128873
18	324m N	Electricity Substation	1996	128872

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	4

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 15 >**

ID	Location	Land use	Dates present	Group ID
E	68m NE	Garage	1982	43542
E	83m NE	Garage	1982 - 1992	46216
E	84m NE	Garage	1995 - 1999	45411
E	95m NE	Garage	1961	42856

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped

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Site Outline

Search buffers in metres (m)

- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m	155

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Quarries**	**1948**	**1488098**
A	**On site**	**Unspecified Quarries**	**1905**	**1465161**
A	**On site**	**Unspecified Quarry**	**1905**	**1426582**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Unspecified Quarries**	**1969**	**1504168**
A	**On site**	**Unspecified Quarry**	**1969**	**1426584**
A	**On site**	**Unspecified Quarries**	**1969**	**1479666**
A	**On site**	**Unspecified Quarries**	**1951**	**1501995**
A	**On site**	**Unspecified Quarries**	**1951**	**1474203**
A	**On site**	**Unspecified Heap**	**1948**	**1469320**
A	**On site**	**Refuse Heap**	**1905**	**1436544**
A	**On site**	**Unspecified Depot**	**1984**	**1428462**
A	**On site**	**Unspecified Heap**	**1951**	**1469320**
A	**On site**	**Unspecified Quarries**	**1930**	**1488098**
B	**On site**	**Unspecified Old Quarry**	**1905**	**1440673**
C	**On site**	**Unspecified Quarry**	**1969**	**1426583**
C	**On site**	**Unspecified Quarries**	**1951**	**1549554**
D	**On site**	**Unspecified Factory**	**1984**	**1461152**
D	**On site**	**Unspecified Factory**	**1969**	**1461152**
D	**On site**	**Fireworks Factory**	**1951**	**1502495**
1	1m NE	Refuse Heap	1905	1436547
2	3m W	Unspecified Quarries	1905	1557356
E	9m NE	Unspecified Works	1969	1438173
B	11m SW	Unspecified Disused Quarry	1984	1448517
F	11m NE	Unspecified Quarry	1905	1426585
3	12m W	Fireworks Factory	1948	1502495
G	13m E	Unspecified Quarry	1905	1545158
B	13m SW	Sand Pit	1951	1411134
B	17m SW	Refuse Heap	1930	1494564
B	17m SW	Refuse Heap	1930	1494564
B	17m SW	Refuse Heap	1905	1526766
B	18m SW	Refuse Heap	1948	1510223

ID	Location	Land Use	Date	Group ID
4	18m S	Gravel Pit	1905	1418781
5	24m NE	Unspecified Quarry	1905	1426589
H	24m E	Unspecified Works	1984	1460156
H	24m E	Unspecified Works	1969	1460156
G	25m E	Unspecified Quarry	1948	1554410
G	25m E	Unspecified Quarries	1951	1450445
G	26m E	Unspecified Quarry	1930	1554410
D	33m W	Unspecified Quarry	1930	1426580
I	35m SE	Unspecified Quarries	1905	1450444
6	38m SE	Unspecified Ground Workings	1951	1412153
7	42m E	Unspecified Disused Quarry	1984	1448516
D	46m W	Unspecified Old Quarry	1905	1440678
J	46m SE	Unspecified Quarry	1930	1488053
F	48m N	Unspecified Heaps	1969	1439500
F	50m N	Refuse Heap	1948	1436546
B	51m SW	Unspecified Old Quarry	1905	1440672
D	53m W	Unspecified Ground Workings	1951	1412154
K	56m W	Unspecified Heap	1984	1481248
K	56m W	Unspecified Heap	1969	1481248
K	56m W	Unspecified Heap	1951	1545053
K	61m W	Unspecified Heap	1948	1491433
K	61m W	Refuse Heap	1905	1436536
L	64m S	Sandstone Quarry	1984	1532387
J	71m SE	Unspecified Quarry	1948	1481165
D	72m W	Unspecified Heap	1948	1556679
D	73m W	Unspecified Heap	1951	1556679
B	73m SW	Unspecified Quarry	1930	1496754
J	74m SE	Unspecified Quarry	1951	1481165

ID	Location	Land Use	Date	Group ID
F	77m N	Unspecified Heap	1948	1551949
B	78m SW	Unspecified Quarry	1951	1512449
F	78m N	Unspecified Heap	1930	1551949
F	78m N	Unspecified Heap	1930	1551949
K	80m W	Unspecified Heap	1984	1513507
K	80m W	Unspecified Heap	1969	1513507
K	80m W	Unspecified Heap	1951	1487848
K	80m W	Unspecified Heap	1948	1534132
K	80m W	Refuse Heap	1905	1436537
F	81m N	Refuse Heap	1905	1436545
F	82m N	Unspecified Heap	1951	1534507
L	83m S	Unspecified Quarry	1969	1499049
B	83m SW	Unspecified Quarry	1948	1512449
8	86m NE	Unspecified Quarry	1905	1426588
B	91m SW	Unspecified Quarry	1969	1490481
D	118m W	Unspecified Quarries	1905	1450458
N	121m W	Unspecified Pit	1951	1481210
N	123m W	Unspecified Pit	1948	1481210
O	131m NE	Unspecified Disused Quarry	1969	1448515
D	144m W	Unspecified Old Quarry	1948	1486956
O	145m NE	Unspecified Quarry	1948	1475840
D	146m W	Unspecified Old Quarry	1951	1486956
Q	151m S	Unspecified Quarry	1948	1426581
O	153m NE	Unspecified Quarry	1951	1475648
R	159m SW	Unspecified Quarry	1951	1488188
O	160m NE	Unspecified Quarry	1930	1474241
R	163m SW	Unspecified Quarry	1948	1488188
9	169m SW	Unspecified Quarries	1930	1463276

ID	Location	Land Use	Date	Group ID
10	205m SE	Sandstone Quarry	1984	1532387
O	219m NE	Unspecified Quarry	1956	1471347
S	220m S	Unspecified Disused Quarries	1984	1441826
U	224m W	Unspecified Quarry	1948	1489052
U	224m W	Unspecified Quarry	1905	1536500
V	228m SW	Unspecified Quarries	1951	1531325
V	230m SW	Unspecified Quarries	1948	1531325
W	230m W	Unspecified Heap	1969	1546677
W	230m W	Unspecified Heap	1951	1527007
12	234m N	Refuse Heap	1966	1436532
X	235m N	Chemical Works	1956	1526009
W	235m W	Unspecified Heap	1930	1547262
W	235m W	Unspecified Heap	1930	1547262
W	237m W	Unspecified Heap	1948	1527007
V	248m SW	Unspecified Quarries	1930	1489710
Y	249m N	Unspecified Quarry	1948	1491735
S	250m S	Unspecified Quarries	1969	1450443
V	251m SW	Unspecified Quarries	1969	1464511
Z	254m N	Unspecified Quarry	1930	1507538
Z	255m N	Unspecified Quarry	1956	1501234
U	262m NW	Unspecified Quarry	1930	1536500
U	263m NW	Unspecified Disused Quarry	1969	1448507
U	263m NW	Unspecified Quarry	1951	1507241
X	264m NW	Chemical Works	1930	1488784
Y	268m N	Unspecified Old Quarries	1905	1422095
W	272m W	Unspecified Quarry	1948	1554965
X	293m NW	Unspecified Quarry	1956	1537571
X	295m NW	Unspecified Quarry	1930	1474943

ID	Location	Land Use	Date	Group ID
AA	318m SW	Unspecified Quarry	1905	1426574
AA	321m SW	Unspecified Quarry	1951	1487559
13	323m NW	Unspecified Quarry	1930	1489402
AA	324m SW	Refuse Heap	1905	1436540
AA	326m SW	Refuse Heap	1905	1436543
AA	327m SW	Unspecified Quarry	1948	1487559
AB	327m N	Unspecified Quarry	1948	1480560
Y	328m NW	Chemical Works	1948	1524321
AB	328m N	Unspecified Quarry	1956	1480560
AB	330m N	Unspecified Works	1975	1499017
AB	330m N	Unspecified Works	1985	1499017
AB	330m N	Unspecified Quarry	1930	1550538
X	332m NW	Unspecified Ground Workings	1975	1503040
X	332m NW	Unspecified Ground Workings	1985	1503040
AB	332m N	Unspecified Quarry	1905	1426586
X	334m NW	Unspecified Ground Workings	1966	1506666
Y	346m NW	Unspecified Tanks	1930	1425767
AA	365m SW	Unspecified Disused Quarries	1984	1441830
Y	369m NW	Unspecified Tanks	1948	1484943
Y	372m NW	Unspecified Tanks	1930	1484943
AA	384m SW	Refuse Heap	1984	1436542
AB	386m N	Unspecified Old Quarry	1905	1440677
AC	396m N	Unspecified Works	1975	1470807
AC	396m N	Unspecified Works	1985	1470807
AC	396m N	Unspecified Works	1966	1470807
AB	397m N	Unspecified Pit	1966	1451757
15	401m S	Disused Rifle Range	1905	1524368
16	406m S	Disused Rifle Range	1930	1524368

ID	Location	Land Use	Date	Group ID
AC	407m N	Unspecified Quarry	1930	1426587
17	414m S	Airfield	1984	1463180
18	415m S	Airfield	1969	1463180
19	426m W	Refuse Heap	1984	1436538
20	432m S	Unspecified Quarry	1969	1491321
AD	470m N	Unspecified Pit	1948	1483821
AD	470m N	Unspecified Pit	1905	1490884
AF	485m N	Unspecified Quarry	1948	1541288
AF	485m N	Unspecified Quarries	1905	1450452
AF	488m N	Unspecified Quarry	1956	1508039
AF	489m N	Unspecified Quarry	1930	1541288
21	499m SE	Unspecified Quarry	1951	1483778

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**13**

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
I	37m SE	Tanks	1996	242953
I	37m SE	Tanks	1995	242953
I	37m SE	Tanks	1995	242953
I	38m SE	Tanks	1982	242953
I	38m SE	Tanks	1982	242953
I	38m SE	Tanks	1982	242953
I	38m SE	Tanks	1992	242953
J	120m SE	Unspecified Tank	1996	235778

ID	Location	Land Use	Date	Group ID
J	120m SE	Unspecified Tank	1999	235778
Y	390m NW	Covered Tank	1913	229825
AC	424m N	Unspecified Tank	1996	222870
AE	484m W	Unspecified Tank	1995	242307
AE	484m W	Unspecified Tank	1995	242307

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	26

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
M	88m E	Electricity Substation	1996	134743
M	88m E	Electricity Substation	1995	134743
M	88m E	Electricity Substation	1999	134743
M	88m E	Electricity Substation	1995	134743
P	145m NW	Electricity Substation	1996	140055
P	145m NW	Electricity Substation	1995	140055
P	145m NW	Electricity Substation	1999	140055
P	145m NW	Electricity Substation	1995	140055
P	145m NW	Electricity Substation	1982	134968
P	145m NW	Electricity Substation	1982	134968
P	145m NW	Electricity Substation	1992	134968
P	146m NW	Electricity Substation	1982	133573
Q	200m S	Electricity Substation	1996	142671
Q	200m S	Electricity Substation	1995	142671
Q	200m S	Electricity Substation	1999	142671

ID	Location	Land Use	Date	Group ID
Q	200m S	Electricity Substation	1995	142671
Q	202m S	Electricity Substations	1982	131570
Q	203m S	Electricity Substation	1992	138639
T	221m SE	Electricity Substation	1992	136356
T	221m SE	Electricity Substation	1996	135648
T	221m SE	Electricity Substation	1995	135648
T	221m SE	Electricity Substation	1999	135648
T	221m SE	Electricity Substation	1995	135648
T	221m SE	Electricity Substation	1982	135648
11	233m NE	Electricity Substation	1989	128873
14	324m N	Electricity Substation	1996	128872

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	9

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

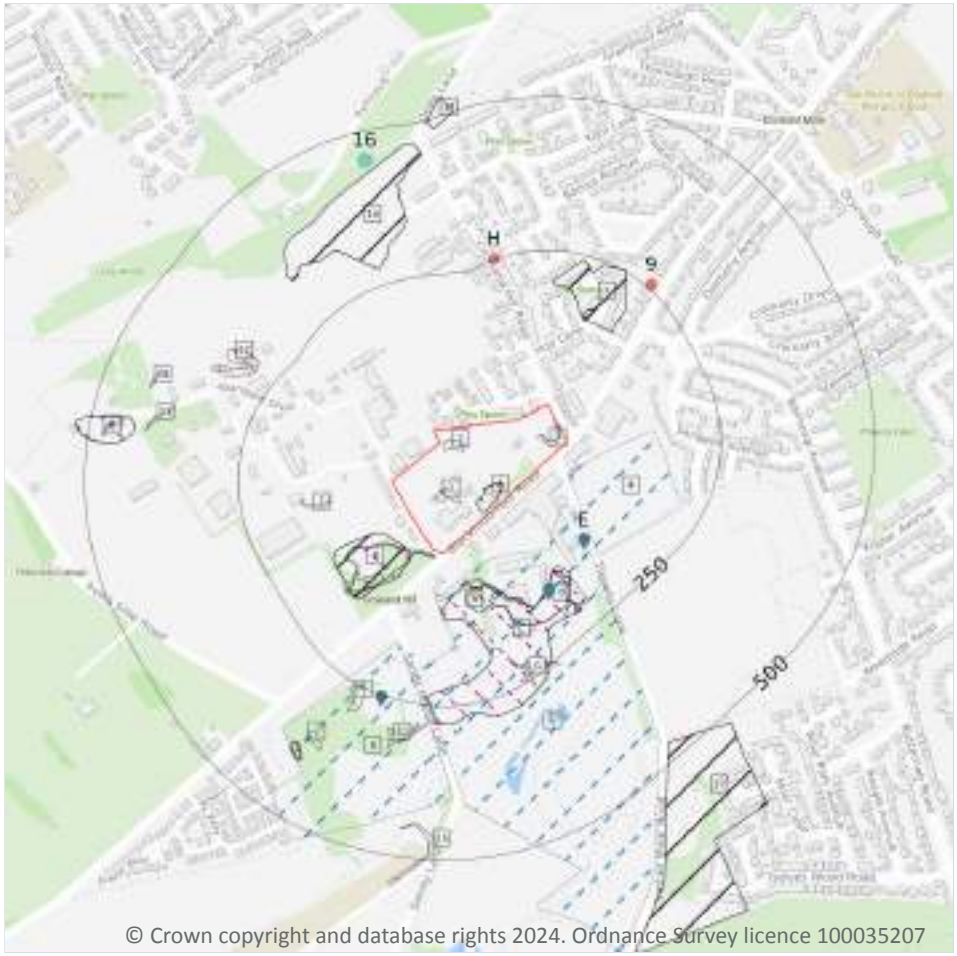
Features are displayed on the Past land use - un-grouped map on **page 23 >**

ID	Location	Land Use	Date	Group ID
E	68m NE	Garage	1982	43542
E	83m NE	Garage	1982	46216

ID	Location	Land Use	Date	Group ID
E	83m NE	Garage	1982	46216
E	83m NE	Garage	1992	46216
E	84m NE	Garage	1995	45411
E	84m NE	Garage	1999	45411
E	84m NE	Garage	1995	45411
E	84m NE	Garage	1996	45411
E	95m NE	Garage	1961	42856

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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Site Outline

Search buffers in metres (m)

- Active or recent landfill
- Historical landfill (EA/NRW)
- Historical landfill (BGS)
- Historical landfill (LA/OS)
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m	3

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Details	
4	38m E	Operator: Johnsons Wellfield Quarries Limited Site Address: Wellfield Quarry, Blackmoorfoot Road, Crosland Hill, Huddersfield, West Yorkshire, HD4 7AB	WML Number: 210059 EPR Reference: JOH136 Landfill type: L05: Inert LF Status: Modified IPPC Reference: - EPR Number: EA/EPR/EP3699VY/V007

ID	Location	Details	
5	49m S	Operator: Johnsons Wellfield Quarries Limited Site Address: Wellfield Quarry, Blackmoorfoot Road, Crosland Hill, Huddersfield, West Yorkshire, HD4 7AB	WML Number: 210059 EPR Reference: JOH136 Landfill type: L05: Inert LF Status: Modified IPPC Reference: - EPR Number: EA/EPR/EP3699VY/V007
8	158m SW	Operator: Johnsons Wellfield Quarries Limited Site Address: Wellfield Quarry, Blackmoorfoot Road, Crosland Hill, Huddersfield, West Yorkshire, HD4 7AB	WML Number: 210059 EPR Reference: JOH136 Landfill type: L05: Inert LF Status: Modified IPPC Reference: - EPR Number: EA/EPR/EP3699VY/V007

This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m	1

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Address	BGS Number	Risk	Waste Type
16	453m N	Quarry Road, Grosland Hill, Huddersfield	1332	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	34

Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Site address	Source	Data type
1	**On site**	**Refuse Tip**	**1961 mapping**	**Polygon**
2	**On site**	**Refuse Tip**	**1961 mapping**	**Polygon**
3	**On site**	**Refuse Tip**	**1961 mapping**	**Polygon**
A	**On site**	**Refuse Tip**	**1961 mapping**	**Polygon**

ID	Location	Site address	Source	Data type
A	**On site**	**Refuse Tip**	**1982 mapping**	**Polygon**
A	**On site**	**Refuse Tip**	**1982 mapping**	**Polygon**
B	6m SW	Refuse Tip	1982 mapping	Polygon
B	9m SW	Refuse Tip	1982 mapping	Polygon
C	62m S	Refuse Tip	1982 mapping	Polygon
C	63m S	Refuse Tip	1982 mapping	Polygon
D	73m S	Refuse Tip	1982 mapping	Polygon
D	73m S	Refuse Tip	1982 mapping	Polygon
6	77m S	Refuse Tip	1961 mapping	Polygon
B	89m SW	Refuse Tip	1961 mapping	Polygon
D	103m S	Refuse Tip	1961 mapping	Polygon
7	103m W	Refuse Tip	1961 mapping	Polygon
F	151m NE	Refuse Tip	1982 mapping	Polygon
F	151m NE	Refuse Tip	1982 mapping	Polygon
F	155m NE	Refuse Tip	1961 mapping	Polygon
G	208m S	Refuse Tip	1961 mapping	Polygon
G	243m S	Refuse Tip	1961 mapping	Polygon
I	252m SW	Refuse Tip	1961 mapping	Polygon
11	280m S	Refuse Tip	1961 mapping	Polygon
12	285m NW	Refuse Tip	1961 mapping	Polygon
J	353m SW	Refuse Tips	1961 mapping	Polygon
13	371m W	Refuse Tip	1961 mapping	Polygon
J	381m SW	Refuse Tip	1996 mapping	Polygon
J	382m SW	Refuse Tip	1982 mapping	Polygon
J	385m SW	Refuse Tip	1982 mapping	Polygon
14	412m W	Refuse Tip	1961 mapping	Polygon
K	426m W	Refuse Tip	1982 mapping	Polygon
K	426m W	Refuse Tip	1982 mapping	Polygon

ID	Location	Site address	Source	Data type
15	442m S	Refuse Tip	1961 mapping	Polygon
K	446m W	Refuse Tip	1961 mapping	Polygon

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m	5

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Details		
B	33m SW	Site Address: Quarry, Blackmoorfoot Road, Crosland Moor, Huddersfield Licence Holder Address: Half Noon Street, Huddersfield	Waste Licence: Yes Site Reference: 4700/0129 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 18/11/1977 Licence Surrender: 29/11/1988	Operator: - Licence Holder: Standard Fireworks First Recorded 31/12/1977 Last Recorded: 31/12/1988
F	147m NE	Site Address: Hob Lane, Crosland Hill Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -
10	277m NW	Site Address: Quarry Road, Grosland Hill, Huddersfield, West Yorkshire Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Building Services Limited Licence Holder: - First Recorded - Last Recorded: -

ID	Location	Details		
17	471m SE	Site Address: Park Quarry, Thewlis Lane, Huddersfield, West Yorkshire Licence Holder Address: Queens Square, Leeds Road, Huddersfield	Waste Licence: Yes Site Reference: 4700/0093 Waste Type: Inert, Industrial, Commercial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 23/01/1978 Licence Surrender: 01/08/1988	Operator: J Radcliffe and Son Limited Licence Holder: John Radcliffe and Sons Limited First Recorded 31/12/1974 Last Recorded: 31/07/1988
18	485m N	Site Address: Town Quarry, Deep Lane, Crosland Moor Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Huddersfield Corporation Licence Holder: - First Recorded 21/08/1967 Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0

Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	4

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Details		
E	136m SE	Site Name: Wellfield Quarry Site Address: Thewlis Lane, Crossland Hill, Huddersfield, West Yorkshire, HD4 7AB Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JOH002 EPR reference: EA/EPR/UP3995ZE/A001 Operator: Johnsons Wellfield Quarries Limited Waste Management licence No: 60988 Annual Tonnage: 74999	Issue Date: 28/02/1978 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: To PPC
E	136m SE	Site Name: Wellfield Quarry Site Address: Thewlis Lane, Huddersfield, West Yorkshire, HD4 7AB Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradeable Wastes Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 625700 EPR reference: EA/EPR/UP3995ZE Operator: Johnsons Wellfield Ltd Waste Management licence No: 60988 Annual Tonnage: 74999	Issue Date: 28/02/1978 Effective Date: 28/02/1978 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired
D	159m SE	Site Name: Wellfield Quarry Site Address: Blackmoorfoot Road, Huddersfield, West Yorkshire, HD4 7AB Correspondence Address: Barr Street, Leeds Road, Huddersfield, West Yorkshire, HD1 6PB	Type of Site: Inert LF Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JOH136 EPR reference: EA/EPR/LP3336SG/ Operator: Johnsons Wellfield Quarries Limited Waste Management licence No: 210059 Annual Tonnage: 0	Issue Date: 09/06/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
I	255m SW	Site Name: Johnsons Wellfield Treatment Plant Site Address: Johnsons Wellfield Treatment Plant, Blackmoorfoot Road, Huddersfield, Huddersfield, HD4 7AB Correspondence Address: -	Type of Site: Treatment of waste to produce soil 75,000 tpy Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 629556 EPR reference: EA/EPR/LB3206GH Operator: Johnsons Wellfield Ltd Waste Management licence No: 408415 Annual Tonnage: 74999	Issue Date: 06/06/2022 Effective Date: 06/06/2022 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	4

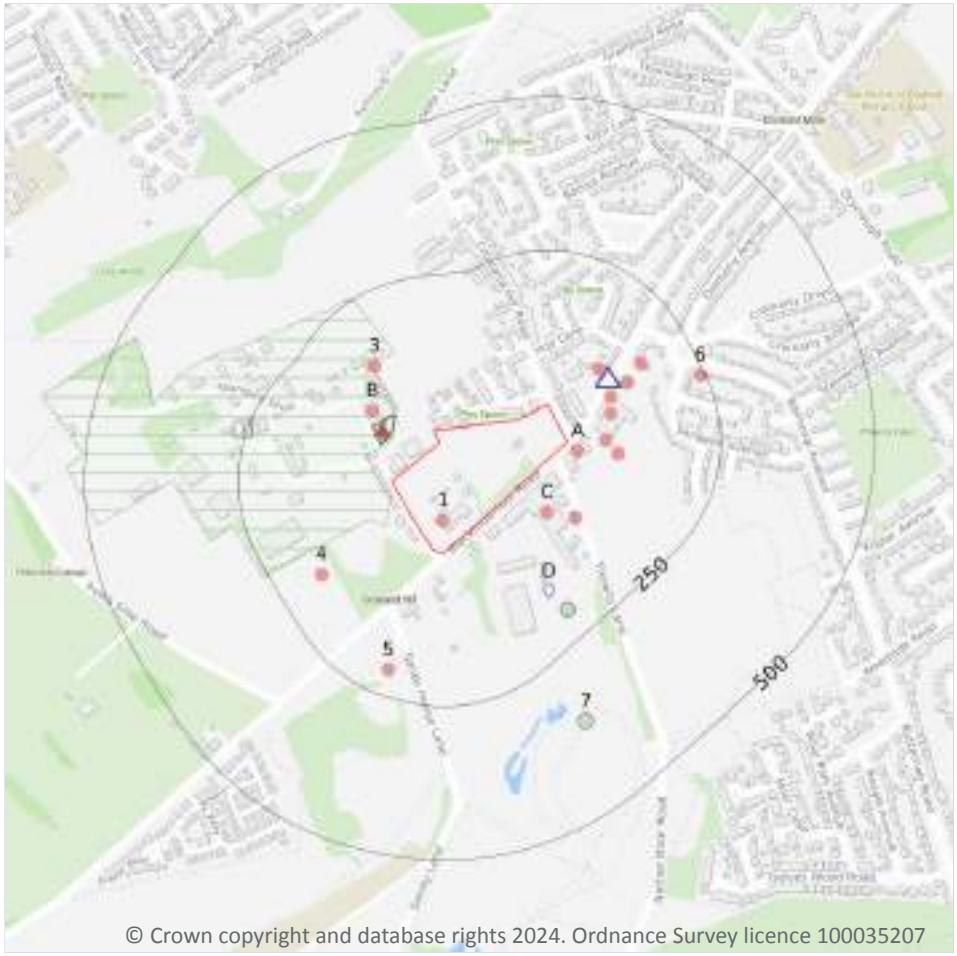
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 33 >**

ID	Location	Site	Reference	Category	Sub-Category	Description
H	252m N	97 Quarry Farm HD4 5NZ	EPR/ZE5654YF/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in secure containers
H	252m N	97 Quarry Farm HD4 5NZ	EPR/ZE5654YF/A001	Storing waste exemption	Agricultural Waste Only	Storage of waste in a secure place
H	252m N	97 Quarry Farm HD4 5NZ	EPR/ZE5654YF/A001	Disposing of waste exemption	Agricultural Waste Only	Burning waste in the open
9	257m NE	SIGNAL HOUSE 482 BLACKMOORFOOT ROAD HUDDERSFIELD WEST YORKSHIRE HD4 5NS	EPR/PH0914AM/A001	Treating waste exemption	Non-Agricultural Waste Only	Crushing waste fluorescent tubes

This data is sourced from the Environment Agency and Natural Resources Wales.

4 Current industrial land use



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Site Outline

Search buffers in metres (m)

- Recent industrial land uses
- Current or recent petrol stations
- Control of Major Accident Hazards
- Regulated explosive sites
- Hazardous substance storage/usage
- Part A(1) industrial activities
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m	16

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on page 40 >

ID	Location	Company	Address	Activity	Category
1	**On site**	**Works**	**West Yorkshire, HD4**	**Unspecified Works Or Factories**	**Industrial Features**
A	23m E	Works	West Yorkshire, HD4	Unspecified Works Or Factories	Industrial Features
C	62m SE	Johnsons Wellfield	-, Thewlis Lane, Crosland Hill, Huddersfield, West Yorkshire, HD4 7AB	Unspecified Quarries Or Mines	Extractive Industries

ID	Location	Company	Address	Activity	Category
A	63m E	Pylon	West Yorkshire, HD4	Electrical Features	Infrastructure and Facilities
A	84m NE	Woodcock & Wilson Ltd	Airstream Works, Blackmoorfoot Road, Crosland Moor, Huddersfield, West Yorkshire, HD4 7AA	Cooling and Refrigeration	Industrial Products
A	86m E	Mast (Telecommunication)	West Yorkshire, HD4	Telecommunications Features	Infrastructure and Facilities
A	97m NE	Works	West Yorkshire, HD4	Unspecified Works Or Factories	Industrial Features
C	100m SE	Electricity Sub Station	West Yorkshire, HD4	Electrical Features	Infrastructure and Facilities
A	100m NE	H Pennington	480, Blackmoorfoot Road, Crosland Moor, Huddersfield, West Yorkshire, HD4 5NS	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	105m NW	Factory	West Yorkshire, HD4	Unspecified Works Or Factories	Industrial Features
A	131m NE	Enkae Prestige Motors	537, Blackmoorfoot Road, Crosland Moor, Huddersfield, West Yorkshire, HD4 5NT	Secondhand Vehicles	Motoring
3	143m NW	Electricity Sub Station	West Yorkshire, HD4	Electrical Features	Infrastructure and Facilities
A	165m NE	G K Autos	533, Blackmoorfoot Road, Crosland Moor, Huddersfield, West Yorkshire, HD4 5NT	Vehicle Repair, Testing and Servicing	Repair and Servicing
4	174m SW	Matlock House Quarry (Disused)	West Yorkshire, HD4	Unspecified Quarries Or Mines	Extractive Industries
5	207m SW	Electricity Sub Station	West Yorkshire, HD4	Electrical Features	Infrastructure and Facilities
6	242m NE	Electricity Sub Station	West Yorkshire, HD4	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	1

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Company	Address	LPG	Status
A	107m NE	UNBRANDED	480, Blackmoorfoot Road, Crosland Moor, Huddersfield, West Yorkshire, HD4 5NS	No	Closed

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	1

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Company	Address	Operational status	Tier
2	16m W	Black Cat Fireworks Limited	Black Cat Fireworks Limited, Huddersfield, Standard Drive, Crossland Hill, Huddersfield, West Yorkshire, HD4 7AD	Historical COMAH Site	COMAH Upper Tier Operator

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	1

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Company	Operational Address
B	58m W	Black Cat Fireworks Ltd	Standard Drive, Crosland Hill, Huddersfield, HD4 7AD

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	1

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Details	
B	75m NW	Application reference number: No Details Application status: Historical Consent Application date: No Details Address: Black Cat Fireworks Ltd, Crossland Hill, Huddersfield, West Yorkshire, England, HD4 7AD	Details: No Details Enforcement: No Details Date of enforcement: No Details Comment: No Details

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.10 Licensed industrial activities (Part A(1))

Records within 500m	11

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Details	
D	159m SE	Operator: JOHNSONS WELLFIELD LTD Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: LP3336SG Original Permit Number: LP3336SG	EPR Reference: EPR/LP3336SG Issue Date: 31/03/2008 Effective Date: 31/03/2008 Last date noted as effective: 23/11/2023 Status: Regulatory Change
D	159m SE	Operator: JOHNSONS WELLFIELD LTD Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: LP3336SG Original Permit Number: LP3336SG	EPR Reference: EPR/LP3336SG Issue Date: 31/03/2008 Effective Date: 31/03/2008 Last date noted as effective: 23/11/2023 Status: Regulatory Change
D	159m SE	Operator: JOHNSONS WELLFIELD QUARRIES LIMITED Installation Name: WELLFIELD QUARRY Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: VP3131XK Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 09/05/2008 Effective Date: 31/03/2008 Last date noted as effective: 01/04/2009 Status: REVOKED
D	159m SE	Operator: JOHNSONS WELLFIELD QUARRIES LIMITED Installation Name: WELLFIELD QUARRY Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: VP3131XK Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 09/05/2008 Effective Date: 31/03/2008 Last date noted as effective: 01/04/2009 Status: REVOKED

ID	Location	Details	
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: YP3538XT Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 07/02/2008 Effective Date: 07/02/2008 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: QP3337UV Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 10/10/2007 Effective Date: 10/10/2007 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: QP3337UV Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 10/10/2007 Effective Date: 10/10/2007 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; >10 T/D WITH CAPACITY >25,000T EXCLUDING INERT WASTE Permit Number: ZP3938UE Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 17/08/2007 Effective Date: 17/08/2007 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: LP3336SG Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 09/06/2006 Effective Date: 09/06/2006 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: YP3538XT Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 07/02/2008 Effective Date: 07/02/2008 Last date noted as effective: 21/03/2023 Status: Superceded
D	159m SE	Operator: Johnsons Wellfield Quarries Limited Installation Name: Wellfield Quarry Process: WASTE LANDFILLING; ANY OTHER LANDFILL TO WHICH THE 2002 LANDFILL REGULATIONS APPLY Permit Number: ZP3938UE Original Permit Number: LP3336SG	EPR Reference: - Issue Date: 17/08/2007 Effective Date: 17/08/2007 Last date noted as effective: 21/03/2023 Status: Superceded

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed pollutant release (Part A(2)/B)

Records within 500m	0

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.13 Licensed Discharges to controlled waters

Records within 500m	0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on **page 40 >**

ID	Location	Details	
D	201m SE	Incident Date: 06/10/2001 Incident Identification: 35016 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
7	358m SE	Incident Date: 05/12/2001 Incident Identification: 46711 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

5 Hydrogeology - Superficial aquifer

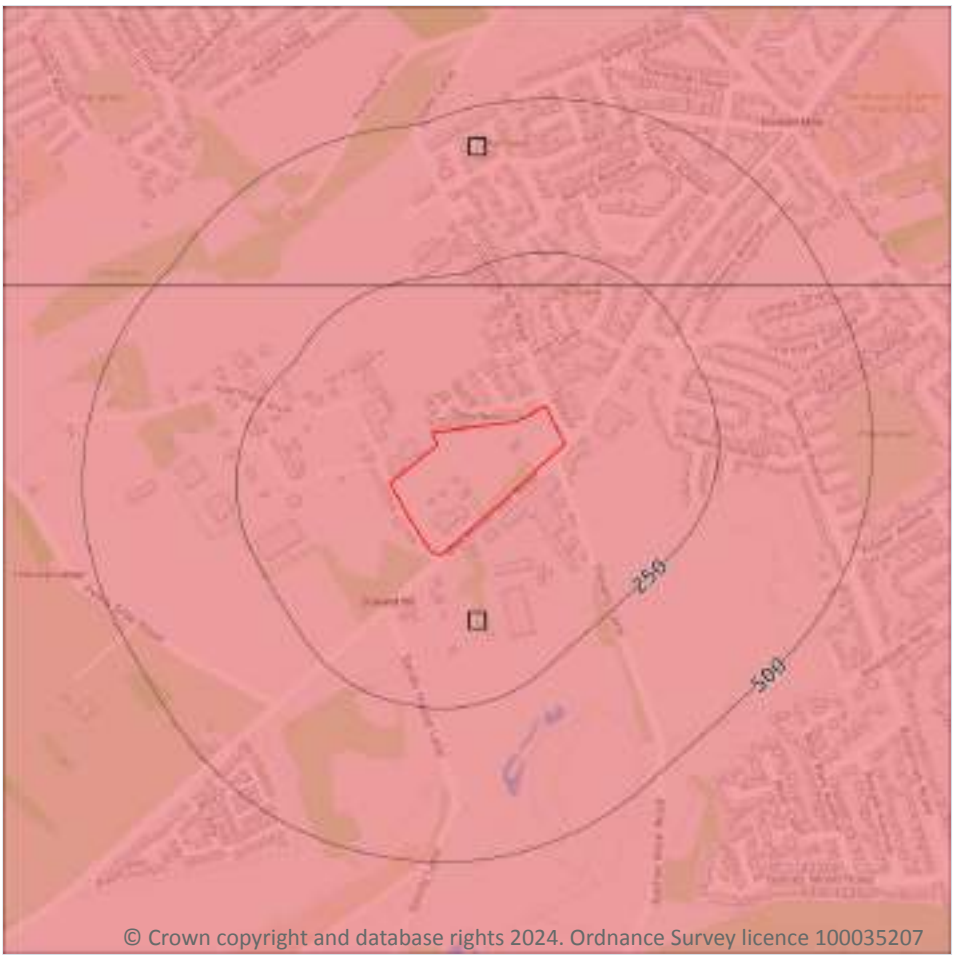
5.1 Superficial aquifer

Records within 500m	0

Aquifer status of groundwater held within superficial geology.

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Bedrock aquifer



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Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 50** >

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	196m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

Groundwater vulnerability

Site Outline

Search buffers in metres (m)

Superficial vulnerability
- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability
- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information
- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 52 >**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: >550mm/year**	**Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: No Data**	**Vulnerability: High Aquifer type: Secondary Flow mechanism: Well connected fractures**

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

5.5 Groundwater vulnerability- local information

Records on site	0

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones

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Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	24

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 54 >**

ID	Location	Details	
A	**On site**	**Status: Historical** **Licence No: 2/27/10/124** **Details: Make-Up or Top Up Water** **Direct Source: GROUNDWATERS** **Point: BOREHOLE- JOHNSONS WELLFIELD QUARRY-MILLSTONE GRIT** **Data Type: Point** **Name: JOHNSONS WELLFIELD QUARRIES LIMITED** **Easting: 411700** **Northing: 414630**	**Annual Volume (m^3): -** **Max Daily Volume (m^3): -** **Original Application No: -** **Original Start Date: 02/01/2001** **Expiry Date: 31/12/2005** **Issue No: 1** **Version Start Date: 02/01/2001** **Version End Date: -**
A	**On site**	**Status: Historical** **Licence No: 2/27/10/124** **Details: Make-Up or Top Up Water** **Direct Source: GROUNDWATERS** **Point: BOREHOLE- MILLSTONE GRIT - WELLFIELD QUARRY** **Data Type: Point** **Name: JOHNSONS WELLFIELD QUARRIES LTD** **Easting: 411700** **Northing: 414630**	**Annual Volume (m^3): -** **Max Daily Volume (m^3): -** **Original Application No: -** **Original Start Date: 02/01/2001** **Expiry Date: 31/12/2005** **Issue No: 1** **Version Start Date: 02/01/2001** **Version End Date: -**
B	574m SW	Status: Active Licence No: NE/027/0011/005 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT- CROSLAND HEATH - HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): 4500 Max Daily Volume (m^3): 50 Original Application No: NPS/WR/004165 Original Start Date: 01/11/2010 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/11/2010 Version End Date: -
B	574m SW	Status: Historical Licence No: 2/27/10/122 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/11/1997 Expiry Date: 31/10/2007 Issue No: 101 Version Start Date: 02/01/2001 Version End Date: -

ID	Location	Details	
B	574m SW	Status: Historical Licence No: 2/27/10/122 Details: Spray Irrigation - Direct Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT- CROSLAND HEATH - HUDDERSFIELD Data Type: Point Name: CROSLAND HEATH GOLF CLUB LTD Easting: 411100 Northing: 414300	Annual Volume (m^3): 6500 Max Daily Volume (m^3): 50 Original Application No: - Original Start Date: 27/11/1997 Expiry Date: 31/10/2010 Issue No: 101 Version Start Date: 02/01/2001 Version End Date: -
-	1040m N	Status: Historical Licence No: 2/27/11/037 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: JOHN CROWTHER & SONS (MILNSBRIDGE) LTD Easting: 412100 Northing: 415800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	1040m N	Status: Historical Licence No: 2/27/11/037 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - MILNSBRIDGE Data Type: Point Name: JOHN GLADSTONE (DYERS & FINISHERS) LTD Easting: 412100 Northing: 415800	Annual Volume (m^3): 454609 Max Daily Volume (m^3): 1296 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 102 Version Start Date: 11/10/2002 Version End Date: -
-	1079m N	Status: Active Licence No: NE/027/0011/017 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - TNAYARD RD - MILNSBRIDGE Data Type: Point Name: MNS Textiles Ltd Easting: 412077 Northing: 415847	Annual Volume (m^3): 250000 Max Daily Volume (m^3): 1000 Original Application No: NPS/WR/015677 Original Start Date: 28/07/2014 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 28/07/2014 Version End Date: -

ID	Location	Details	
-	1124m E	Status: Active Licence No: 2/27/10/069 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLES X2 - MILLSTONE GRIT - LOCKWOOD Data Type: Point Name: Park Valley Huddersfield Ltd Easting: 412900 Northing: 414400	Annual Volume (m^3): 454600 Max Daily Volume (m^3): 1818 Original Application No: NPS/WR/028578 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 105 Version Start Date: 23/05/2018 Version End Date: -
-	1124m E	Status: Active Licence No: 2/27/10/069 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLES X2 - MILLSTONE GRIT - LOCKWOOD Data Type: Point Name: Park Valley Huddersfield Ltd Easting: 412900 Northing: 414400	Annual Volume (m^3): 454600 Max Daily Volume (m^3): 1818 Original Application No: NPS/WR/028578 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 105 Version Start Date: 23/05/2018 Version End Date: -
-	1151m W	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	1151m W	Status: Historical Licence No: 2/27/11/105 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: HINCHCLIFFE & HAIGH Easting: 410450 Northing: 414320	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	1195m N	Status: Historical Licence No: 2/27/11/036(G) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MILNSBRIDGE Data Type: Point Name: YORKSHIRE WOOL DYEING CO LTD Easting: 411800 Northing: 416000	Annual Volume (m^3): 4546 Max Daily Volume (m^3): 81.828 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1998 Version End Date: -

ID	Location	Details	
-	1444m W	Status: Historical Licence No: 2/27/11/057 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRINGS Data Type: Point Name: ROBERTS Easting: 410100 Northing: 414700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 27/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1966 Version End Date: -
-	1578m E	Status: Historical Licence No: 2/27/10/008 Details: General use relating to Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BASS BREWERS (TADCASTER) Easting: 413400 Northing: 414900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 08/07/1970 Version End Date: -
-	1746m W	Status: Historical Licence No: 2/27/11/045 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - LINTHWAITE Data Type: Point Name: JAMES DYSON LTD Easting: 409800 Northing: 414600	Annual Volume (m^3): 175000 Max Daily Volume (m^3): 650 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 101 Version Start Date: 17/01/2002 Version End Date: -
-	1792m S	Status: Historical Licence No: 2/27/10/115 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: MATE Easting: 412300 Northing: 412900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 19/10/1988 Expiry Date: - Issue No: 100 Version Start Date: 19/10/1988 Version End Date: -
-	1792m S	Status: Historical Licence No: 2/27/10/094 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRING Data Type: Point Name: MATE Easting: 412300 Northing: 412900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -

ID	Location	Details	
-	1792m S	Status: Historical Licence No: 2/27/10/094 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: SPRING - NETHERTON Data Type: Point Name: MATE Easting: 412300 Northing: 412900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 28/04/1966 Version End Date: -
-	1792m S	Status: Historical Licence No: 2/27/10/115 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - MILLSTONE GRIT - NETHERTON Data Type: Point Name: MATE Easting: 412300 Northing: 412900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 19/10/1988 Expiry Date: - Issue No: 100 Version Start Date: 19/10/1988 Version End Date: -
-	1805m W	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -
-	1805m W	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -

ID	Location	Details	
-	1805m W	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -
-	1807m N	Status: Active Licence No: NE/027/0011/018 Details: Process Water Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - WOODLAND MILL Data Type: Point Name: Wooltex UK Ltd Easting: 411097 Northing: 416494	Annual Volume (m^3): 164250 Max Daily Volume (m^3): 450 Original Application No: NPS/WR/031345 Original Start Date: 24/10/2017 Expiry Date: 31/03/2027 Issue No: 3 Version Start Date: 16/07/2019 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m	**32**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 54 >**

ID	Location	Details	
-	982m NE	Status: Historical Licence No: 2/27/11/038 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CATCHPIT - MILNSBRIDGE Data Type: Point Name: JOHN GLADSTONE (DYERS & FINISHERS) LTD Easting: 412200 Northing: 415700	Annual Volume (m^3): 90922 Max Daily Volume (m^3): 300 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 103 Version Start Date: 05/06/2003 Version End Date: -

ID	Location	Details	
-	1040m N	Status: Historical Licence No: 2/27/11/038 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: CATCHPIT Data Type: Point Name: JOHN CROWTHER & SONS (MILNSBRIDGE) LTD Easting: 412100 Northing: 415800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date: -
-	1136m N	Status: Historical Licence No: 2/27/11/144 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 412100 Northing: 415900	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1980 Version End Date: -
-	1176m N	Status: Historical Licence No: 2/27/11/036 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - MILNSBRIDGE Data Type: Point Name: YORKSHIRE WOOL DYEING CO LTD Easting: 411717 Northing: 415978	Annual Volume (m^3): 68190 Max Daily Volume (m^3): 273.7 Original Application No: - Original Start Date: 25/06/2014 Expiry Date: - Issue No: 2 Version Start Date: 20/08/2014 Version End Date: -
-	1199m N	Status: Historical Licence No: 2/27/11/036(S) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: YORKSHIRE WOOL DYEING CO LTD Easting: 411700 Northing: 416000	Annual Volume (m^3): 68190 Max Daily Volume (m^3): 273.669 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1998 Version End Date: -

ID	Location	Details	
-	1199m N	Status: Historical Licence No: 2/27/11/036(S) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - MILNSBRIDGE Data Type: Point Name: YORKSHIRE WOOL DYEING CO LTD Easting: 411700 Northing: 416000	Annual Volume (m^3): 68190 Max Daily Volume (m^3): 273.669 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/09/1998 Version End Date: -
-	1298m E	Status: Active Licence No: 2/27/10/126/R01 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER HOLME - LOCKWOOD Data Type: Point Name: HUDDERSFIELD RUGBY UNION FOOTBALL CLUB LTD Easting: 413120 Northing: 414600	Annual Volume (m^3): 4800 Max Daily Volume (m^3): 136 Original Application No: NPS/WR017082 Original Start Date: 01/04/2015 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/04/2019 Version End Date: -
-	1302m NW	Status: Active Licence No: 2/27/11/006 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1302m NW	Status: Active Licence No: 2/27/11/006 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): 30117 Max Daily Volume (m^3): 146.38 Original Application No: 475 Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1302m NW	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -

ID	Location	Details	
-	1302m NW	Status: Historical Licence No: 2/27/11/006 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410400 Northing: 415300	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 01/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 17/03/1989 Version End Date: -
-	1307m NW	Status: Active Licence No: NE/027/0011/021 Details: Supply To A Canal For Throughflow Direct Source: SURFACE WATER Point: BRITANNIA BRIDGE, HOLME MILLS, HUDDERSFIELD Data Type: Point Name: Canal and River Trust Easting: 410621 Northing: 415613	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: NPS/WR/036287 Original Start Date: 26/03/2021 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 15/10/2021 Version End Date: -
-	1392m E	Status: Historical Licence No: 2/27/10/121 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER HOLME Data Type: Point Name: HUDDERSFIELD RUGBY UNION FOOTBALL CLUB Easting: 413200 Northing: 414500	Annual Volume (m^3): 7208 Max Daily Volume (m^3): 136 Original Application No: - Original Start Date: 27/03/1997 Expiry Date: 31/10/2006 Issue No: 101 Version Start Date: 11/01/2000 Version End Date: -
-	1392m E	Status: Historical Licence No: 2/27/10/126 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER HOLME Data Type: Point Name: HUDDERSFIELD RUGBY UNION FOOTBALL CLUB Easting: 413200 Northing: 414500	Annual Volume (m^3): 4800 Max Daily Volume (m^3): 136 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -
-	1392m E	Status: Historical Licence No: 2/27/10/126 Details: Spray Irrigation - Direct Direct Source: SURFACE WATER Point: RIVER HOLME - LOCKWOOD Data Type: Point Name: HUDDERSFIELD RUGBY UNION FOOTBALL CLUB Easting: 413200 Northing: 414500	Annual Volume (m^3): 4800 Max Daily Volume (m^3): 136 Original Application No: - Original Start Date: 01/01/2007 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 01/01/2007 Version End Date: -

ID	Location	Details	
-	1409m W	Status: Active Licence No: 2/27/11/042 Details: Process Water Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: 3842 Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	1409m W	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	1409m W	Status: Historical Licence No: 2/27/11/042 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: HARTFORD HOLDINGS LTD Easting: 410200 Northing: 415100	Annual Volume (m^3): 31822 Max Daily Volume (m^3): 159.11 Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/05/1989 Version End Date: -
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: DEAN CLOUGH Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -

ID	Location	Details	
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: DEAN CLOUGH Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: DEAN CLOUGH Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: DEAN CLOUGH - HUDDERSFIELD Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: DEAN CLOUGH - HUDDERSFIELD Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -

ID	Location	Details	
-	1547m N	Status: Historical Licence No: 2/27/11/169 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: TRIBUTARY OF LONGWOOD BROOK Data Type: Point Name: EDDIE & BESSIE E FIRTH & JACQUELINE M & JOHN G WALKER Easting: 411400 Northing: 416300	Annual Volume (m^3): 20000 Max Daily Volume (m^3): 350 Original Application No: - Original Start Date: 26/01/1983 Expiry Date: - Issue No: 100 Version Start Date: 20/04/1990 Version End Date: -
-	1560m NE	Status: Historical Licence No: 2/27/11/148 Details: General use relating to Secondary Category (Low Loss) Direct Source: SURFACE WATER Point: HUDDERSFIELD CANAL Data Type: Point Name: BRITISH WATERWAYS BOARD Easting: 412800 Northing: 416000	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 26/05/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/10/1979 Version End Date: -
-	1853m W	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -
-	1853m W	Status: Historical Licence No: 2/27/11/111 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE - LINTHWAITE Data Type: Point Name: MICKMAN Easting: 409700 Northing: 414500	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/01/1991 Version End Date: -

ID	Location	Details	
-	1946m W	Status: Active Licence No: 2/27/11/013(A) Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): 9092 Max Daily Volume (m^3): 45.45 Original Application No: 1622(A) Original Start Date: 16/07/2002 Expiry Date: - Issue No: 1 Version Start Date: 01/04/2008 Version End Date: -
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

ID	Location	Details	
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	8

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 54 >**

ID	Location	Details	
-	1124m E	Status: Active Licence No: 2/27/10/069 Details: Water Bottling Direct Source: GROUNDWATERS Point: BOREHOLES X2 - MILLSTONE GRIT - LOCKWOOD Data Type: Point Name: Park Valley Huddersfield Ltd Easting: 412900 Northing: 414400	Annual Volume (m^3): 454600 Max Daily Volume (m^3): 1818 Original Application No: NPS/WR/028578 Original Start Date: 17/03/1966 Expiry Date: - Issue No: 105 Version Start Date: 23/05/2018 Version End Date: -
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: DEAN CLOUGH Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -

ID	Location	Details	
-	1503m SE	Status: Historical Licence No: 2/27/10/089 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: DEAN CLOUGH - HUDDERSFIELD Data Type: Line Name: JOHN BROOKE & SONS HOLDINGS LTD Easting: 413000 Northing: 413800	Annual Volume (m^3): 17638 Max Daily Volume (m^3): 76.1 Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/07/1982 Version End Date: -
-	1805m W	Status: Active Licence No: NE/027/0011/007 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: PROPERTY RENAISSANCE LTD Easting: 409740 Northing: 414730	Annual Volume (m^3): 43070 Max Daily Volume (m^3): 118 Original Application No: NPS/WR/005539 Original Start Date: 21/02/2011 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 21/02/2011 Version End Date: -
-	1805m W	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-COAL MEASURES-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 1 Version Start Date: 12/03/2005 Version End Date: -
-	1805m W	Status: Historical Licence No: 2/27/11/191 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: GROUNDWATERS Point: BOREHOLE-MILLSTONE GRIT-TITANIC MILLS-LINTHWAITE Data Type: Point Name: LOWRY HOMES PLC Easting: 409740 Northing: 414730	Annual Volume (m^3): 54000 Max Daily Volume (m^3): 150 Original Application No: - Original Start Date: 12/03/2005 Expiry Date: 31/12/2010 Issue No: 2 Version Start Date: 08/02/2008 Version End Date: -

ID	Location	Details	
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -
-	1946m W	Status: Historical Licence No: 2/27/11/013 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: SURFACE WATER Point: RIVER COLNE-LINTHWAITE Data Type: Point Name: COLNE VALLEY SPINNING CO LTD Easting: 409600 Northing: 414600	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 14/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 14/12/1965 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.

6 Hydrology

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Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 71 >**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	**On site**	**River**	**Holme from New Mill Dike to R Colne**	**GB104027063301**	**Colne and Holme**	**Aire and Calder**

This data is sourced from the Environment Agency and Natural Resources Wales.

6.4 WFD Surface water bodies

Records identified	1

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 71 >**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1219m E	River	Holme from New Mill Dike to R Colne	GB104027063301 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site	1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 71 >**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	**On site**	**Aire & Calder Carb Limestone / Millstone Grit / Coal Measures.**	**GB40402G700400 ↗**	**Poor**	**Poor**	**Good**	**2019**

This data is sourced from the Environment Agency and Natural Resources Wales.

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

This data is sourced from the Environment Agency and Natural Resources Wales.

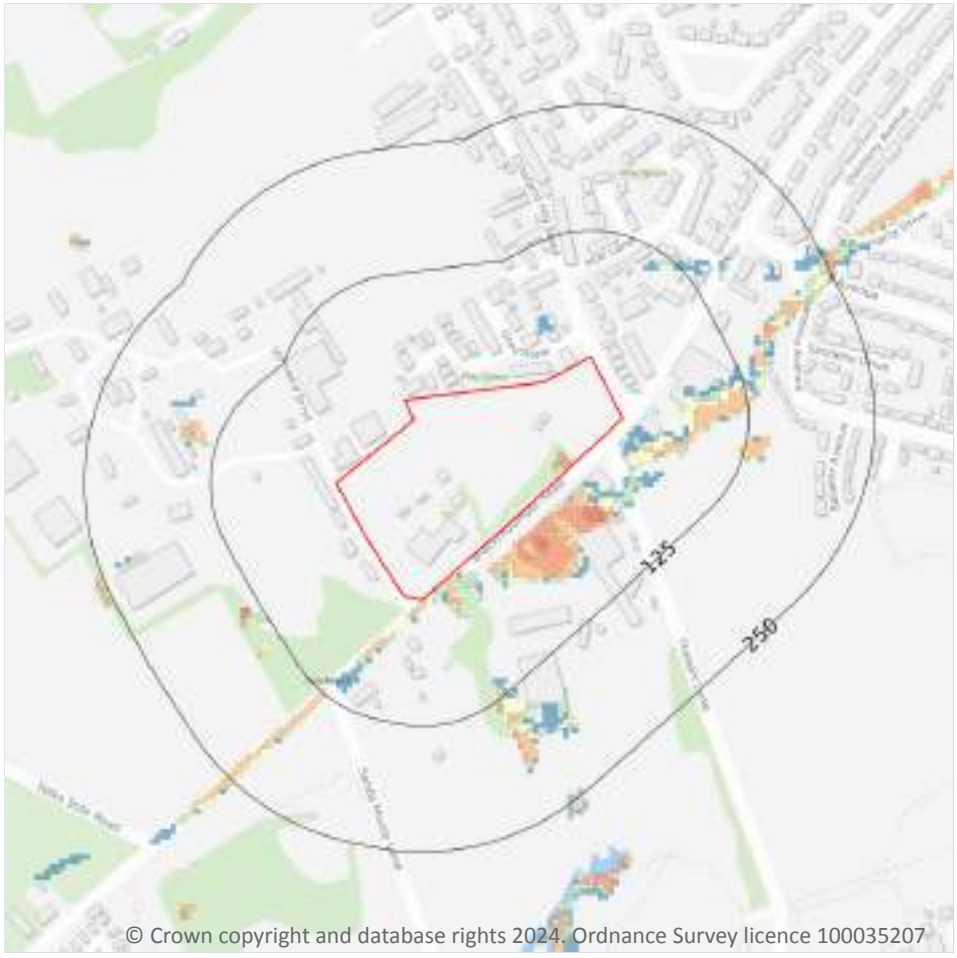
7.7 Flood Zone 3

Records within 50m	0

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

8 Surface water flooding



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Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**1 in 30 year, 0.3m - 1.0m**
Highest risk within 50m	**1 in 30 year, Greater than 1.0m**

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 77 >**

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Greater than 1.0m
1 in 250 year	Greater than 1.0m
1 in 100 year	Greater than 1.0m
1 in 30 year	Between 0.3m and 1.0m

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding

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Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 79 >**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

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Site Outline

Search buffers in metres (m)

Local Nature Reserves (LNR)

Designated Ancient Woodland

Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m	0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m	0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

Features are displayed on the Environmental designations map on **page 80 >**

ID	Location	Name	Data source
-	1924m NE	Gledholt Woods	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.7 Designated Ancient Woodland

Records within 2000m	3

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on **page 80 >**

ID	Location	Name	Woodland Type
2	727m S	Butter Nab Spring	Ancient & Semi-Natural Woodland
3	1158m S	Dean Wood	Ancient & Semi-Natural Woodland
4	1381m SE	Daffy Wood	Ancient Replanted Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m	0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m	0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.11 Green Belt

Records within 2000m	1

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on **page 80 >**

ID	Location	Name	Local Authority name
1	117m SW	South and West Yorkshire	Kirklees

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m	0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

Special Protection Areas (SPAs) are areas designated (or ‘classified’) under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

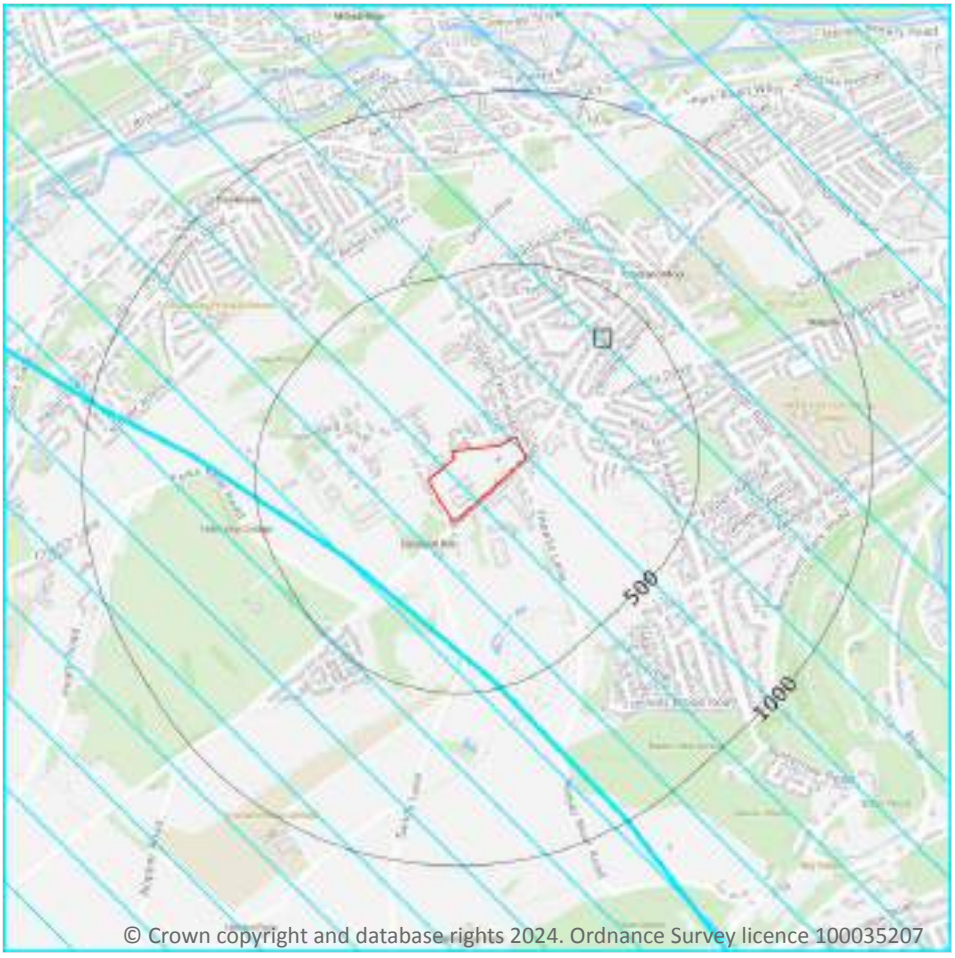
10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

This data is sourced from Natural England and Natural Resources Wales.

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 85 >**

ID	Location	Type of developments requiring consultation
1	**On site**	**Infrastructure - Airports, helipads and other aviation proposals.** **Minerals, Oil and Gas - Oil & gas exploration/extraction.** **Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m².** **Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.**

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

This data is sourced from Natural England and Natural Resources Wales.

11 Visual and cultural designations

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Site Outline

Search buffers in metres (m)

- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m	0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m	4

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 87 >**

ID	Location	Name	Grade	Reference Number	Listed date
1	90m N	Crosland Hall	II*	1134305	03/03/1952
2	98m N	Crosland Hall Cottage	II	1290351	29/09/1978
3	132m N	Range Of Farm Buildings At Crosland Hall	II	1313821	29/09/1978
4	203m N	41 And 43, Crosland Hill Road	II	1210724	29/09/1978

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m	0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m	0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

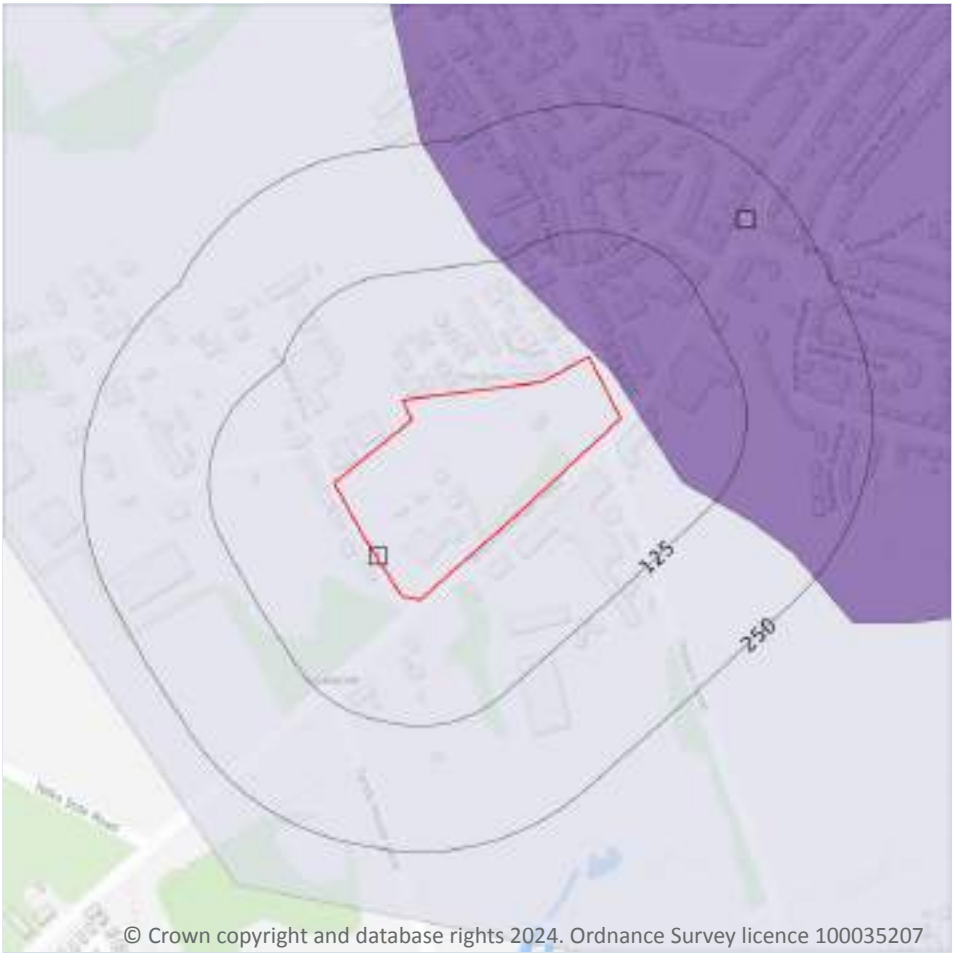
11.7 Registered Parks and Gardens

Records within 250m	0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

12 Agricultural designations



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Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	2

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 90 >**

ID	Location	Classification	Description
1	**On site**	**Grade 4**	**Poor quality agricultural land. Land with severe limitations which significantly restrict the range of crops and/or level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.**

ID	Location	Classification	Description
2	6m NE	Urban	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m	0

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

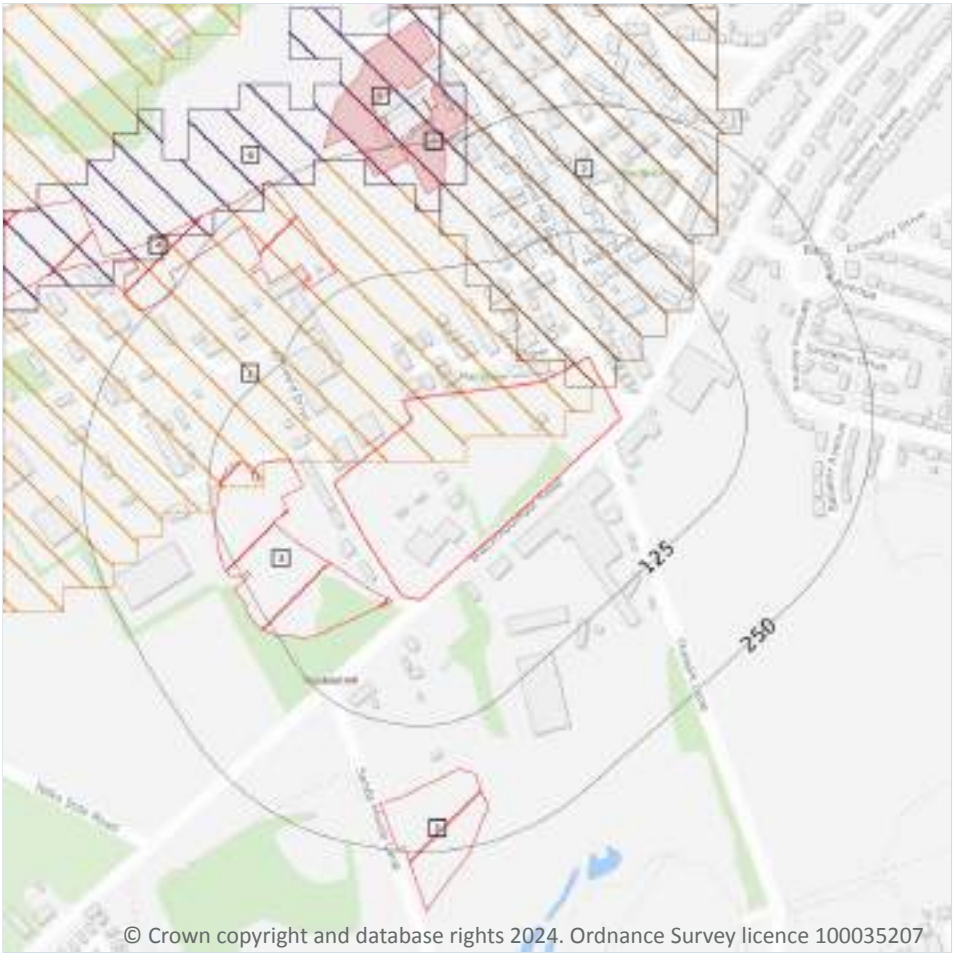
12.5 Countryside Stewardship Schemes

Records within 250m	0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.

13 Habitat designations



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Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks
Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	2

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on **page 92 >**

ID	Location	Main Habitat	Other habitats
7	199m N	Lowland dry acid grassland	Main habitat: LDAGR (INV > 50%)
8	224m N	Lowland dry acid grassland	Main habitat: LDAGR (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	3

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on **page 92 >**

ID	Location	Type	Habitat
1	**On site**	**Network Enhancement Zone 1**	**Not specified**
2	**On site**	**Network Enhancement Zone 2**	**Not specified**
6	183m N	Primary Habitat	Lowland dry acid grassland

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	3

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

Features are displayed on the Habitat designations map on **page 92 >**

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
3	11m SW	HLD_refs: EAHLD04202	Low	Environment Agency Historic Landfill Sites	UK Perspectives Aerial Photography	British Geological Survey BRITPITS database
4	143m NW	BRITPITS ref: 13874	Low	British Geological Survey BRITPITS database	UK Perspectives Aerial Photography	-
5	172m S	BRITPITS ref: 94022	Low	British Geological Survey BRITPITS database	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.

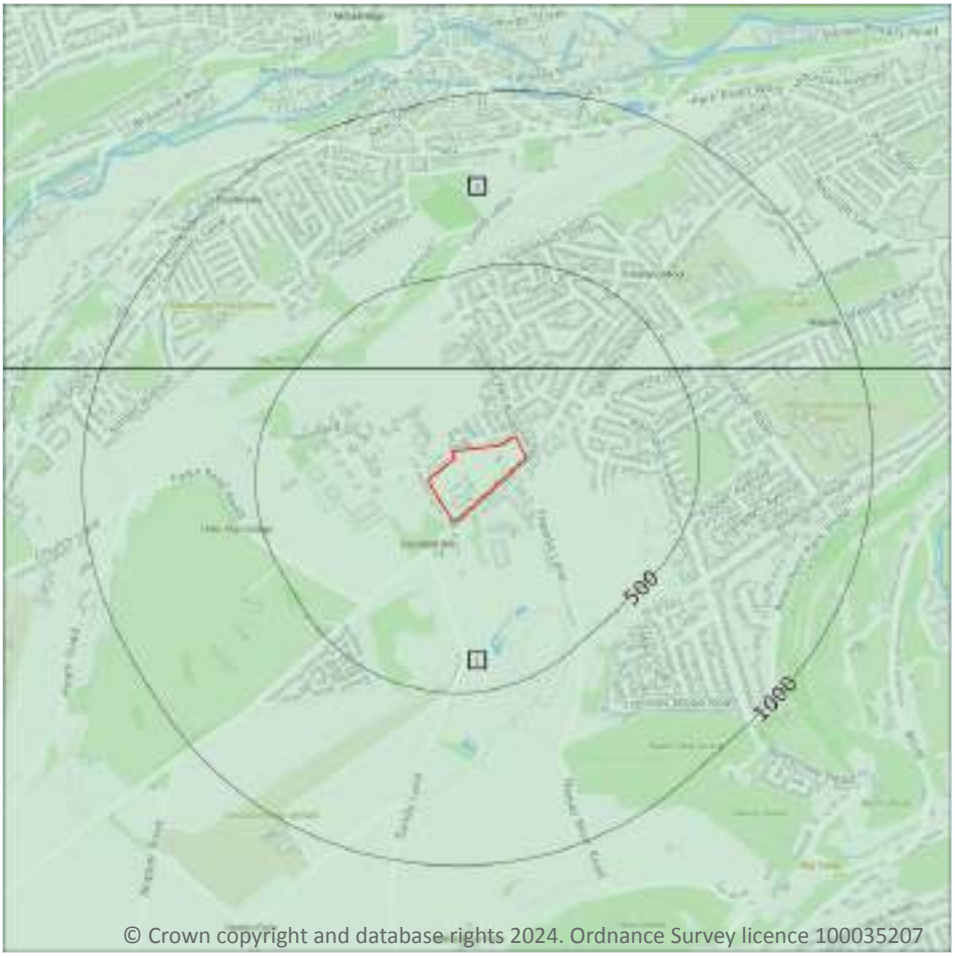
13.4 Limestone Pavement Orders

Records within 250m	0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	2

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 95 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SE11SW**
2	196m N	Full	Full	Full	Full	SE11NW

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground

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Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	31

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 96 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial Deposit**
2	**On site**	**WMGR-ARTDP**	**Infilled Ground**	**Artificial Deposit**
A	18m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	18m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
4	21m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	48m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	59m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	96m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	129m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
8	136m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
9	155m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
10	160m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
11	208m SW	WGR-VOID	Worked Ground (Undivided)	Void
12	219m S	WGR-VOID	Worked Ground (Undivided)	Void
13	222m W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	251m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
C	253m NW	WGR-VOID	Worked Ground (Undivided)	Void
14	278m SE	WGR-VOID	Worked Ground (Undivided)	Void
C	311m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
B	319m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
15	320m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
16	332m NW	WGR-VOID	Worked Ground (Undivided)	Void
17	341m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
18	371m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	395m N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
19	400m W	WGR-VOID	Worked Ground (Undivided)	Void
B	405m N	WGR-VOID	Worked Ground (Undivided)	Void
20	425m S	WGR-VOID	Worked Ground (Undivided)	Void
D	479m N	WGR-VOID	Worked Ground (Undivided)	Void
21	484m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
22	491m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial

14.3 Superficial geology (10k)

Records within 500m	0

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

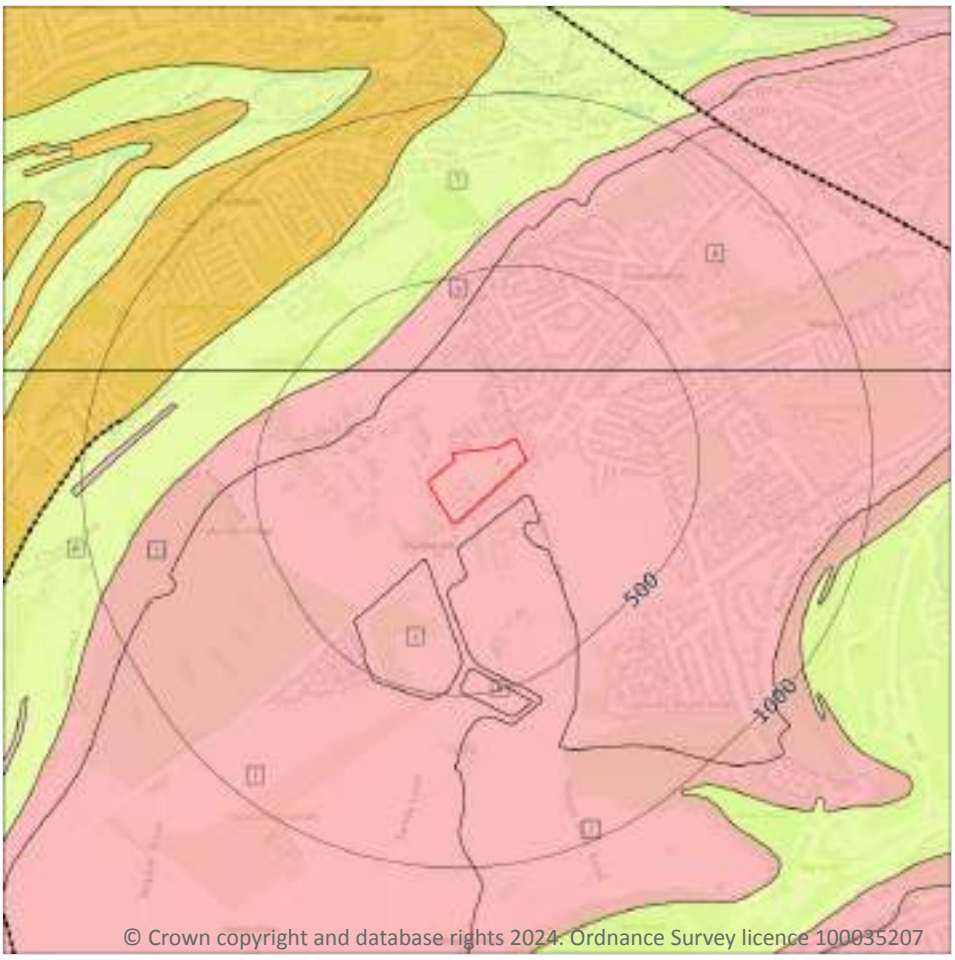
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m	9

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 99 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**RR-SDST**	**Rough Rock - Sandstone**	**Yeadonian Sub-age**
2	59m S	RF-SDST	Rough Rock Flags - Sandstone	Yeadonian Sub-age
3	136m SW	RF-SDST	Rough Rock Flags - Sandstone	Yeadonian Sub-age
4	196m N	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age

ID	Location	LEX Code	Description	Rock age
5	249m NW	RF-SDST	Rough Rock Flags - Sandstone	Yeadonian Sub-age
6	263m NW	RF-SDST	Rough Rock Flags - Sandstone	Yeadonian Sub-age
7	374m NW	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
8	392m NW	MG-MDSS	Millstone Grit Group [see Also Migr] - Mudstone, Siltstone And Sandstone	Namurian Age
9	425m S	RF-SDST	Rough Rock Flags - Sandstone	Yeadonian Sub-age

This data is sourced from the British Geological Survey.

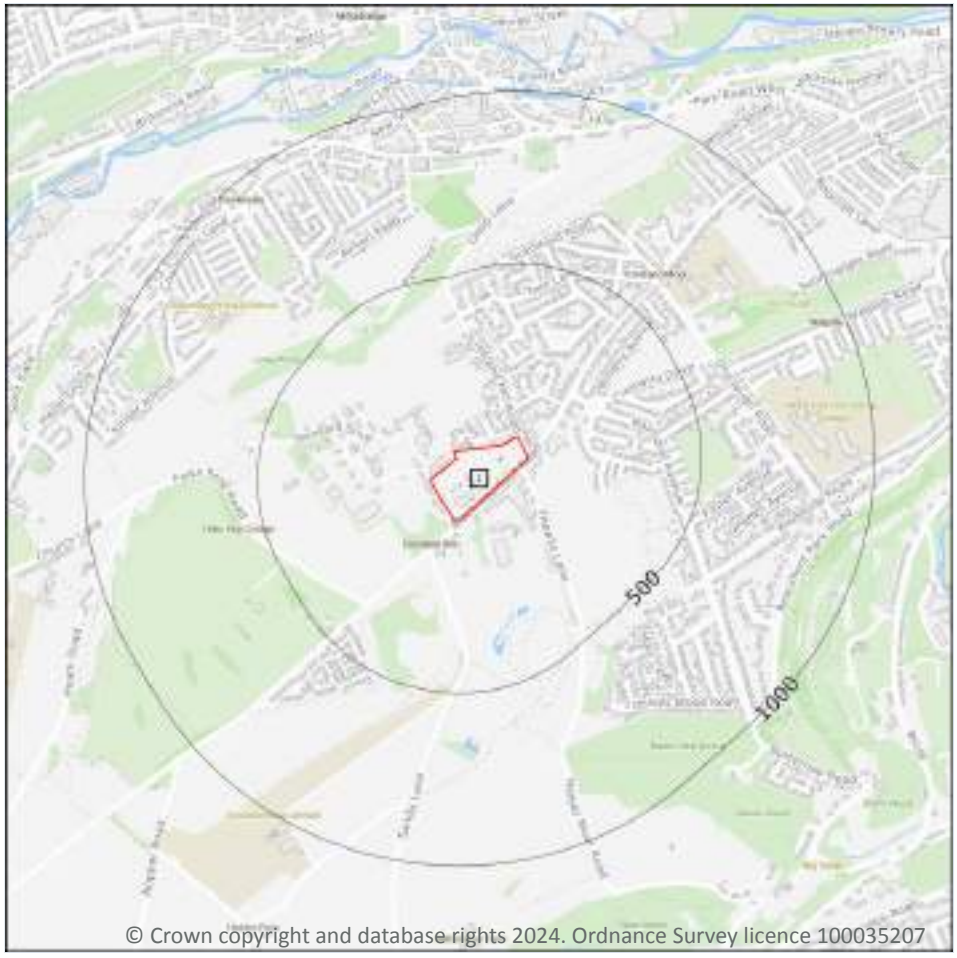
14.6 Bedrock faults and other linear features (10k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



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Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

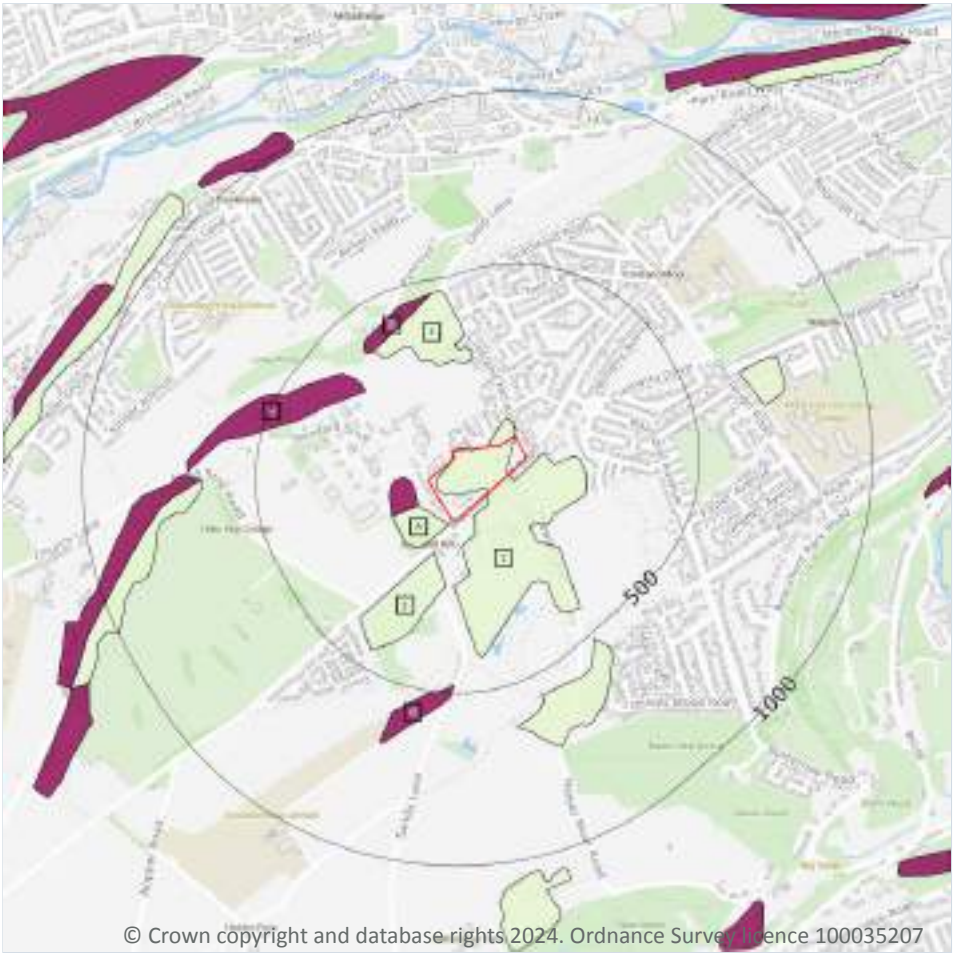
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 101 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**EW077_huddersfield_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



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Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	8

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 102 >**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**WMGR-ARTDP**	**INFILLED GROUND**	**ARTIFICIAL DEPOSIT**
A	17m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
A	48m W	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	109m SW	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

ID	Location	LEX Code	Description	Rock description
3	249m N	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
4	303m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
5	368m NW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
6	478m S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m	**3**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**Very High**	**Low**
17m SW	Mixed	Very High	Low
48m W	Mixed	Very High	Low

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial

15.4 Superficial geology (50k)

Records within 500m	0

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

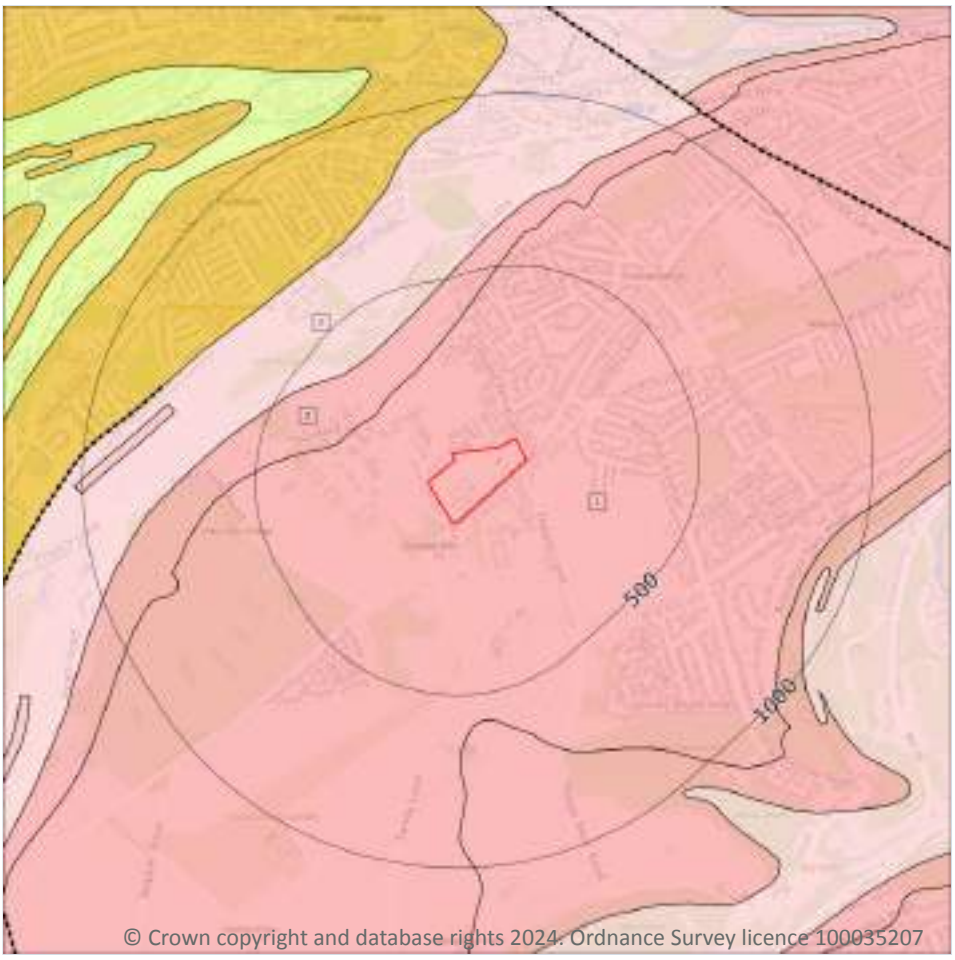
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m	3

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 105 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**RR-SDST**	**ROUGH ROCK - SANDSTONE**	**NAMURIAN**
2	243m NW	RF-SDST	ROUGH ROCK FLAGS - SANDSTONE	NAMURIAN
3	368m NW	ROSSE-MDSI	ROSSENDALE FORMATION - MUDSTONE AND SILTSTONE	NAMURIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	0

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

This data is sourced from the British Geological Survey.

16 Boreholes

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Site Outline

Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m	1

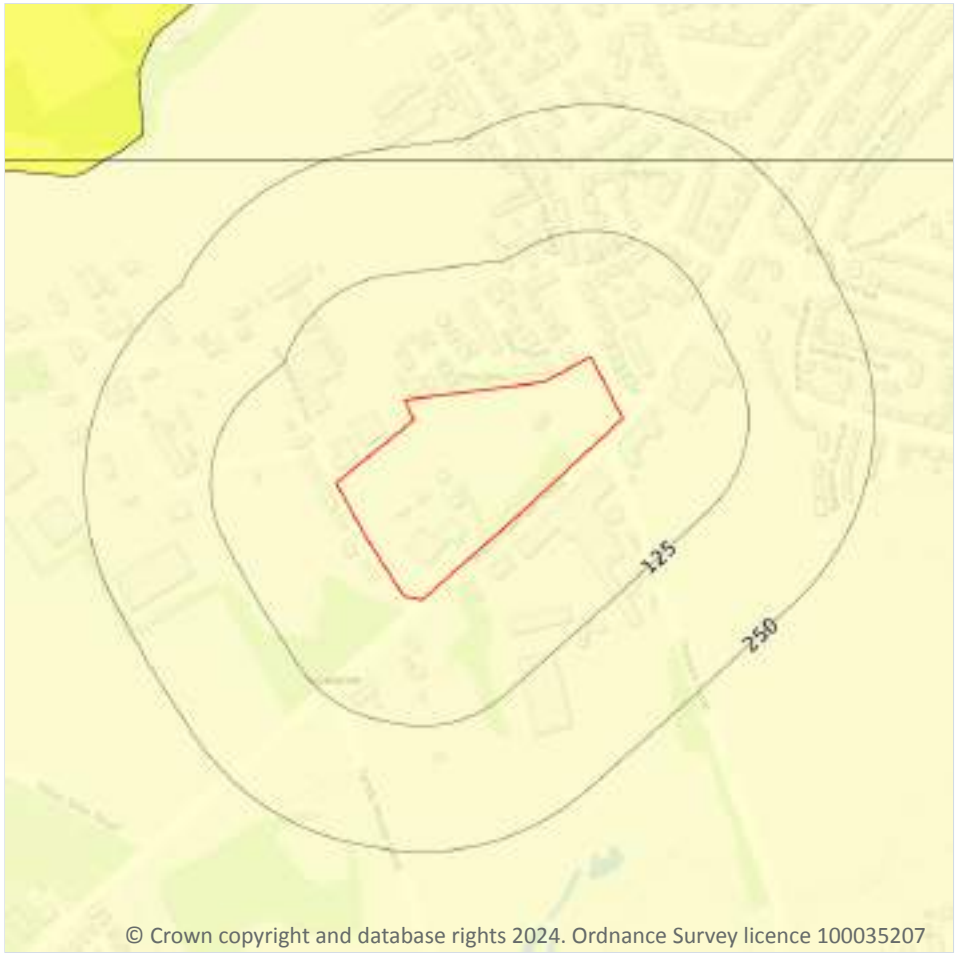
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 107 >**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**411700 414630**	**JOHNSONS WELLFIELD QUARRIES LIMITED**	**230.0**	**N**	18524359 ↗

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

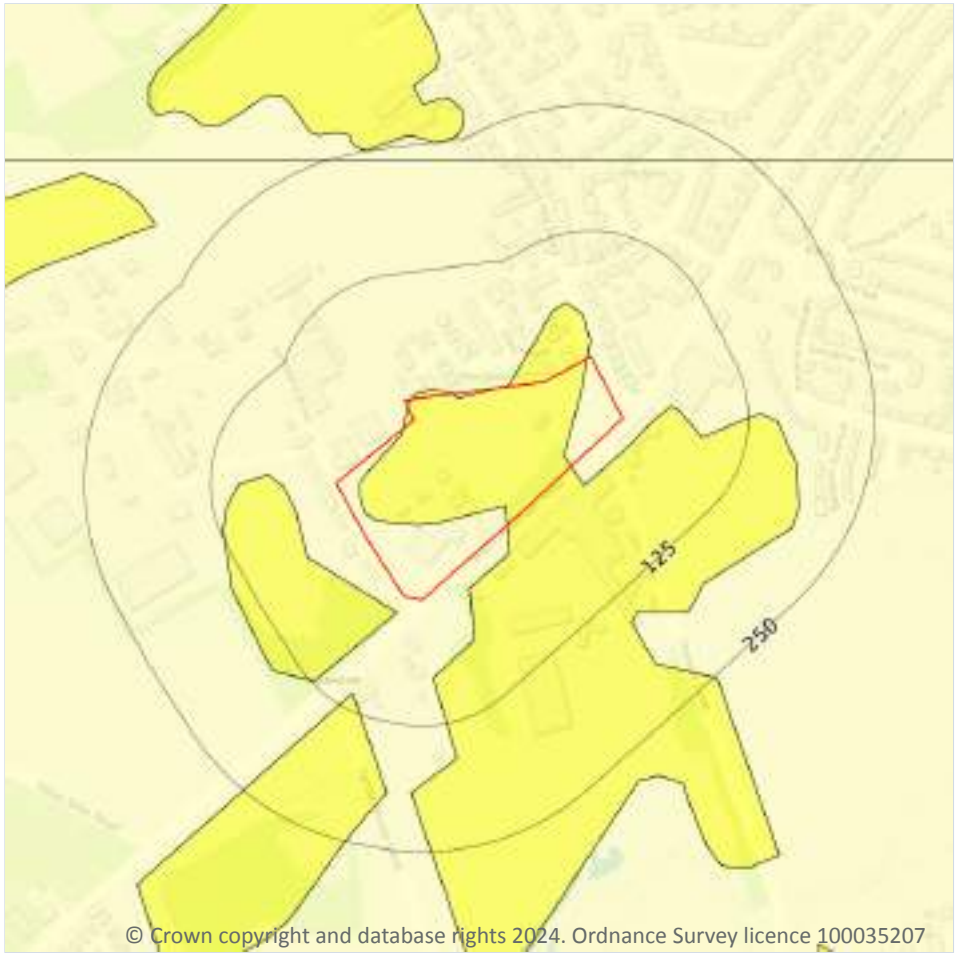
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 108 >**

Location	Hazard rating	Details
On site	**Negligible**	**Ground conditions predominantly non-plastic.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	3

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

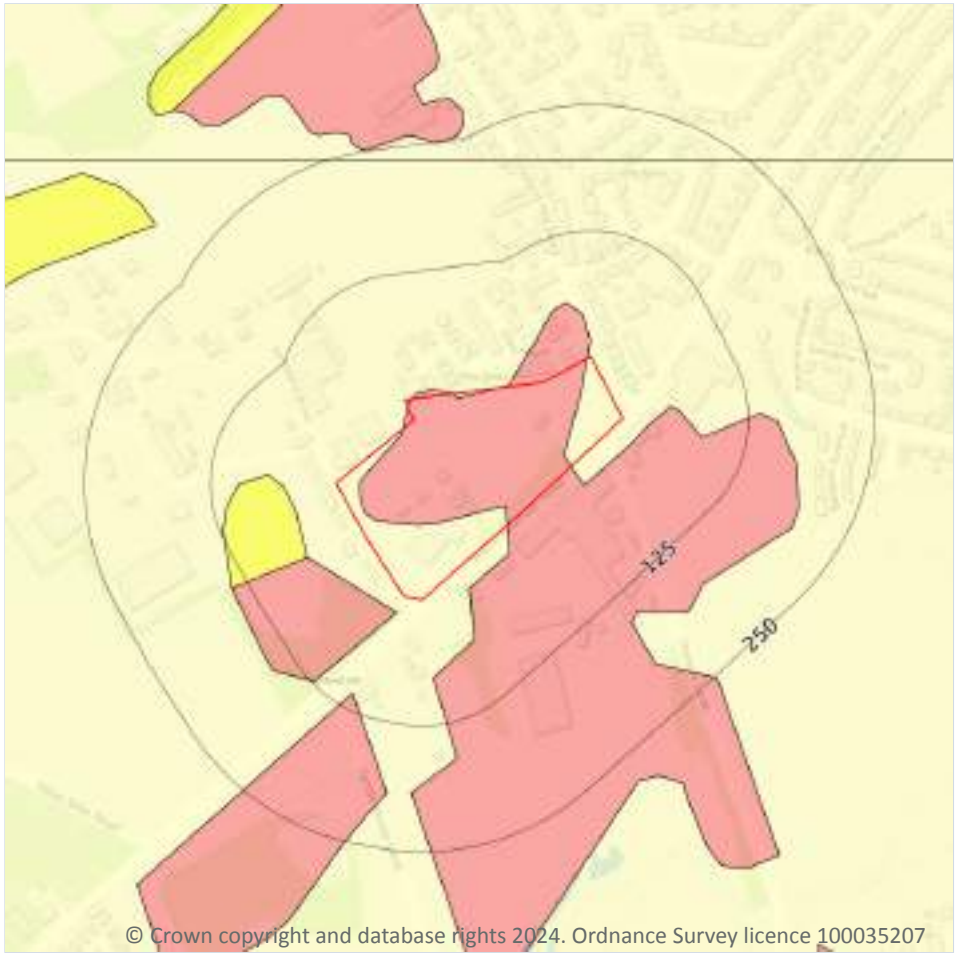
Features are displayed on the Natural ground subsidence - Running sands map on **page 109 >**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**
17m SW	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	4

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

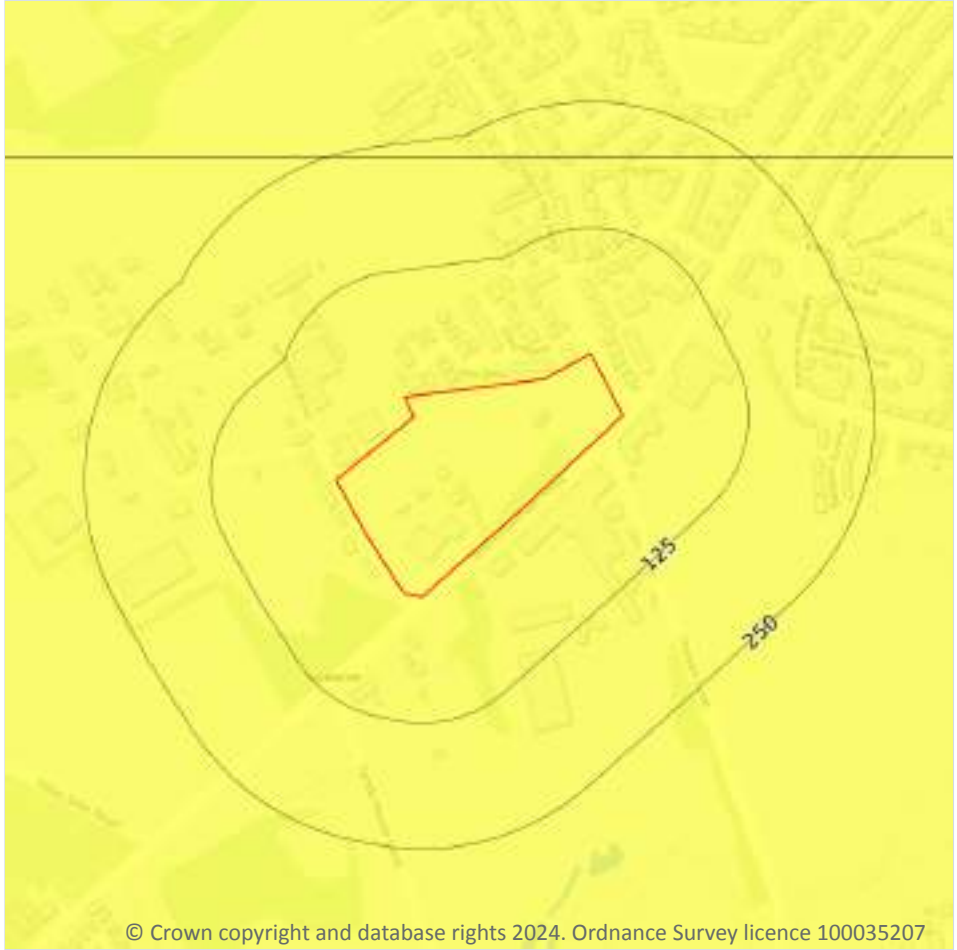
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 111 >**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**
On site	**Moderate**	**Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.**

Location	Hazard rating	Details
17m SW	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.
48m W	Very low	Compressibility and uneven settlement problems are not likely to be significant on the site for most land uses.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

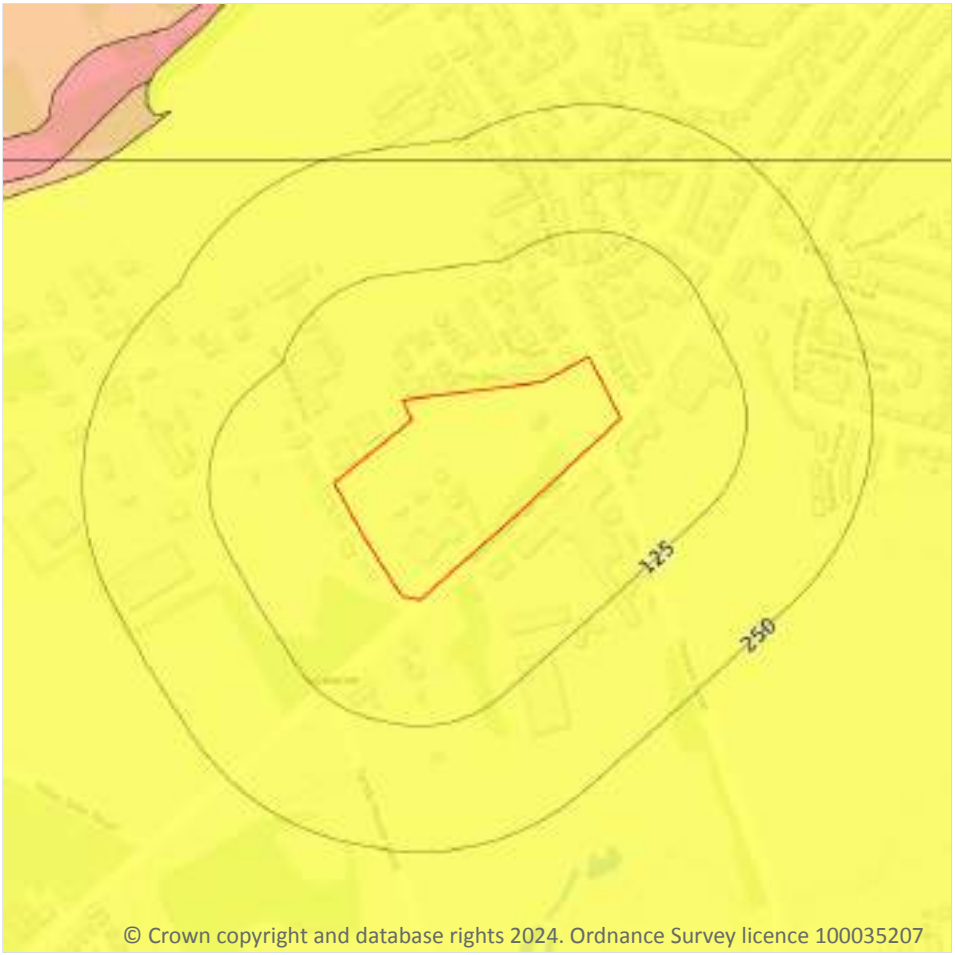
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 113 >**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

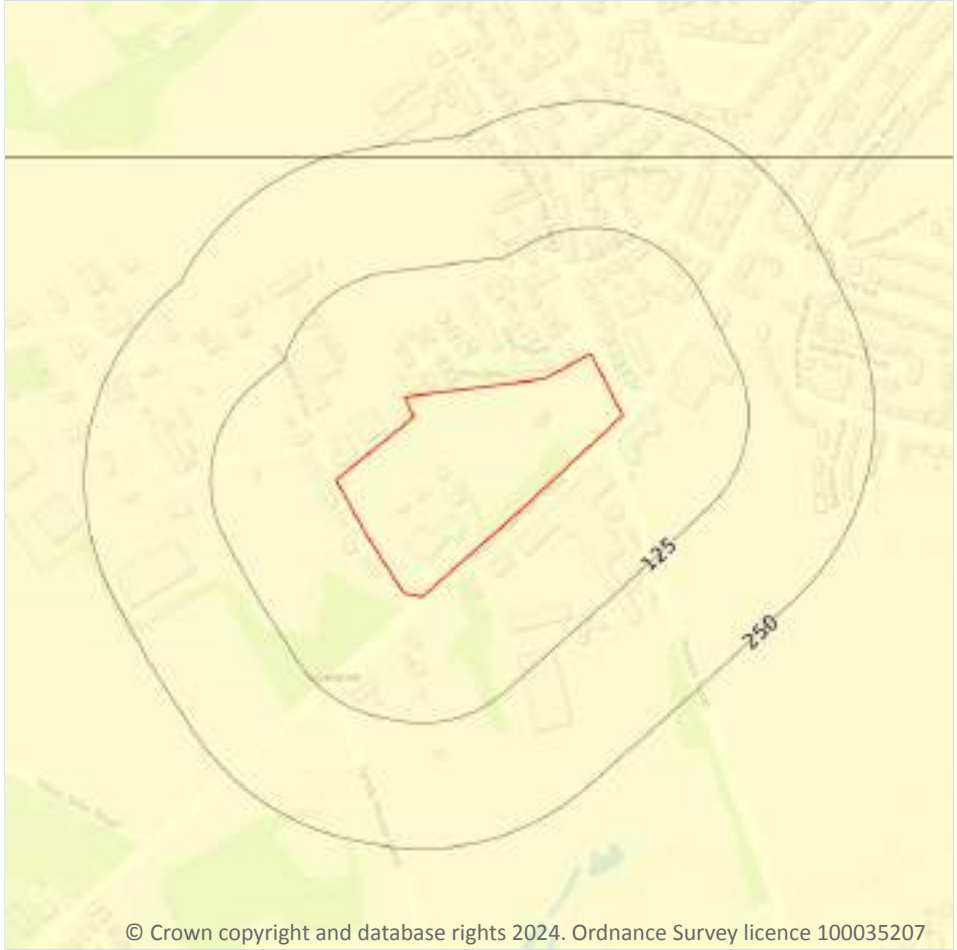
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 114 >**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 115 >**

Location	Hazard rating	Details
On site	**Negligible**	**Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.**

This data is sourced from the British Geological Survey.

18 Mining and ground workings

Site Outline

Search buffers in metres (m)

- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m	45

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on **page 117 >**

ID	Location	Details	Description
A	**On site**	**Name: Manor House** **Address: Crosland Hill, HUDDERSFIELD, West Yorkshire** **Commodity: Sandstone** **Status: Ceased**	**Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site** **Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority**
A	**On site**	**Name: Spinkwell Quarries** **Address: Crosland Hill, HUDDERSFIELD, West Yorkshire** **Commodity: Sandstone** **Status: Ceased**	**Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site** **Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority**
A	**On site**	**Name: Spinkwell Quarries** **Address: Crosland Moor, HUDDERSFIELD, West Yorkshire** **Commodity: Sandstone** **Status: Ceased**	**Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site** **Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority**
A	**On site**	**Name: Spinkwell Quarries** **Address: Crosland Moor, HUDDERSFIELD, West Yorkshire** **Commodity: Sandstone** **Status: Ceased**	**Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site** **Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority**
A	21m S	Name: South Crosland Quarry Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
4	21m W	Name: Spinkwell Quarries Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
E	38m N	Name: Crosland Hall Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	42m E	Name: Crosland Hill Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	47m SE	Name: Matlock House Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
C	49m NE	Name: Crosland Hall Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	72m W	Name: Crosland Moor Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
A	72m S	Name: Matlock House Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
H	98m SE	Name: Wellfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
B	102m SW	Name: Matlock House Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
K	108m NE	Name: Chapel Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
D	116m E	Name: Crosland Hill Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	136m W	Name: Waterhouse Quarries Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
J	156m SE	Name: Wellfield Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
G	166m W	Name: Waterhouse Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
O	188m SW	Name: Moorfield Farm Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
L	203m NE	Name: Chapel Fields Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
G	205m W	Name: Waterhouse Quarries Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
10	235m S	Name: Wellfield Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
P	262m SW	Name: Moorfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
P	286m S	Name: Moorfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Inactive	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator.May be considered to have Active or Dormant planning permission
G	291m W	Name: Waterhouse Quarries Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
T	296m N	Name: Malley Hole Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
11	314m NW	Name: Crosland Hill Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
13	323m W	Name: Crosland Hill Address: Crosland Moor, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
U	333m NW	Name: Idle Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
P	342m S	Name: Moorfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Inactive	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator.May be considered to have Active or Dormant planning permission
14	343m SE	Name: Thewlis Lane Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Active	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which is actively extracting mineral products, or in the case of wharfs and rail depots, is actively handing minerals
15	343m N	Name: Idle Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
V	346m N	Name: Idle Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
16	347m S	Name: Crosland Hill Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
S	361m NW	Name: Crosland Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
17	364m N	Name: Idle Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
V	378m N	Name: Tom Lane Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
W	412m N	Name: Idle Hill Quarries Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
V	440m N	Name: Tom Lane Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
19	441m SW	Name: Moorfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Inactive	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator.May be considered to have Active or Dormant planning permission
Q	443m S	Name: Waterholes Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

ID	Location	Details	Description
20	449m NW	Name: Crosland Hill Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
Y	472m W	Name: Crosland Hill Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority
21	484m S	Name: Moorfield Quarry Address: Crosland Hill, HUDDERSFIELD, West Yorkshire Commodity: Sandstone Status: Inactive	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, is not extracting minerals, but which still has a valid planning permission to do so, and can restart at any time. May be considered Mothballed by operator.May be considered to have Active or Dormant planning permission

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	99

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on **page 117 >**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Quarries**	**1969**	**1:10560**
A	**On site**	**Unspecified Quarry**	**1969**	**1:10560**
A	**On site**	**Unspecified Quarry**	**1969**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1969**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1951**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1951**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1951**	**1:10560**

ID	Location	Land Use	Year of mapping	Mapping scale
A	**On site**	**Unspecified Heap**	**1951**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1948**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1905**	**1:10560**
A	**On site**	**Unspecified Quarry**	**1905**	**1:10560**
A	**On site**	**Unspecified Quarries**	**1930**	**1:10560**
A	**On site**	**Unspecified Heap**	**1948**	**1:10560**
A	**On site**	**Refuse Heap**	**1905**	**1:10560**
B	**On site**	**Unspecified Old Quarry**	**1905**	**1:10560**
2	1m NE	Refuse Heap	1905	1:10560
3	3m W	Unspecified Quarries	1905	1:10560
B	11m SW	Unspecified Disused Quarry	1984	1:10000
E	11m NE	Unspecified Quarry	1905	1:10560
D	13m E	Unspecified Quarry	1905	1:10560
B	13m SW	Sand Pit	1951	1:10560
B	17m SW	Refuse Heap	1930	1:10560
B	17m SW	Refuse Heap	1930	1:10560
B	17m SW	Refuse Heap	1905	1:10560
B	18m SW	Refuse Heap	1948	1:10560
A	18m S	Gravel Pit	1905	1:10560
C	24m NE	Unspecified Quarry	1905	1:10560
D	25m E	Unspecified Quarry	1948	1:10560
D	25m E	Unspecified Quarries	1951	1:10560
D	26m E	Unspecified Quarry	1930	1:10560
D	29m E	Pond	1969	1:10560
G	33m W	Unspecified Quarry	1930	1:10560
A	35m SE	Unspecified Quarries	1905	1:10560
A	38m SE	Unspecified Ground Workings	1951	1:10560
D	42m E	Unspecified Disused Quarry	1984	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
G	46m W	Unspecified Old Quarry	1905	1:10560
H	46m SE	Unspecified Quarry	1930	1:10560
E	48m N	Unspecified Heaps	1969	1:10560
E	50m N	Refuse Heap	1948	1:10560
B	51m SW	Unspecified Old Quarry	1905	1:10560
G	53m W	Unspecified Ground Workings	1951	1:10560
I	56m W	Unspecified Heap	1984	1:10000
I	56m W	Unspecified Heap	1969	1:10560
I	56m W	Unspecified Heap	1951	1:10560
I	61m W	Unspecified Heap	1948	1:10560
I	61m W	Refuse Heap	1905	1:10560
D	61m E	Ponds	1984	1:10000
F	64m S	Sandstone Quarry	1984	1:10000
J	71m SE	Unspecified Quarry	1948	1:10560
G	72m W	Unspecified Heap	1948	1:10560
G	73m W	Unspecified Heap	1951	1:10560
B	73m SW	Unspecified Quarry	1930	1:10560
J	74m SE	Unspecified Quarry	1951	1:10560
E	77m N	Unspecified Heap	1948	1:10560
H	78m SE	Pond	1984	1:10000
B	78m SW	Unspecified Quarry	1951	1:10560
E	78m N	Unspecified Heap	1930	1:10560
E	78m N	Unspecified Heap	1930	1:10560
I	80m W	Unspecified Heap	1984	1:10000
I	80m W	Unspecified Heap	1969	1:10560
I	80m W	Unspecified Heap	1951	1:10560
I	80m W	Unspecified Heap	1948	1:10560
I	80m W	Refuse Heap	1905	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
E	81m N	Refuse Heap	1905	1:10560
E	82m N	Unspecified Heap	1951	1:10560
F	83m S	Unspecified Quarry	1969	1:10560
B	83m SW	Unspecified Quarry	1948	1:10560
H	85m SE	Pond	1969	1:10560
K	86m NE	Unspecified Quarry	1905	1:10560
B	91m SW	Unspecified Quarry	1969	1:10560
G	118m W	Unspecified Quarries	1905	1:10560
G	121m W	Unspecified Pit	1951	1:10560
G	123m W	Unspecified Pit	1948	1:10560
L	131m NE	Unspecified Disused Quarry	1969	1:10560
G	144m W	Unspecified Old Quarry	1948	1:10560
L	145m NE	Unspecified Quarry	1948	1:10560
G	146m W	Unspecified Old Quarry	1951	1:10560
6	151m S	Unspecified Quarry	1948	1:10560
L	153m NE	Unspecified Quarry	1951	1:10560
N	159m SW	Unspecified Quarry	1951	1:10560
L	160m NE	Unspecified Quarry	1930	1:10560
N	163m SW	Unspecified Quarry	1948	1:10560
O	169m SW	Unspecified Quarries	1930	1:10560
Q	205m SE	Sandstone Quarry	1984	1:10000
L	219m NE	Unspecified Quarry	1956	1:10560
P	220m S	Unspecified Disused Quarries	1984	1:10000
R	224m W	Unspecified Quarry	1948	1:10560
R	224m W	Unspecified Quarry	1905	1:10560
P	228m SW	Unspecified Quarries	1951	1:10560
P	230m SW	Unspecified Quarries	1948	1:10560
G	230m W	Unspecified Heap	1969	1:10560

ID	Location	Land Use	Year of mapping	Mapping scale
G	230m W	Unspecified Heap	1951	1:10560
9	234m N	Refuse Heap	1966	1:10560
G	235m W	Unspecified Heap	1930	1:10560
G	235m W	Unspecified Heap	1930	1:10560
G	237m W	Unspecified Heap	1948	1:10560
P	248m SW	Unspecified Quarries	1930	1:10560
S	249m N	Unspecified Quarry	1948	1:10560
P	250m S	Unspecified Quarries	1969	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	0

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	13

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining and ground workings map on **page 117 >**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
A	**On site**	**Spinkwell**	**Sandstone**	**Surface mineral working**	**Valid**	**11/11/47**
C	3m NE	Crosland planing Yard	Sandstone	Surface mineral working	Valid	Not available
D	10m E	Crosland Hill	Sandstone	Surface mineral working	Valid	19/7/48
F	12m S	Wellfield	Sandstone	Surface mineral working	Valid	11/11/37
B	16m SW	Matlock House	Sandstone	Surface mineral working	Valid	11/11/47
5	60m NW	Malley Hole	Sandstone	Surface mineral working	Valid	11/11/47
L	98m NE	Chapel Fields	Sandstone	Surface mineral working	Valid	11/11/47
M	131m SW	Sands House	Sandstone	Surface mineral working	Valid	11/11/47
7	161m SW	Pennine	Sandstone	Surface mineral working	Valid	11/11/47
P	184m SW	Moorfield	Sandstone	Surface mineral working	Valid	11/11/47
18	405m SW	Heath	Sandstone	Surface mineral working	Valid	Not available
X	407m S	Waterholes Grit	Sandstone	Surface mineral working	Valid	11/11/47
AB	479m SE	Park	Sandstone	Surface mineral working	Valid	11/11/47

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**2**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining and ground workings map on **page 117 >**

ID	Location	Name	Commodity	Class	Likelihood
1	**On site**	**Not available**	**Vein Mineral**	**A**	**Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.**

ID	Location	Name	Commodity	Class	Likelihood
8	196m N	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site	0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m	7

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
On site	**Stone**
On site	**Stone**
18m SW	Stone
18m S	Stone

Location	Mineral type
21m E	Stone
48m W	Stone
59m S	Stone

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m	1

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

Location	Mineral
305m NW	Fireclay

This data is sourced from Groundsure.

18.12 Coal mining

Records on site	0

Areas which could be affected by past, current or future coal mining.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site	0

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m	0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m	0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

19.5 National karst database

Records within 500m	0

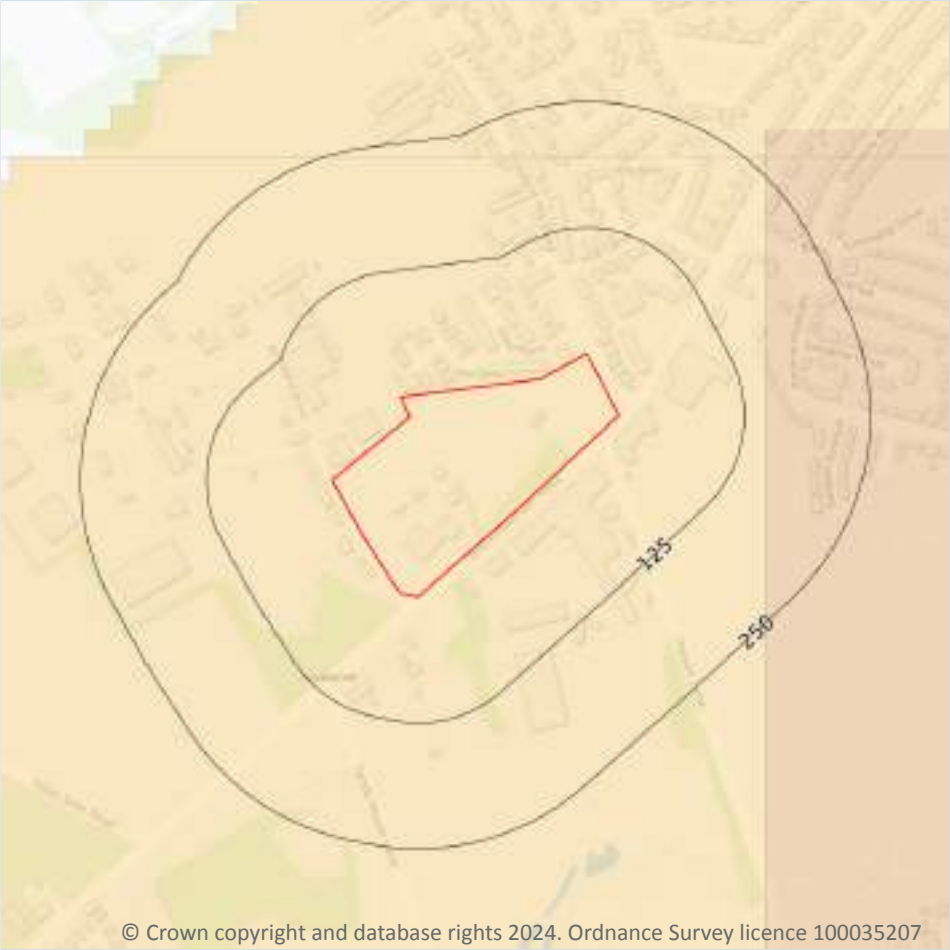
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

20 Radon



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Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

20.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 136 >**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Between 3% and 5%**	**Basic**

This data is sourced from the British Geological Survey and UK Health Security Agency.

21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m	2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**
45m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m	0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects

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Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m	0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m	0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	1

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on **page 139 >**

Location	Land Use	Year of mapping	Mapping scale
115m NE	Railway Sidings	1906	2500

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	0

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m	0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m	0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 ltd.

Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference ↗.

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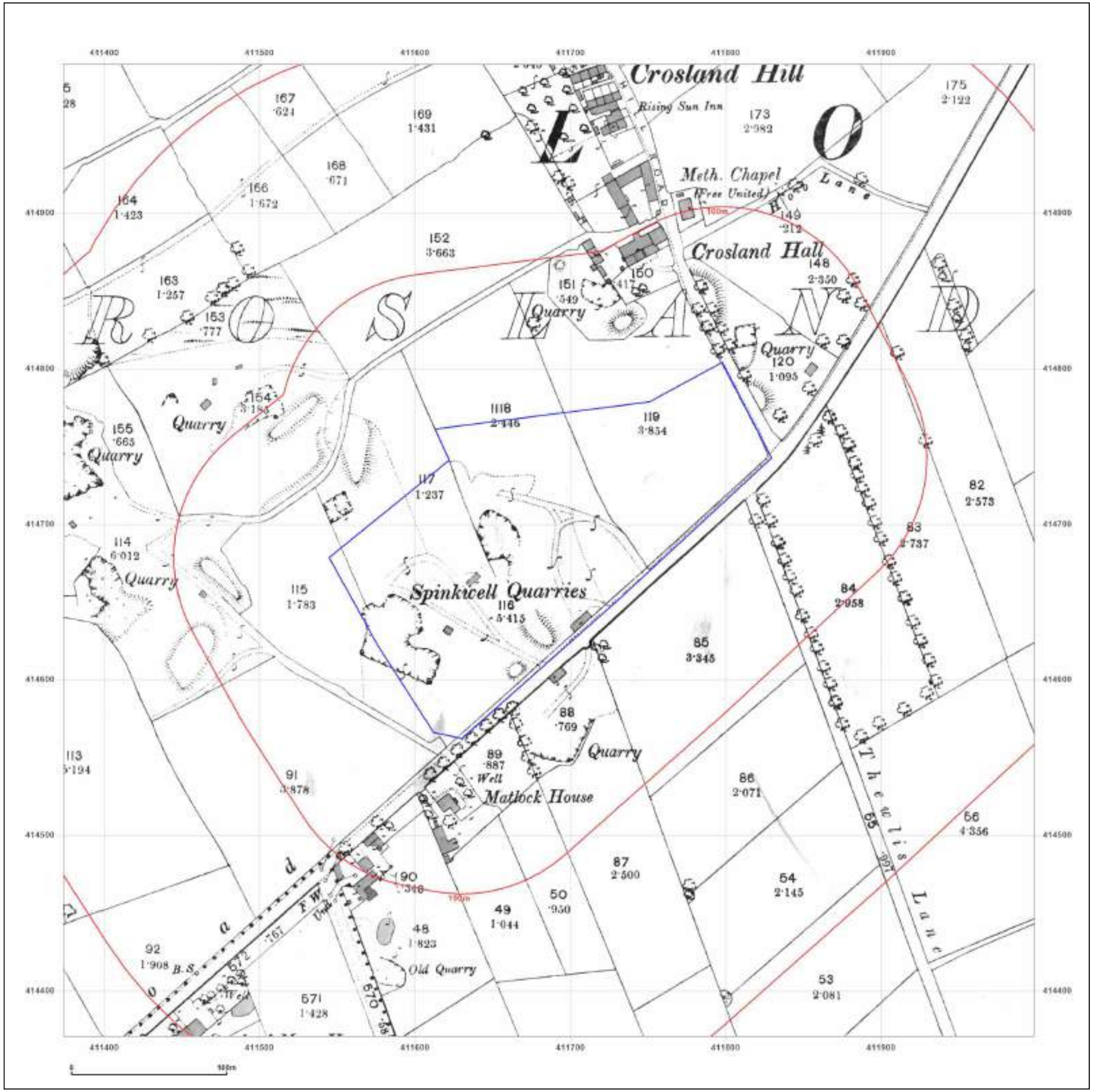

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Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1892**

Scale: 1:2,500

Printed at: 1:2,500

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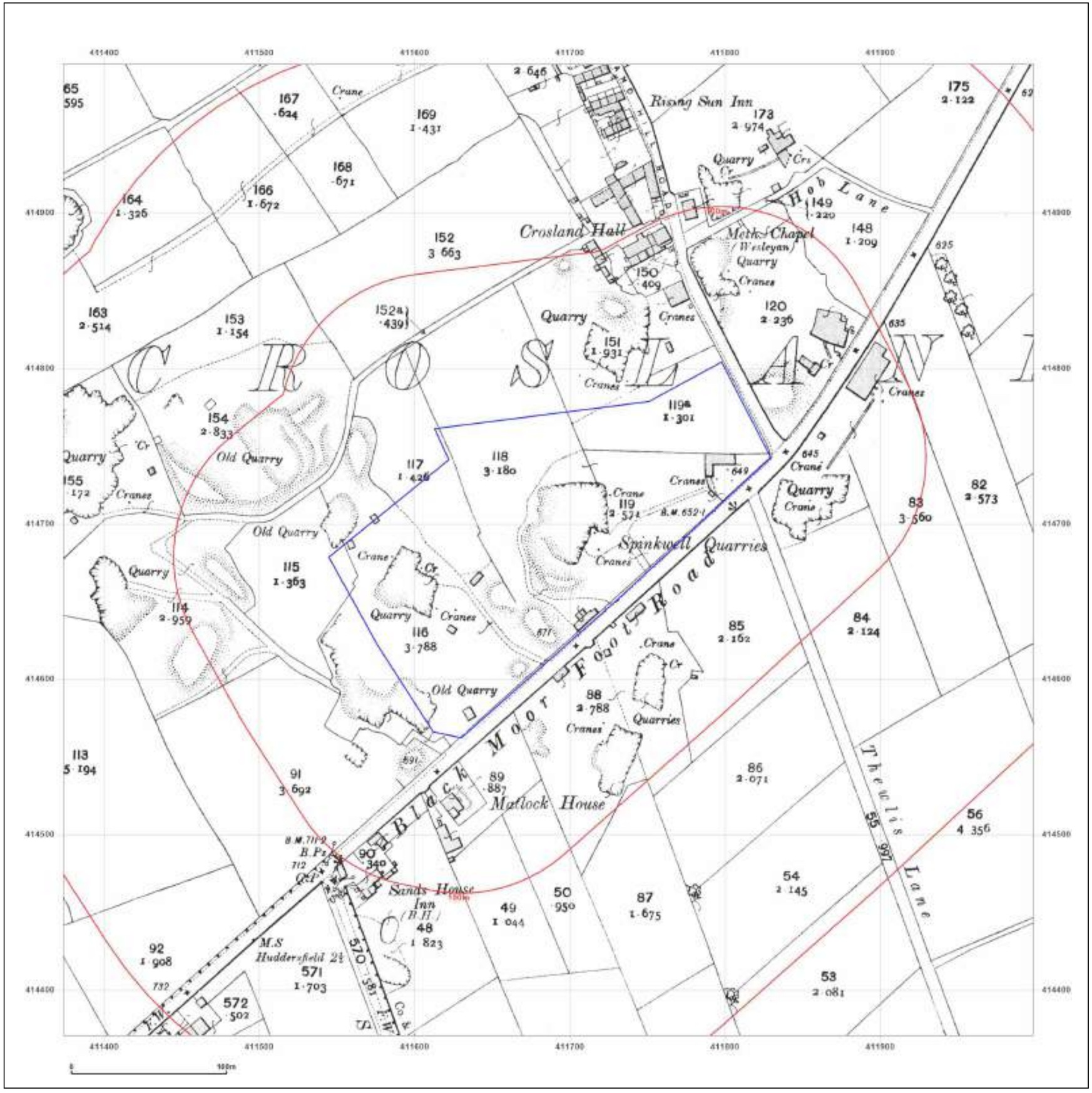

Groundsure INSIGHTS

Site Details:

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HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1906**

Scale: 1:2,500

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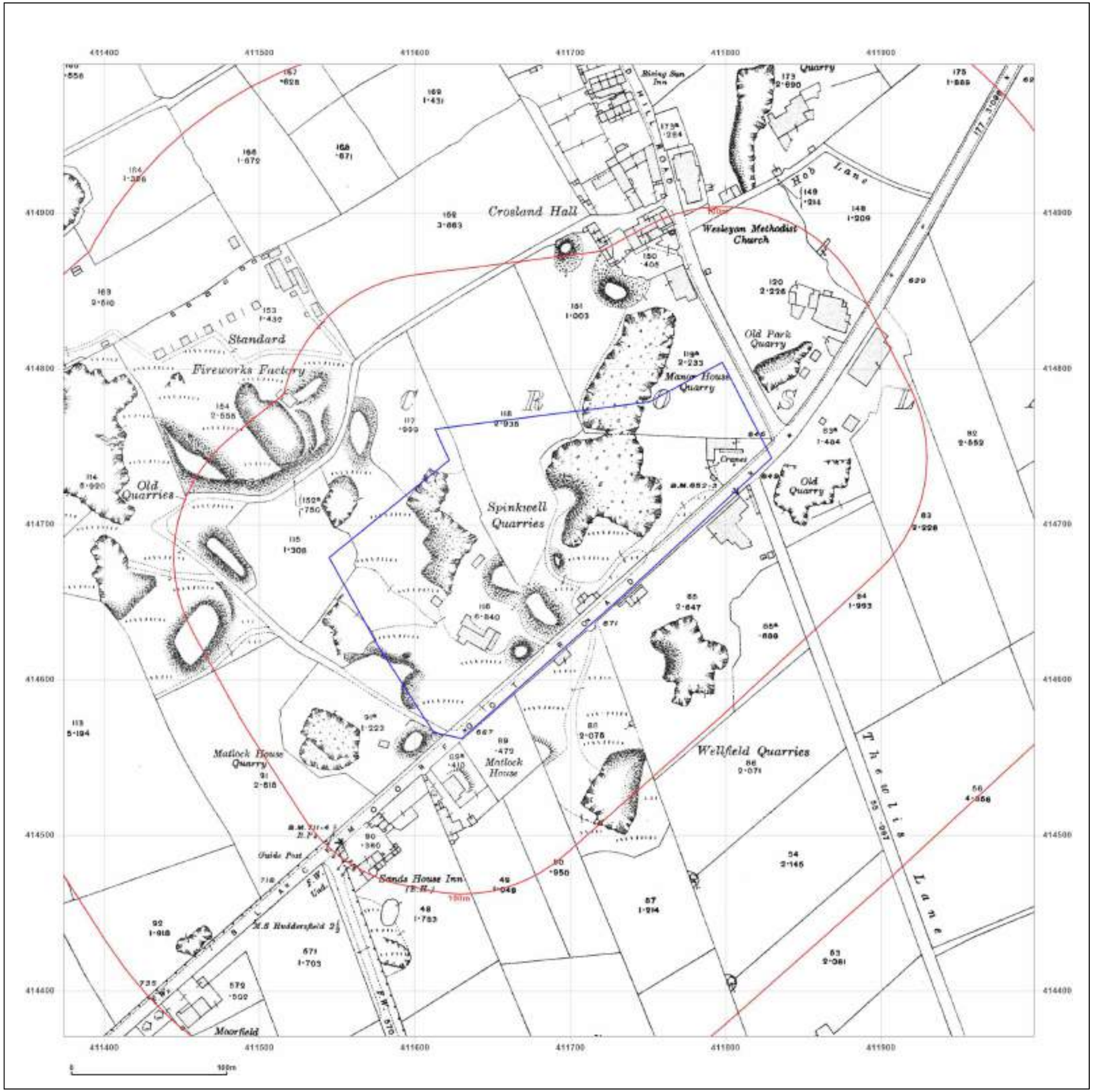

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Site Details:

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Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1913**

Scale: 1:2,500

Printed at: 1:2,500

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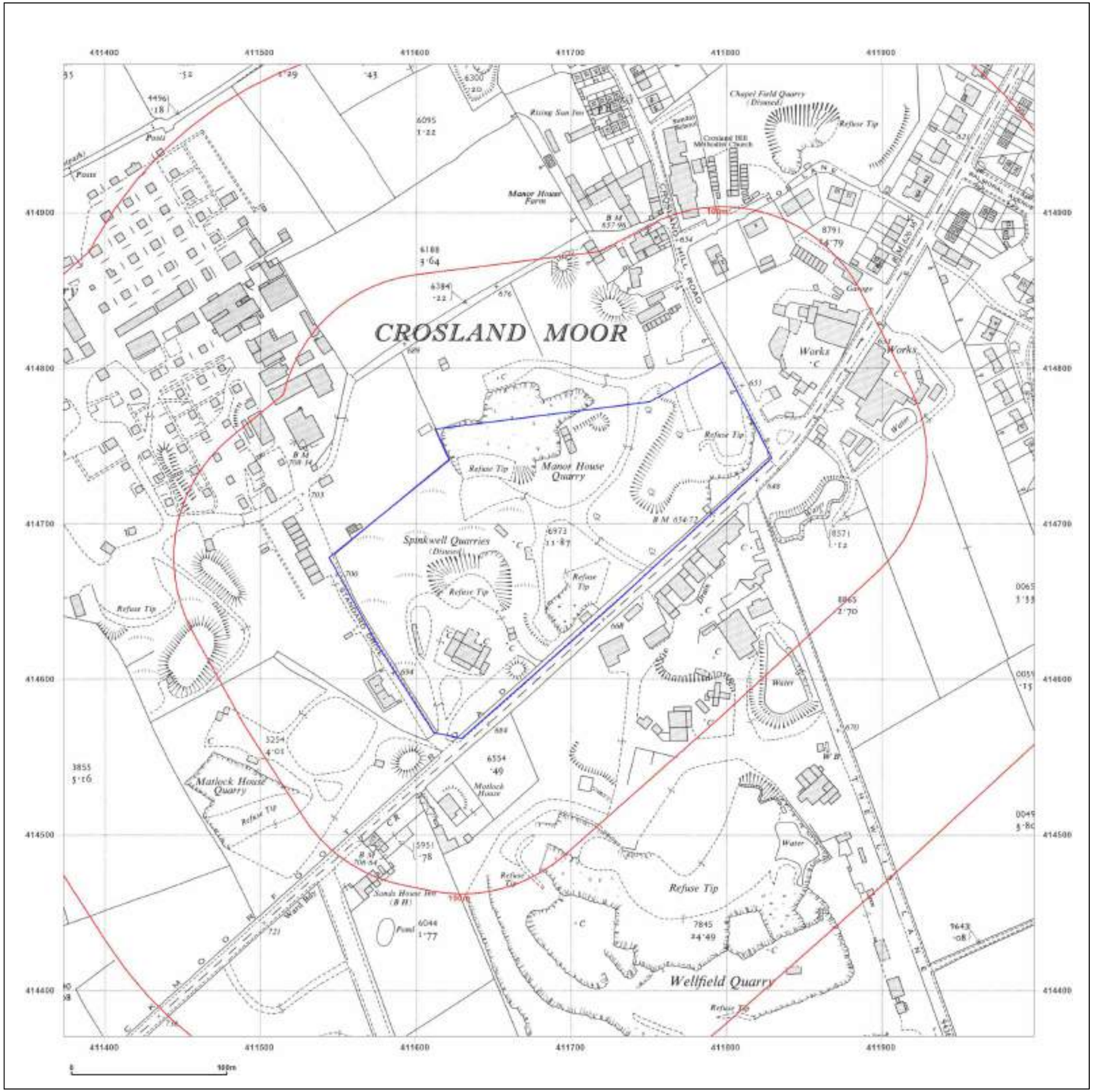

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HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1961**

Scale: 1:2,500

Printed at: 1:2,500

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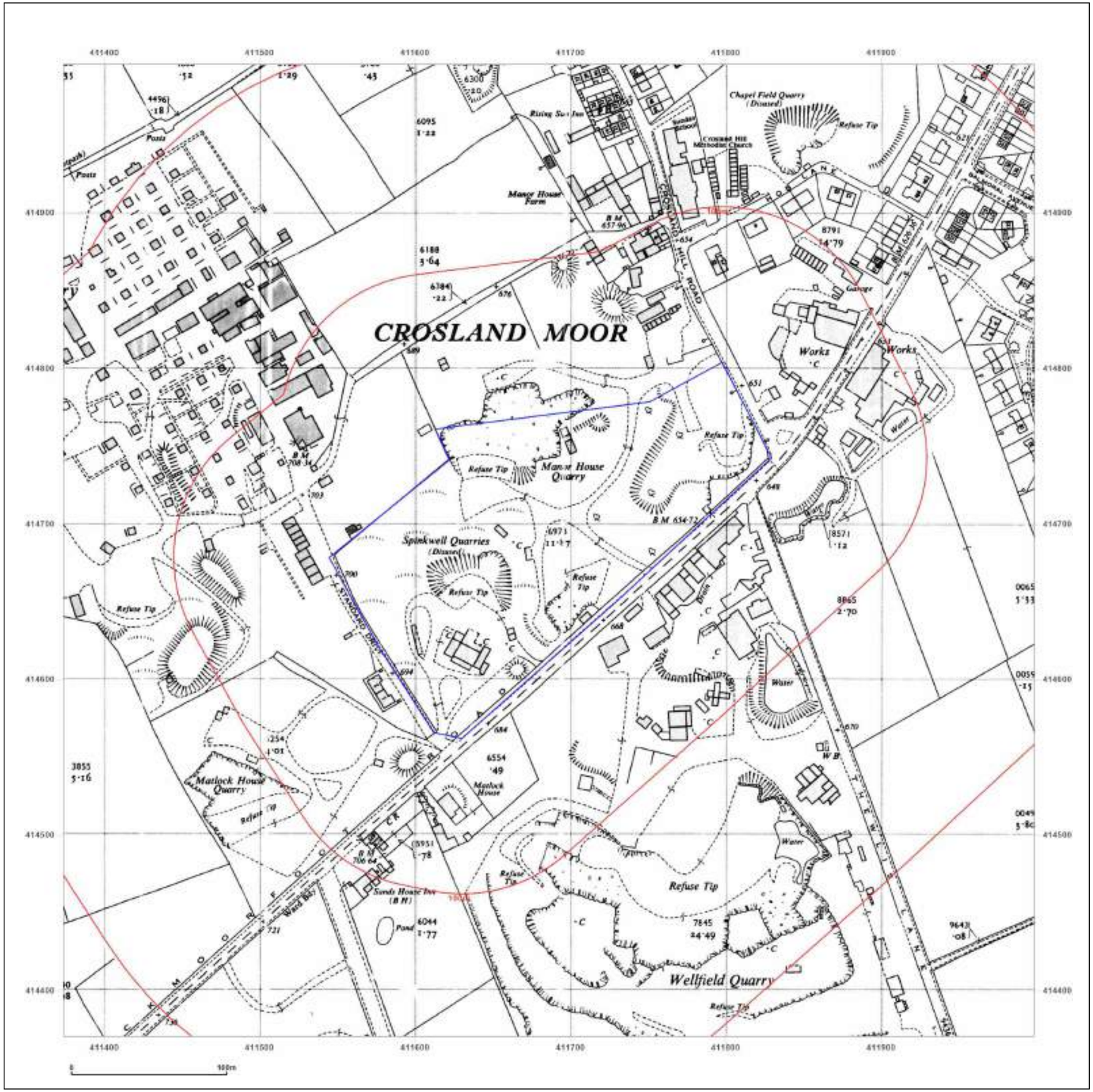

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1963**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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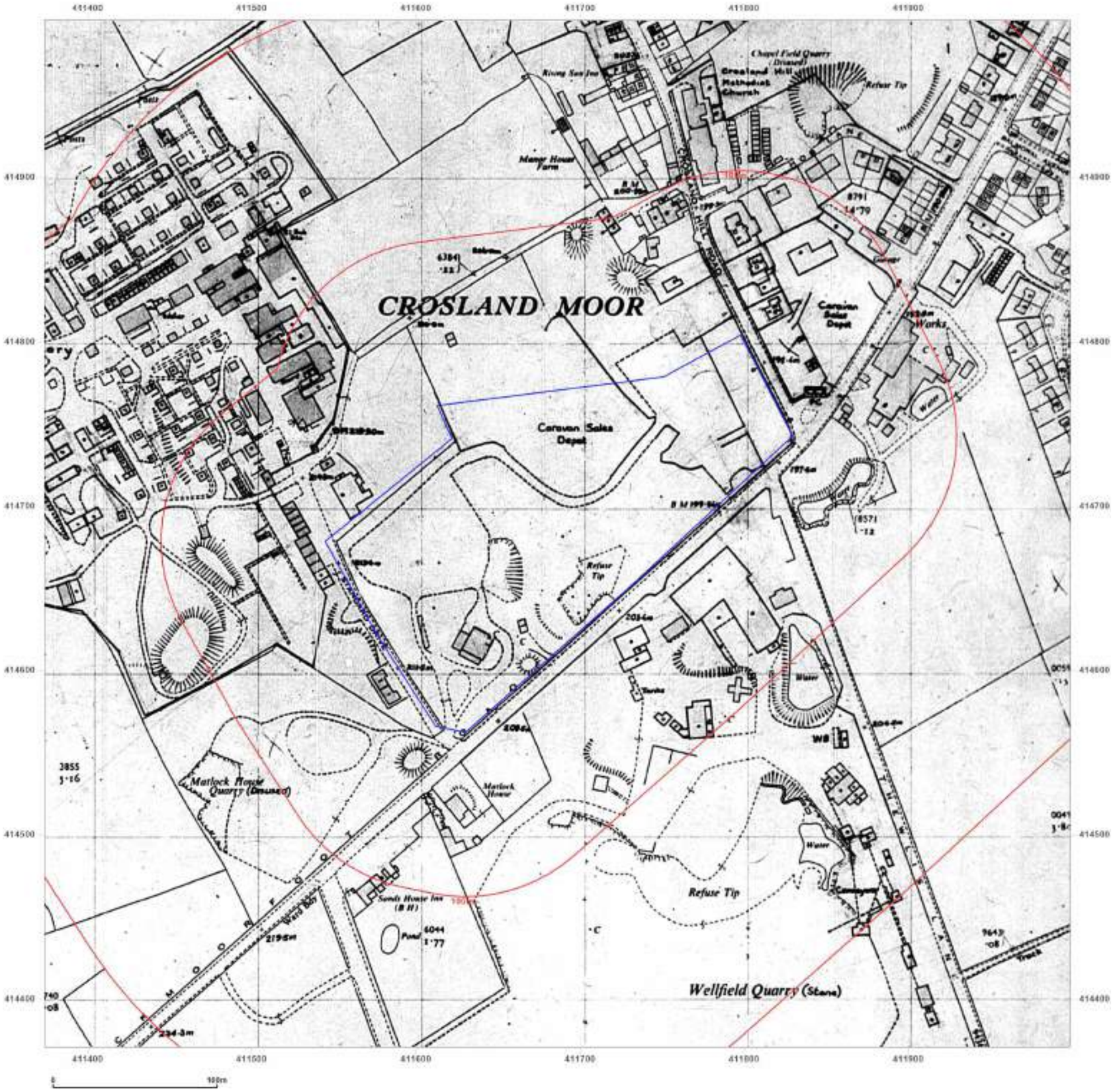

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1982**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1959
Revised 1982
Edition N/A
Copyright 1982
Levelled 1959

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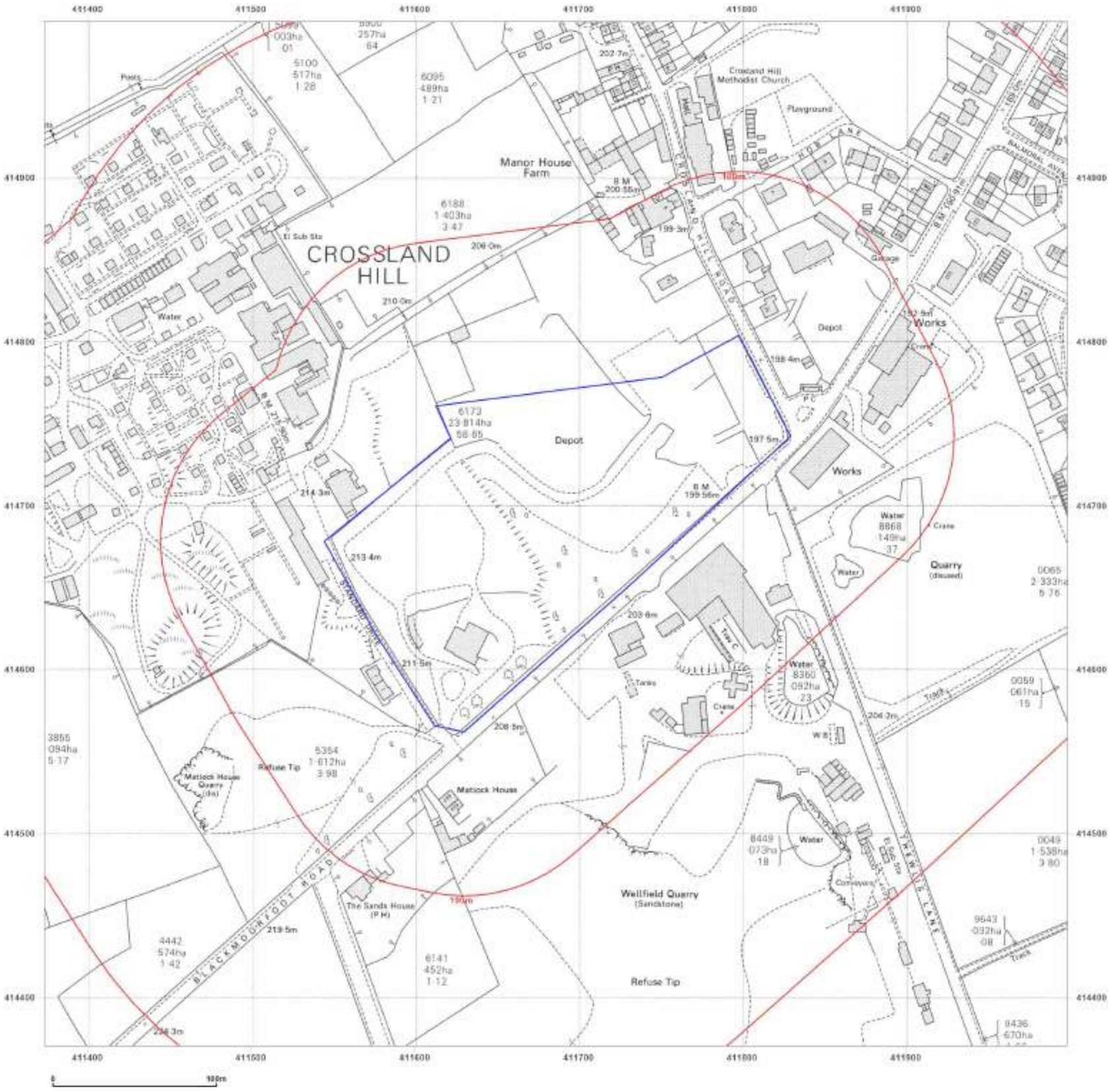

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1982**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1982
Revised 1982
Edition N/A
Copyright 1984
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Site Details:

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CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1982**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1959
Revised 1982
Edition N/A
Copyright 1982
Levelled 1959

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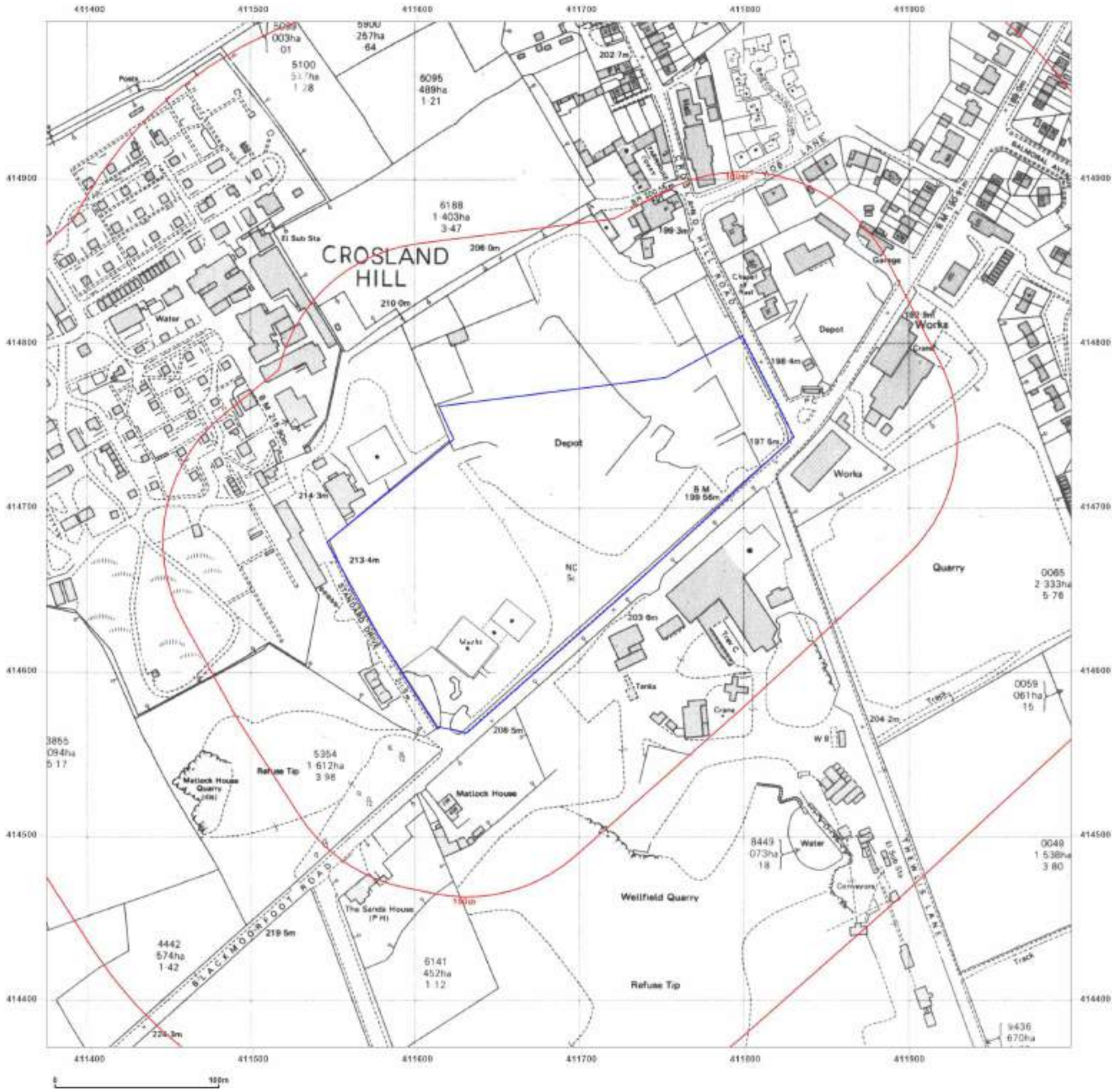

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1992**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1959
Revised 1982
Edition N/A
Copyright 1992
Levelled 1959

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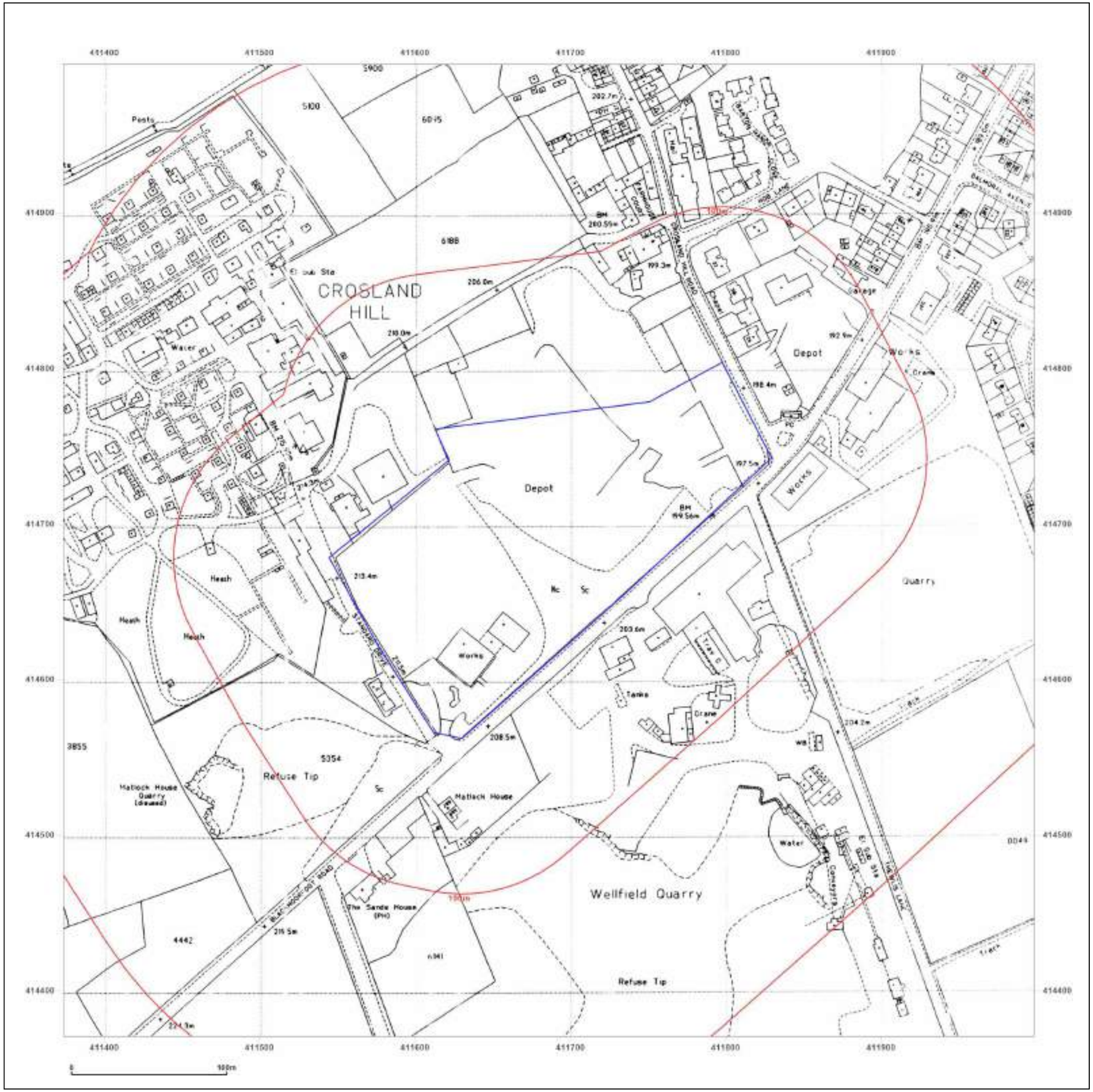

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1993**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
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Levelled N/A

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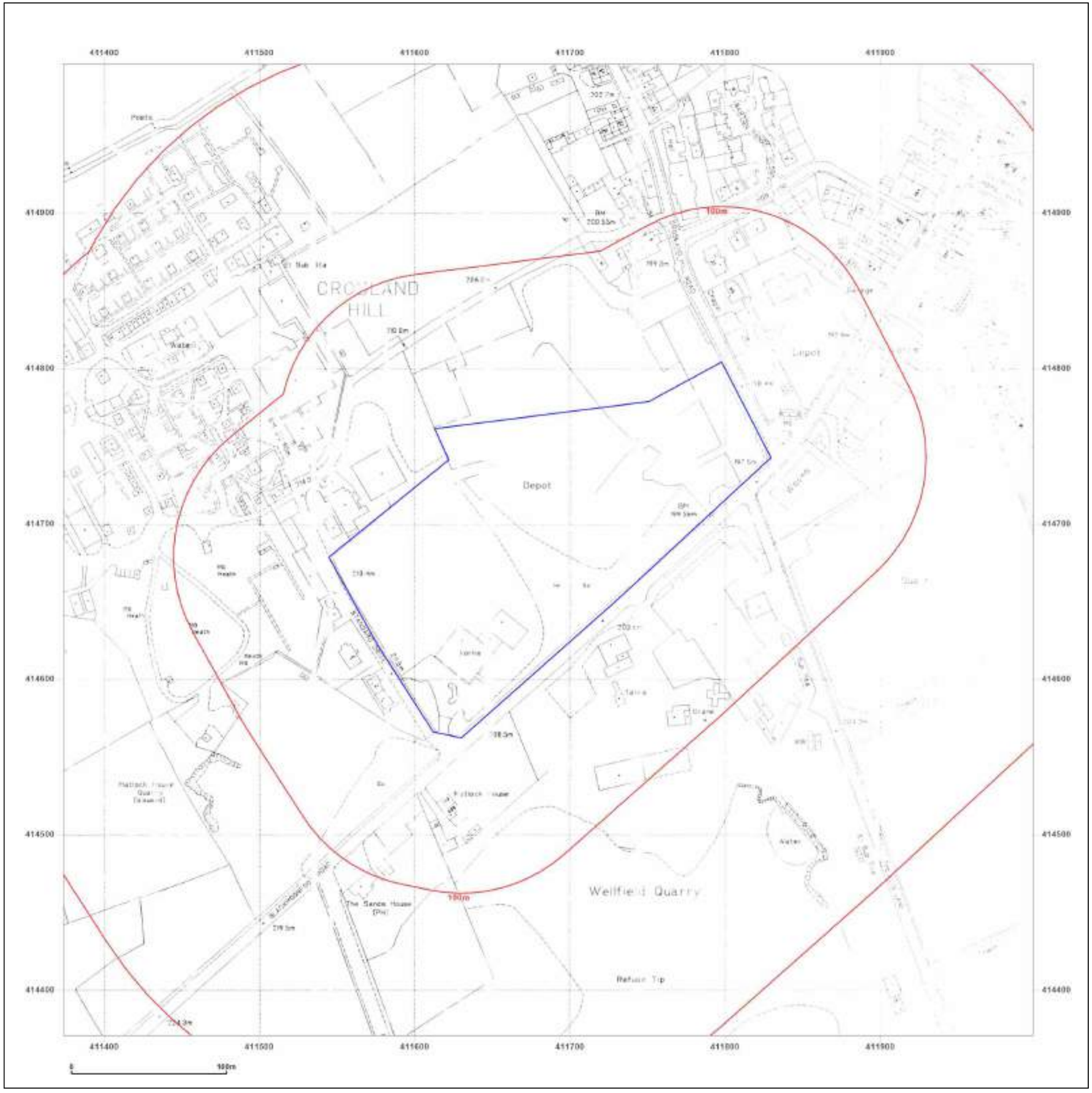

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1995**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1995
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

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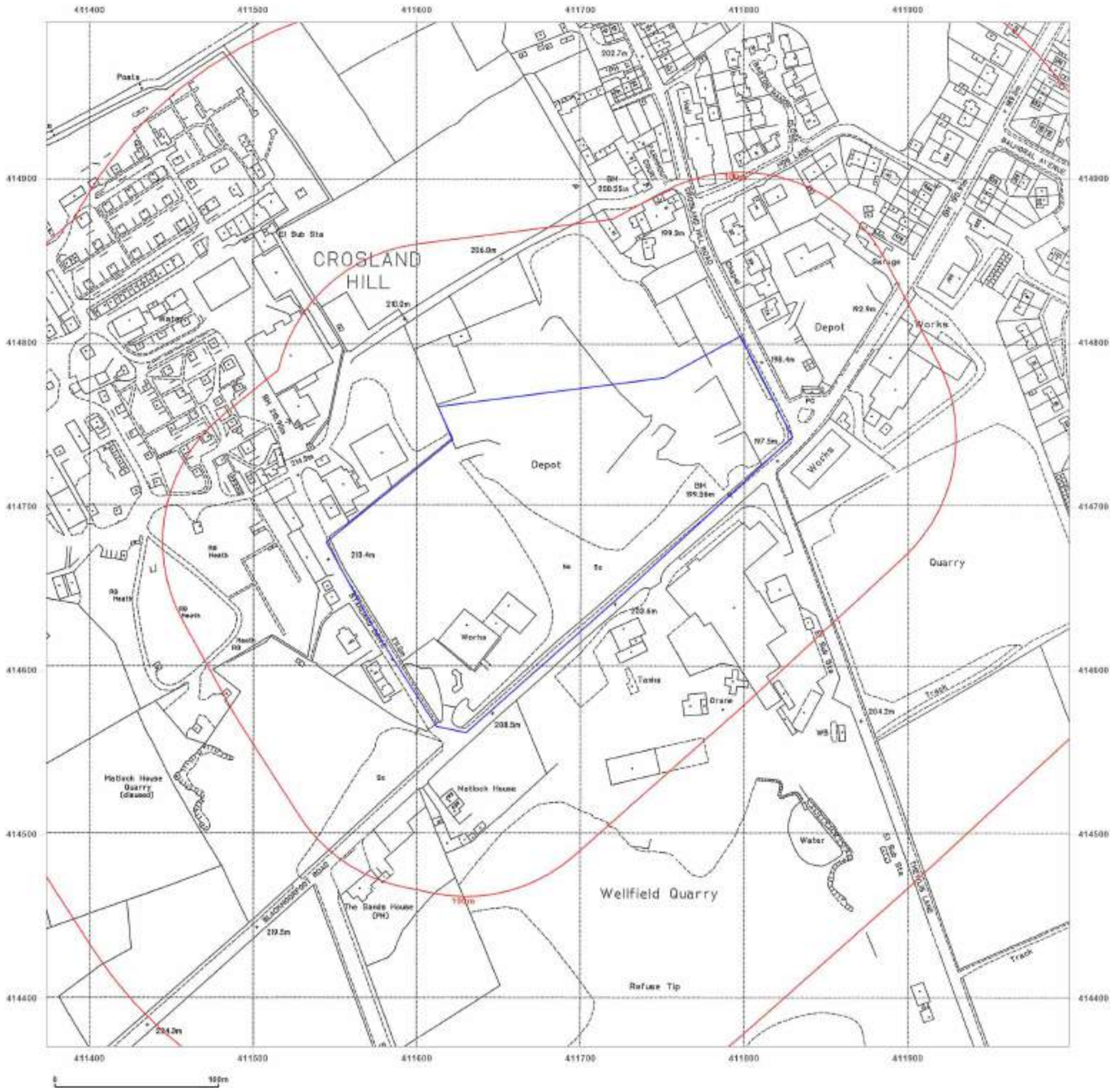

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1995**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed N/A
Revised N/A
Edition N/A
Copyright N/A
Levelled N/A

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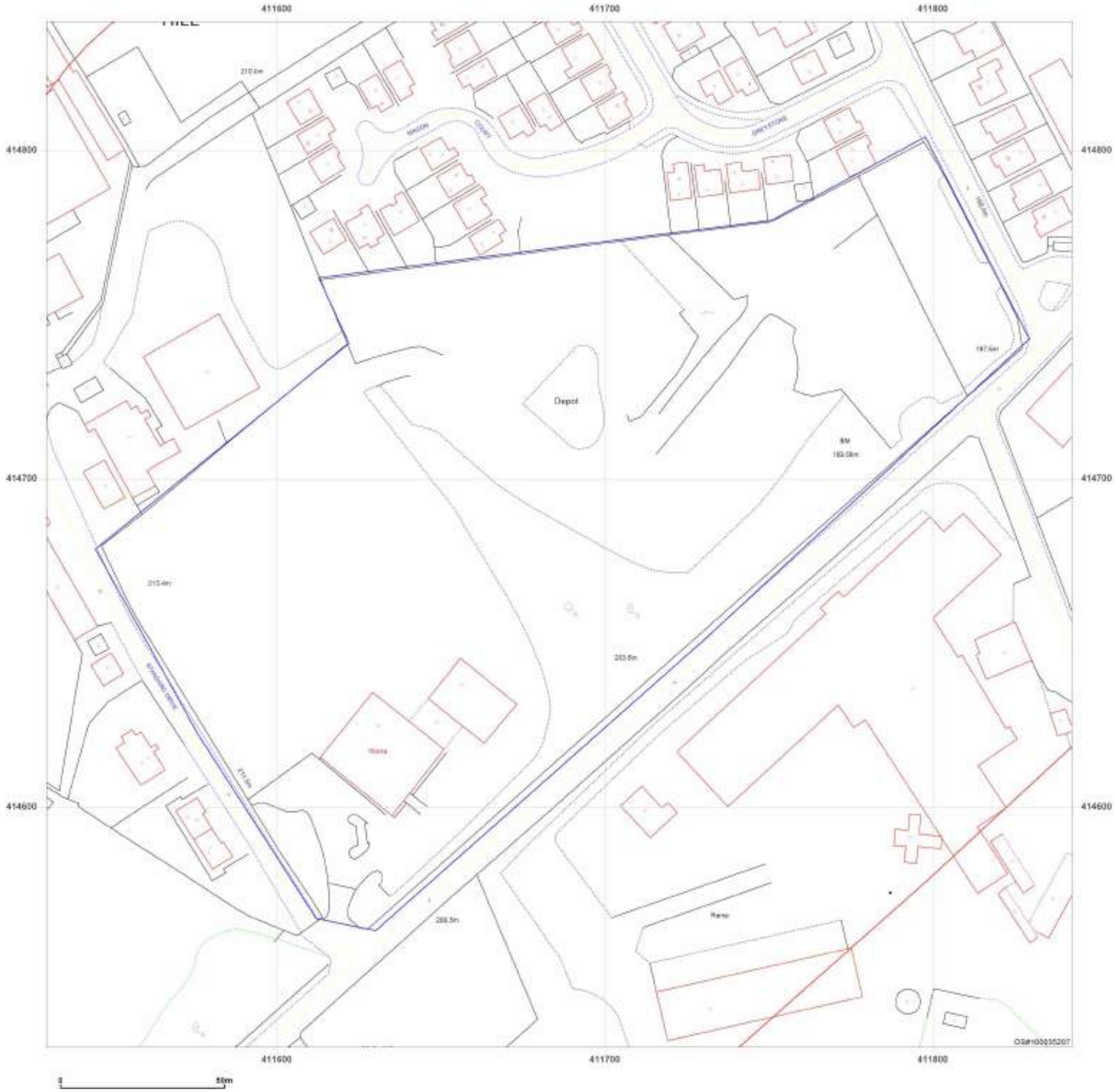

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

N
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2003

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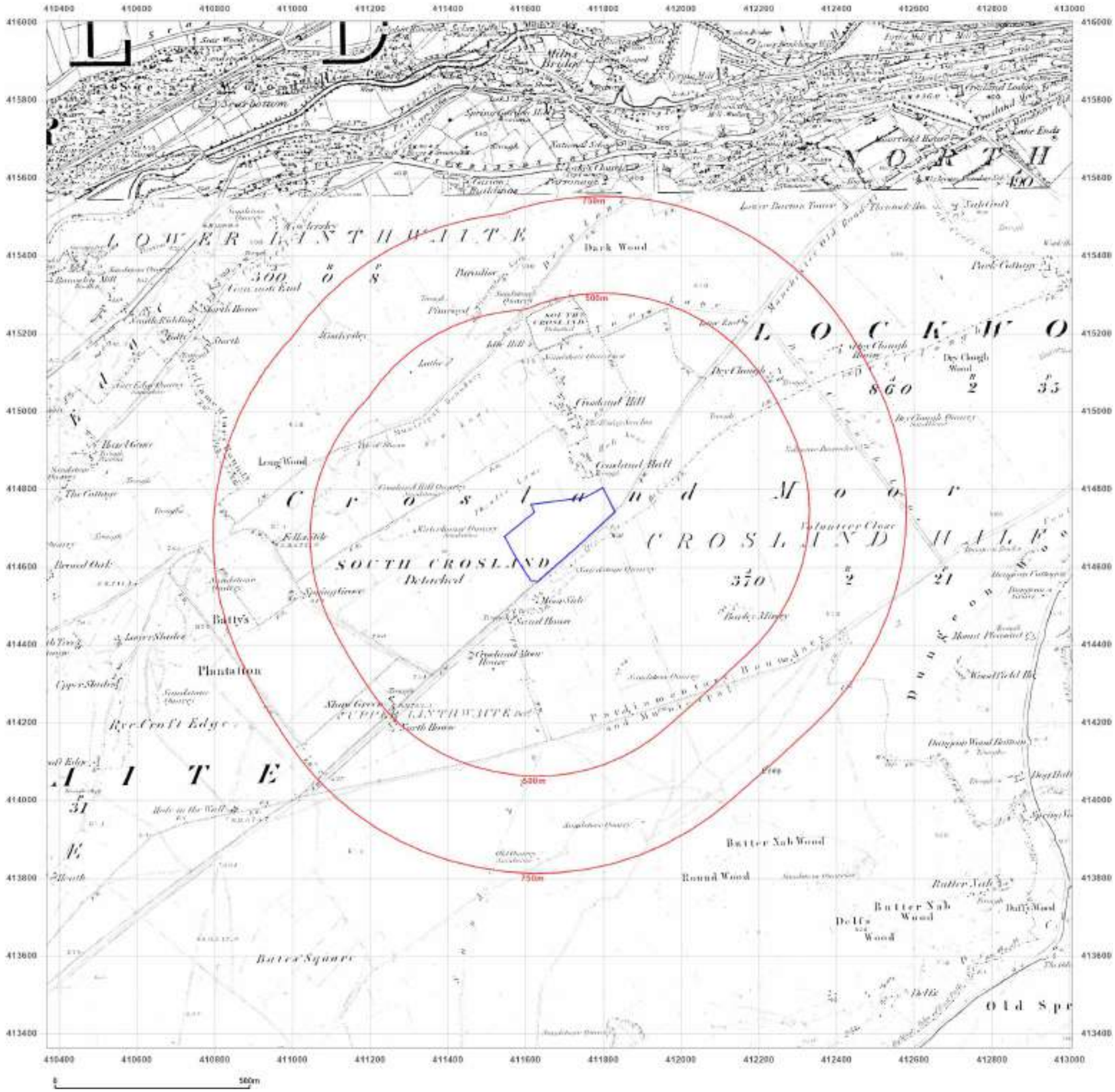

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1854**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1850
Revised N/A
Edition 1854
Copyright N/A
Levelled 1853

Surveyed 1851
Revised N/A
Edition 1854
Copyright N/A
Levelled N/A

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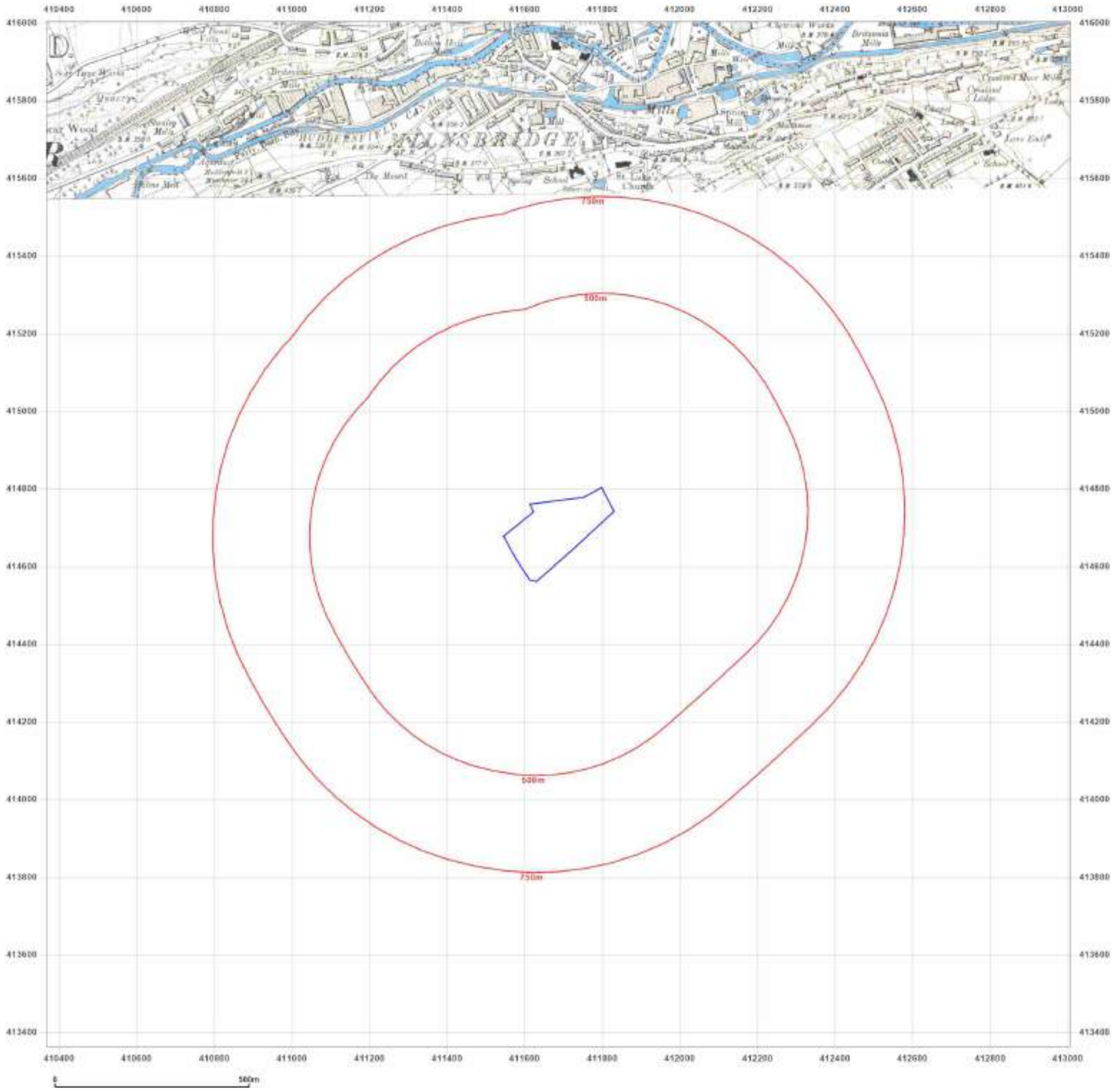

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1890-1891**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition N/A
Copyright N/A
Levelled N/A

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Map legend available at:
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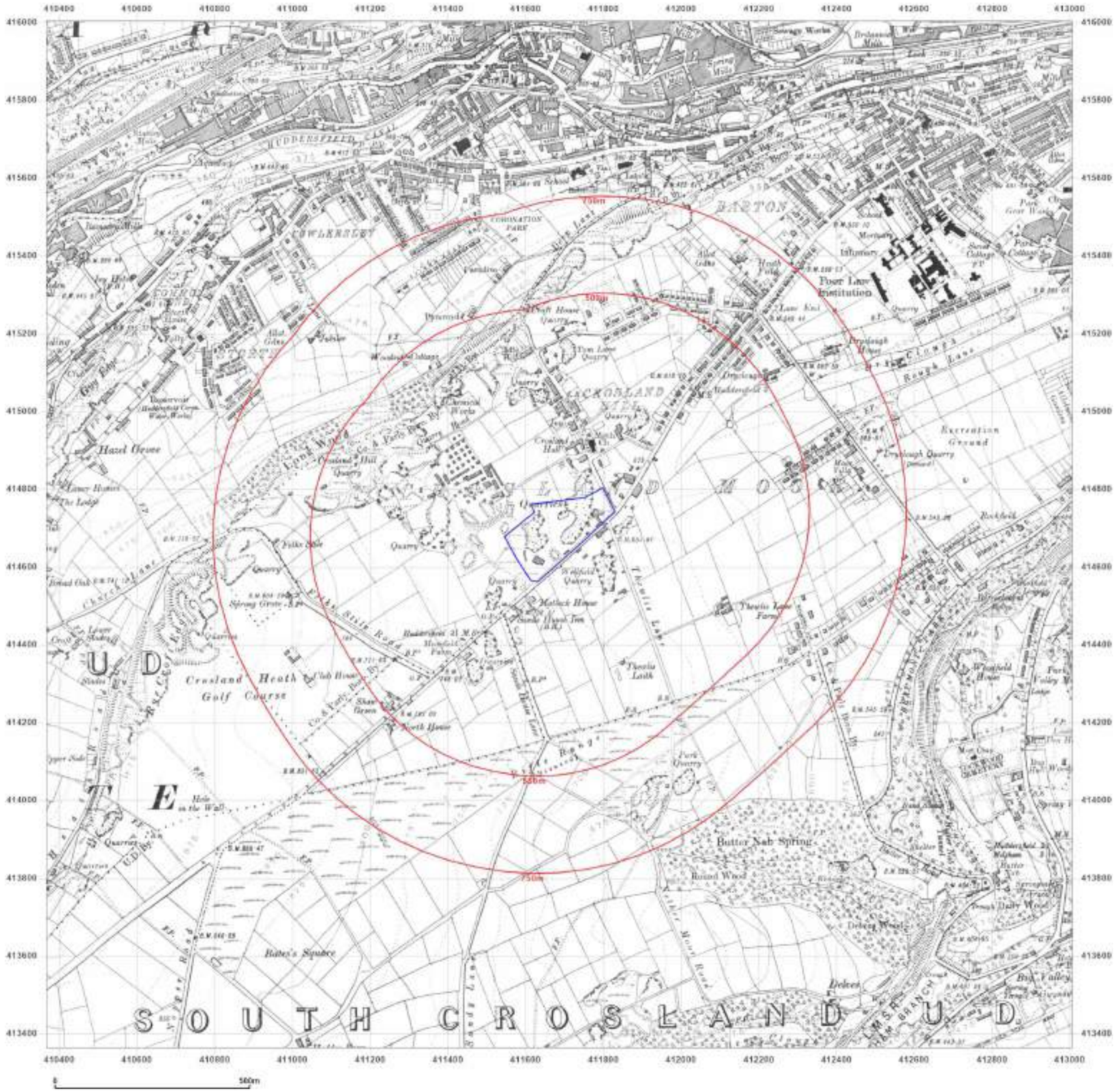
L O C K W O O D
S O U T H C R O S L A N D
BARTON
Crosland Moor Workhouse
Crosland Hill
Lane End
Butter Nab Spring
Butter Nab
Round Wood
Delves
Hazel Grove
Common End
Coulersley
Guy Edge
Long Work
Hole in the Wall
Babes's Square
Moorleigh
Thorncliffe Lane Farm
Thorncliffe Lath
St. Barnabas's Church
Hospitals
Nab Croft
Park College
Woodfield House
Park Valley
Big Valley
Lower Dog Hall
Dog Hall
Dog Hill Mills
Shelleyfield Mills
Butter Nab Road
Moor Road
Sandy Lane
Hillary Mount
Hillary Mount Road
Thorncliffe Road
Thorncliffe Lane
Crosland Moor Road
Crosland Moor Lane
Dry Clough Quarry
Dry Clough Heavy
Rough Lane
Moor Villa
Moor View
Barton Villas
Heath Field
Heath Cottage
Mill Cliffe
Old Quarry
Quarries
Spring Grove
Shaw Green
Barkerds Farm
Crosland Moor House
Mathuck House
Thunder House Inn
Woodhouse College
Reservoir
Lower Hanson
The Lodge
Bank Wood
Bank Wood Quarry
Bank Wood Cottages
Bank Wood Farm
Bank Wood Lane
Bank Wood Road
Bank Wood Quarries
Bank Wood Cottage



Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1930**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1849
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1930
Edition N/A
Copyright N/A
Levelled N/A

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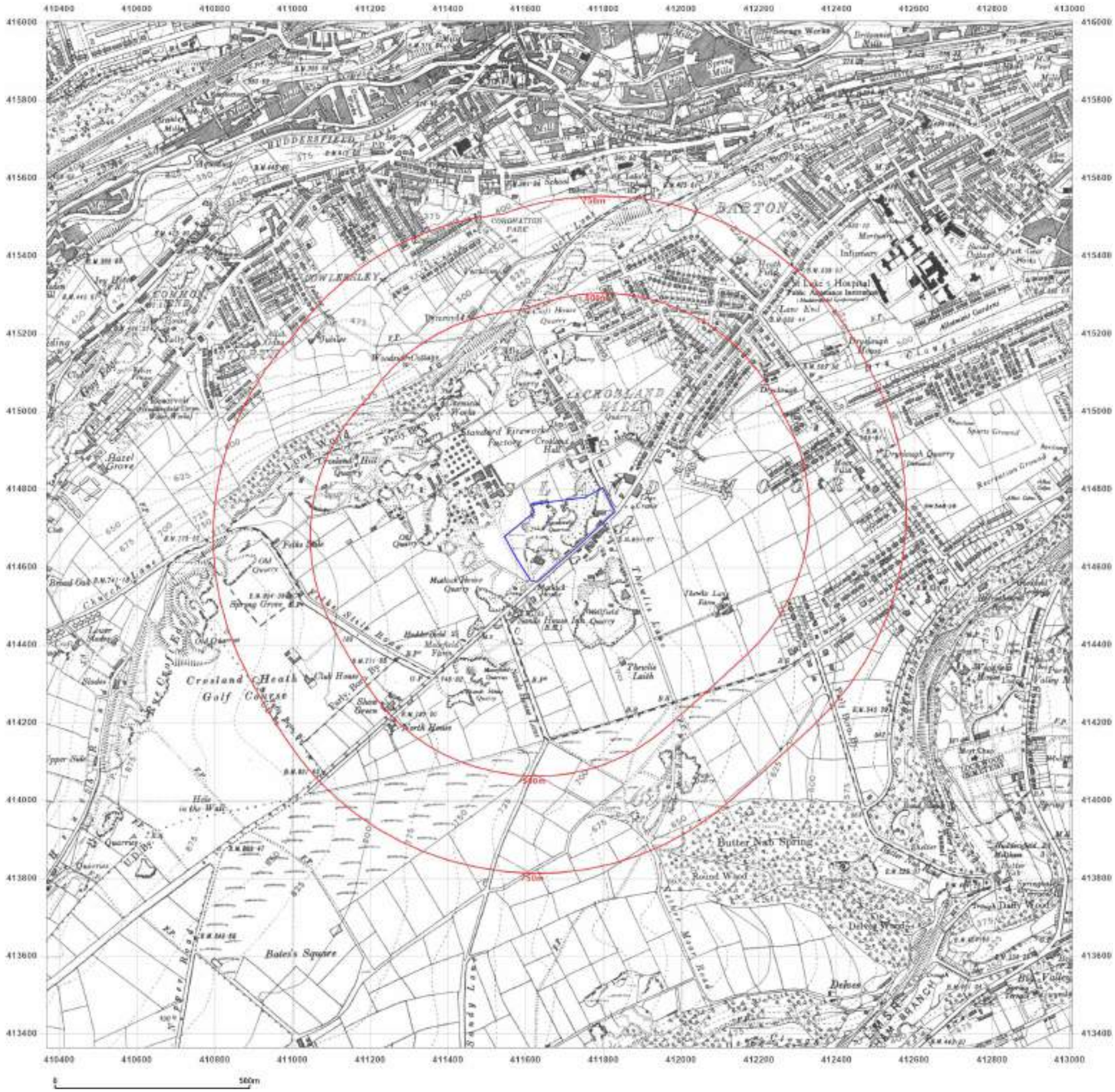

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: County Series

Map date: **1948**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1849
Revised 1948
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1851
Revised 1948
Edition N/A
Copyright N/A
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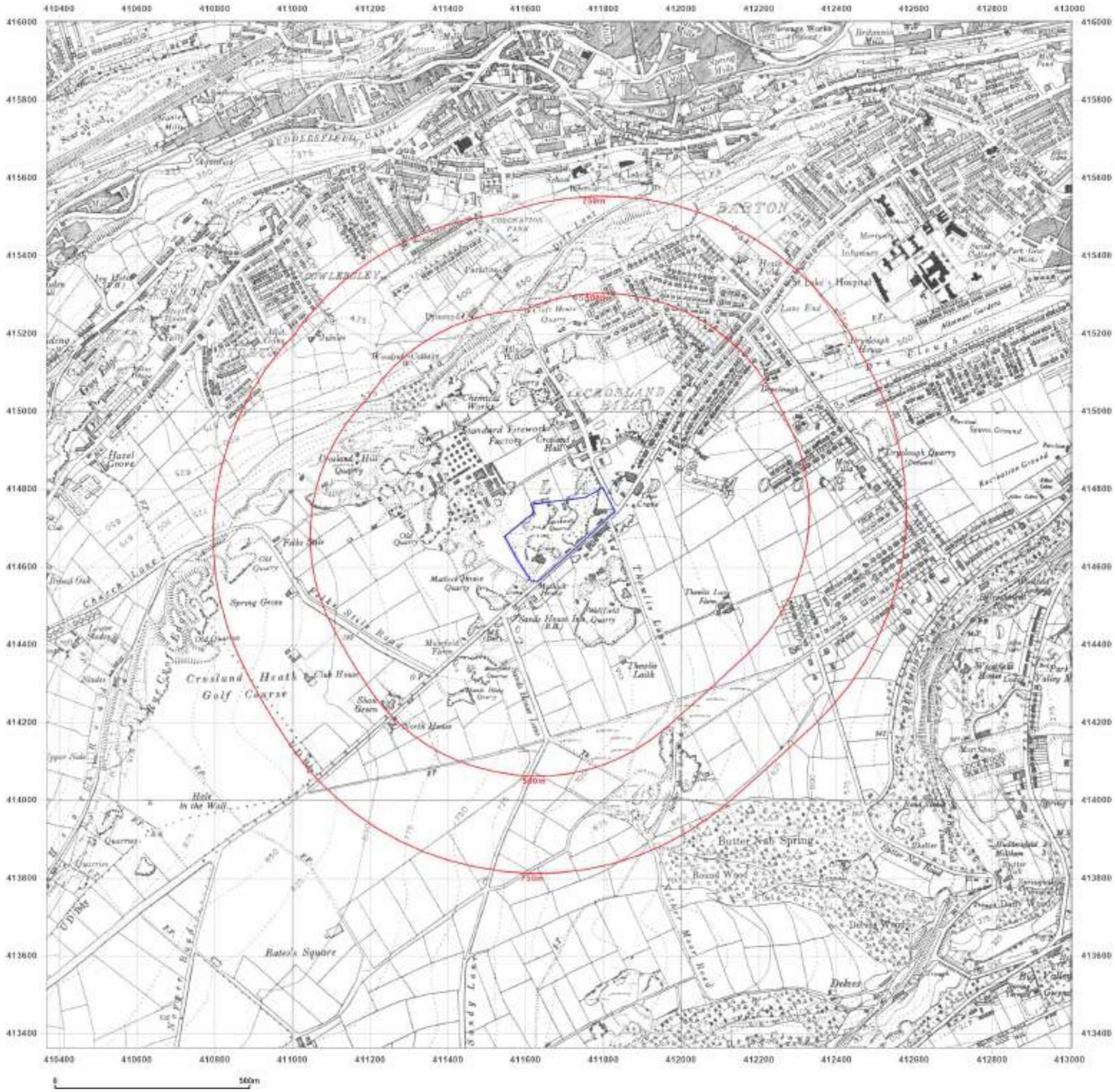
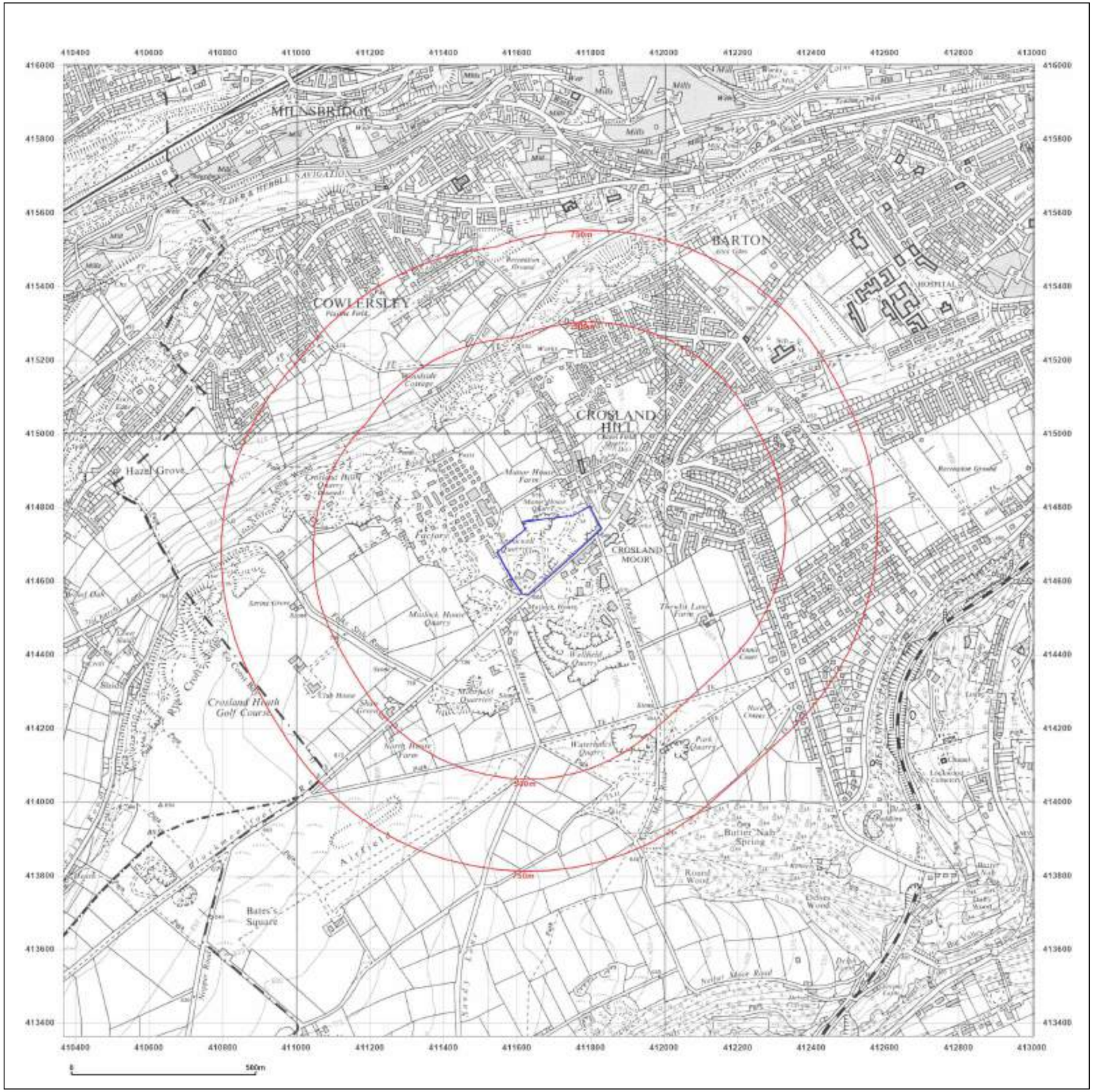

750m
500m
250m
BARTON
CROSLAND HILL
Crosland Heath Golf Course
Butter Nab Spring
Rate's Square
Hole in the Wall
Standard Fireworks Factory
Crosland Hall
Dropsough Quarry
Recreation Ground
Sandy Lane
Thongsbridge Lane
Dolves
Hazel Grove
Spring Grove
Church Lane
Falk Stile Road
Mill Lane
Crosland Moor Road
Huddersfield Canal
Infirmary
Hospital
Cemetery
Sewage Works
Chemical Works
Quarry
Old Quarry
Club House
Sandy House Farm
Thongsbridge Farm
Thongsbridge Lodge
Lane End
Alternative Gardens
Park Valley
Mill Pond
Upper Stake
Lower Stake
Grey Edge
Tribunal Oak
Hill Top
Cross Hill
Crosland Hill Quarry
Mallard Farm
Mallard House
Sandy House Farm
Sandy House Farm Quarry
Mill Field
Shaw Green
North Hanks
Hill Top Farm
Hill Top Quarry
Mill Lane Quarry
Dropsough House
Dropsough Quarry
Dropsough Farm
Bound Wood
Dolves Wood
Dolves Farm
Butter Nab Road
Crosland Moor Road
Sandy Lane
Thongsbridge Lane
Falk Stile Road
Church Lane
Mill Lane
Huddersfield Canal
Crosland Hill Road
Crosland Moor Road
Butter Nab Road
Rate's Square
Hole in the Wall
Quarries
Upper Stake
Lower Stake
Grey Edge
Hill Top
Cross Hill
Hazel Grove
Spring Grove
Tribunal Oak
Club House
Shaw Green
North Hanks
Mill Field
Mallard Farm
Mallard House
Sandy House Farm
Sandy House Farm Quarry
Thongsbridge Farm
Thongsbridge Lodge
Thongsbridge Lath
Lane End
Alternative Gardens
Park Valley
Mill Pond
Infirmary
Hospital
Cemetery
Sewage Works
Chemical Works
Quarry
Old Quarry
Club House



Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: Provisional

Map date: **1966-1969**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
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Surveyed 1966
Revised 1966
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1969
Revised 1969
Edition N/A
Copyright N/A
Levelled N/A

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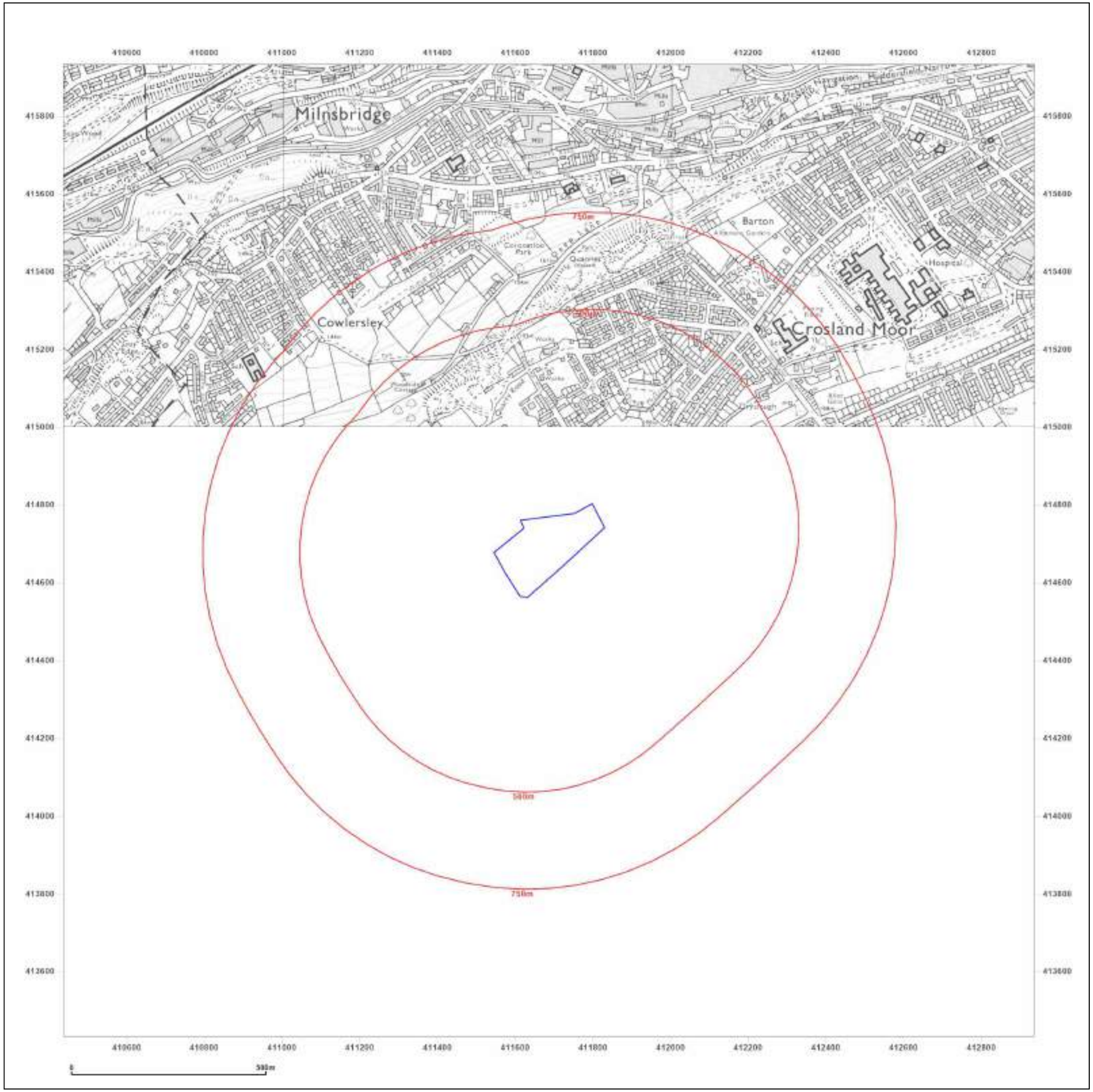

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1975**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

Surveyed 1974
Revised 1975
Edition N/A
Copyright N/A
Levelled N/A

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Groundsure INSIGHTS

Site Details:

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CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **1984-1985**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
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Surveyed 1984
Revised 1985
Edition N/A
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Levelled N/A

Surveyed 1983
Revised 1984
Edition N/A
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Levelled N/A

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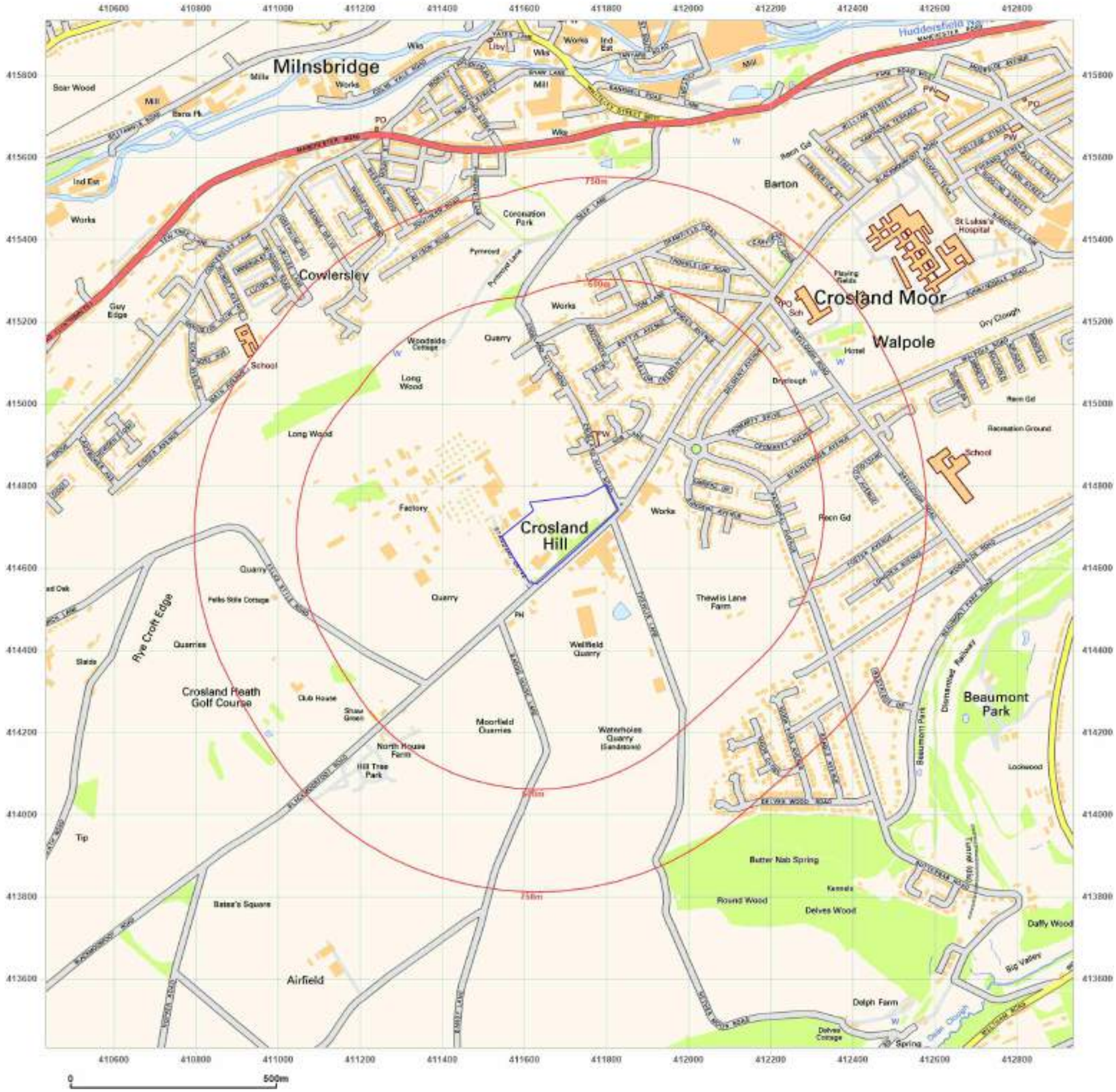

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N
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2001

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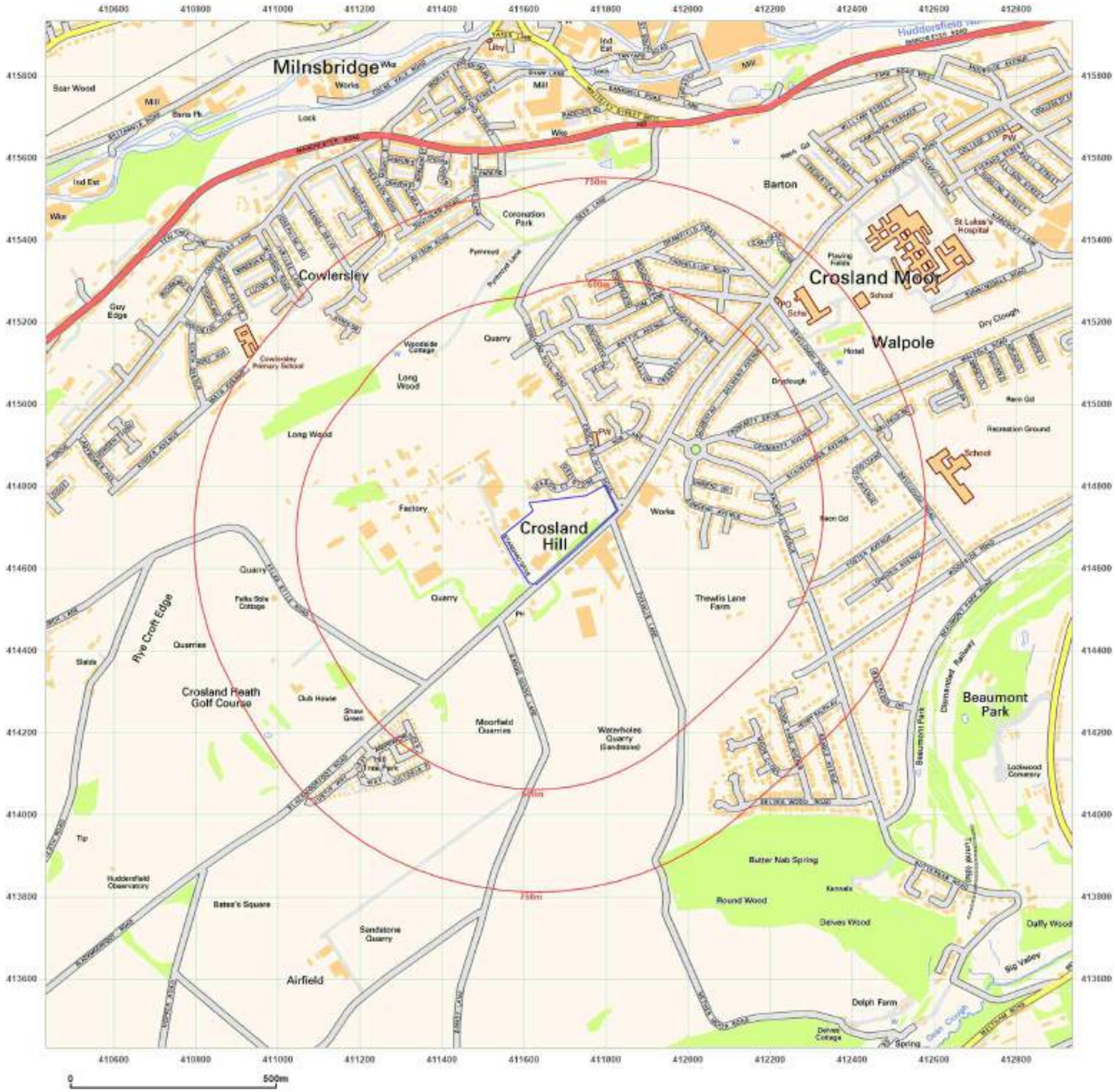

Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2010

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Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com

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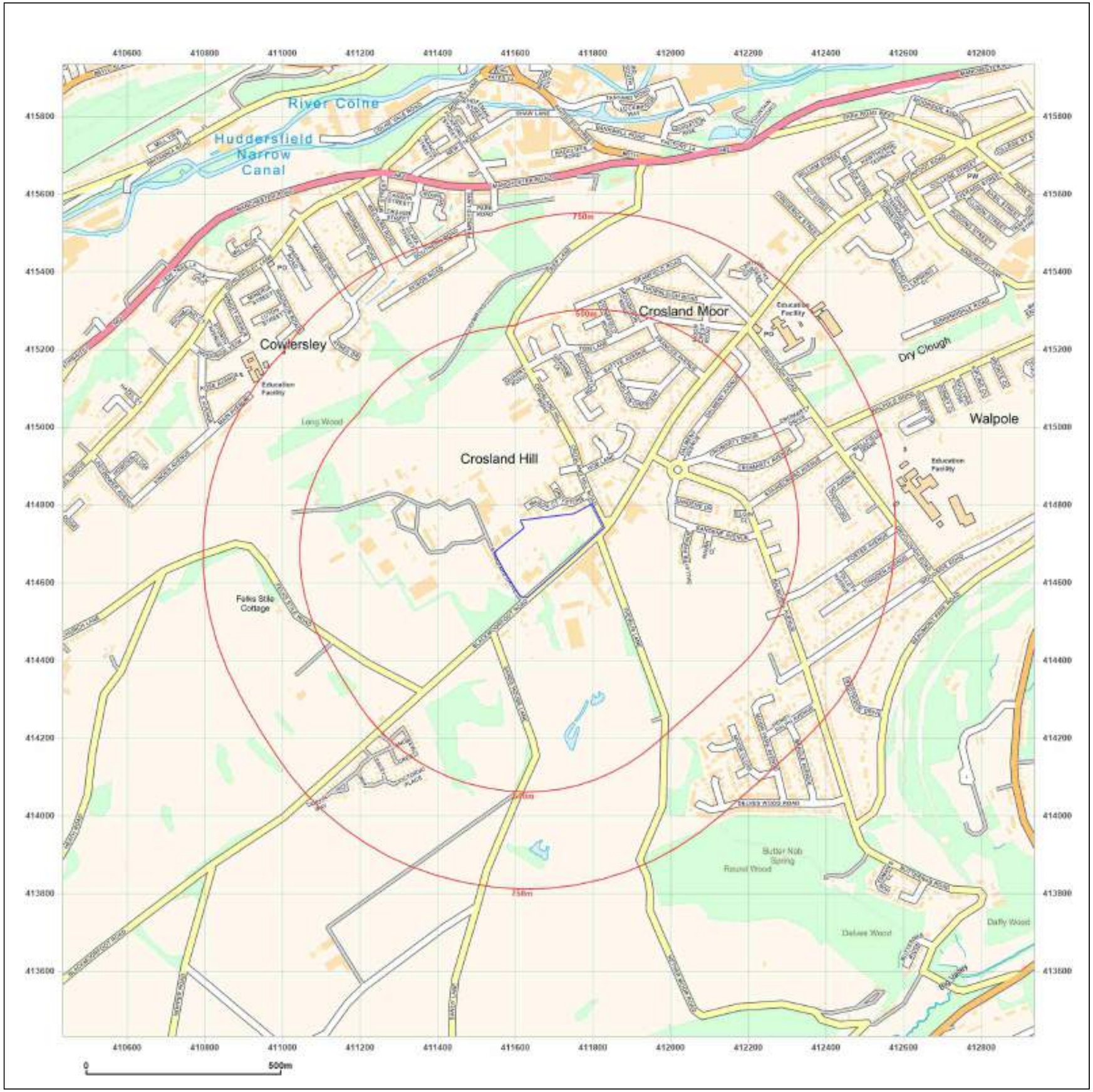
Production date: 26 March 2024

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

18, CROSLAND HILL ROAD,
CROSLAND MOOR,
HUDDERSFIELD, KIRKLEES,
HD4 5NU

Client Ref: PO4440
Report Ref: GS-M1W-1GE-VNF-4K6
Grid Ref: 411686, 414683

Map Name: National Grid

Map date: **2024**

Scale: 1:10,000

Printed at: 1:10,000

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Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

Appendix D

Exploratory Hole Records

INFORMATION GENERALLY RELATING TO ALL EXPLORATORY HOLE RECORDS

GENERAL

Borehole/Trial Pit No
The exploratory hole identity number used throughout the report.

Site
The ground investigation project name.

Client
Client's name responsible for funding the ground investigation project.

Ground Level and Location
The precise ground level in meters above Ordnance Datum at the exploratory hole location from which the reduced level for each stratigraphic boundary is calculated. The exploratory hole position is given as either national grid-coordinates or local grid as specified.

ABBREVIATIONS

Samples

B Bulk disturbed sample generally representative of the soil type for cohesive and fine granular soils.

BRE Sample taken for electrochemical testing

C Core soil samples

CEF CEFAS Sample

D Small disturbed tub sample normally taken at intermediate depth between other sampling or testing operations. The sample is stored in an airtight container.

ES Sample of potentially contaminated materials.

P Piston Sample

PF An attempted but failed piston sample

U 100mm diameter undisturbed thick-walled sample (OS-TK/W)

UT 100mm diameter undisturbed thin walled sample (OS-T/W)

UF/UTF An attempted but failed 100mm undisturbed sample.

W Water sample.

EW Water sample for contamination testing

In-situ Testing

CBR California Bearing Ratio mould sample or test.

SPT Standard Penetration Test (SPT) using the split barrel sampler (S) or solid cone (C). The corresponding 'N' value is given in the test result column.

SWPen Self-Weight Penetration

PID On Site Volatile Headspace Testing by Photo Ionisation Detector

pp Pocket Penetrometer, report unit: kPa

HVP/HVR Hand Shear Vane test

Rock Quality and Core Recovery

TCR Total core recovery - The length of the recovered core expressed as a percentage of the length of core run.

SCR Solid Core Recovery - The sum length of all core pieces (measured along the centre of the core), expressed as a percentage of thelength core run.

RQD Rock Quality Designation- The sum length of all core pieces that are 100mm or longer (measured along the centre of the core), expressed as a percentage of the length of core run.

FI Fracture Index- The number of fractures per 1000mm length of solid core.

NI Non-intact- The material recovered in a non-intact state.

NR No recovery from the core run.

AZCL Assessed Zone of Core Loss.

NA Not Applicable

Cobble Content

Low <10%, medium 10 – 20%, high >20%

Exploratory Hole Log Legend

BOREHOLE LEGEND:

TOPSOIL

MADE GROUND

SILT

CLAY

SAND

GRAVEL

PEAT

MUDSTONE

SILTSTONE

SANDSTONE

LIMESTONE

COAL

CHALK

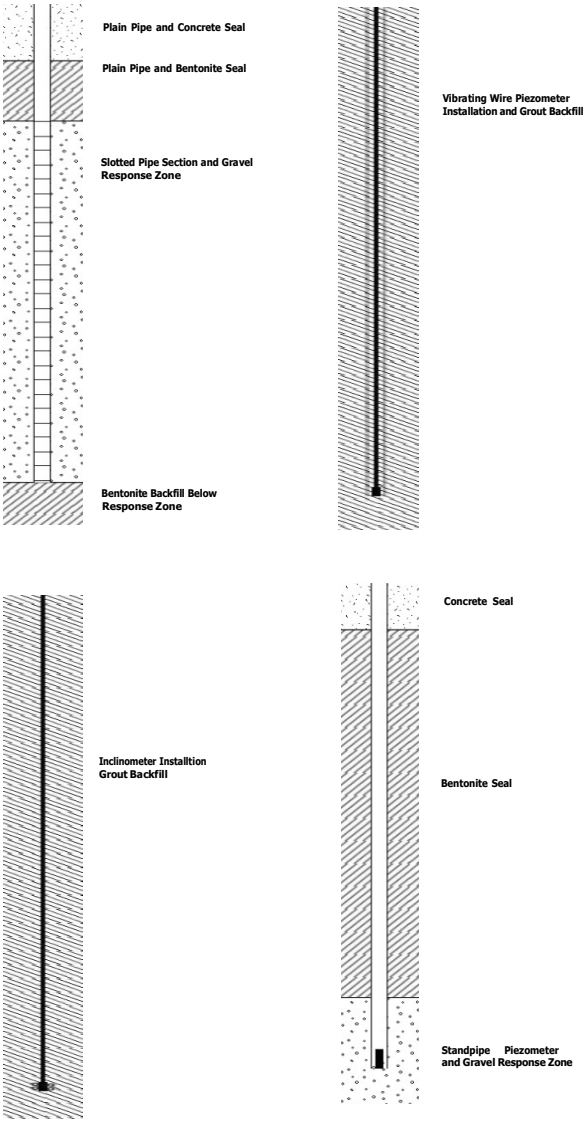
BENTONITE

GROUT

ARISINGS

COBLLES and BOULDERS

Monitoring Installation Legend:



NB Where strata consists of material of more than one soil or rock type the legends are appropriately combined.

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web: www.dunelm.co.uk

BOREHOLE RECORD

Borehole BH02

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 209.52 | Scale 1:50
Easting: 411624.00 | Northing: 414646.00

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 1 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: TBB | Dates: 18/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
B	0.20							MADE GROUND: Dark grey silty very gravelly sand. Gravel is subangular to subrounded fine to coarse of brick, sandstone, macadam and limestone. Cobbles and/or boulders of sandstone noted.				
D	0.20							*0.45m: Moves from dark grey to brown.*				
ES	0.20							*0.57m: Historic rebar in wall of pit.*				
D	0.60							*0.79-0.84m: Sandstone obstruction.*	(1.20)			
ES	0.60											
D	1.00						1					
ES	1.00											
							1.20 - 23.00 0 % Water	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	1.20	208.32		
							2					
							3					
							4					
							5					
							6					
							7					
							8					
							9					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	20.00	121	23.00

Log last updated 03/07/2024

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 20.00m
3. Rotary cored from 20.00 - 23.00m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH02

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 209.52 | Scale 1:50
Easting: 411624.00 | Northing: 414646.00

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 2 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: TBB | Dates: 18/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
							10	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	(18.80)			
							11					
							12					
							13					
							14					
							15					
							16					
							17					
							18					
							19					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	20.00	121	23.00

Log last updated 03/07/2024

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 20.00m
3. Rotary cored from 20.00 - 23.00m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH02

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 209.52 | Scale 1:50
Easting: 411624.00 | Northing: 414646.00

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 3 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: TBB | Dates: 18/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
							20	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	20.00	189.52		
	20.00 - 21.50		88	79	61	A...		Strong yellowish brown SANDSTONE. Fractures are horizontal and subvertical, undulating and planar rough with sand and clay infill				
								At 20.80m: 45 degree fracture.				
							21		(2.49)			
						5						
	21.50 - 23.00		91	75	61		22					
						A...		Weak yellowish brown SANDSTONE. Destructured. Recovered as a gravel.	22.49 (0.21)	187.02		
						3		Strong yellowish brown SANDSTONE. Fractures are horizontal with clay smear on fracture surface	22.70 (0.30)	186.82		
							2318/04/2024 1700 (20.00) Dry		23.00	186.52		
								End of Borehole at 23.00 m				
							24					
							25					
							26					
							27					
							28					
							29					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	20.00	121	23.00

Log last updated 03/07/2024

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 20.00m
3. Rotary cored from 20.00 - 23.00m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH03

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 204.16 | Scale 1:50
Easting: 411724.82 | Northing: 414682.77

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 1 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: EMB | Dates: 16/04/2024 - 17/04/2024

SAMPLE DETAILS

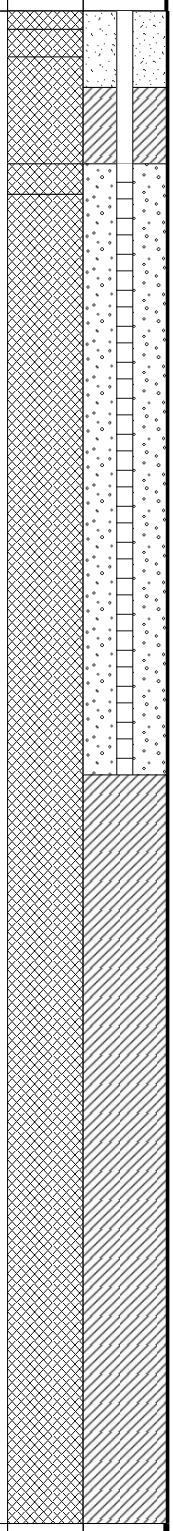
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI
B	0.15 - 0.30					
D	0.20					
ES	0.20					
B	0.50 - 0.90					
D	0.60					
ES	0.60					
D	1.00					

(Casing) Groundwater: 1.20 - 22.50, 0 % Water

STRATA RECORD Description

Depth (m)	Level (m AOD)	Description
(0.12) 0.12	204.04	MADE GROUND: Grey slightly silty sandy gravel. Gravel is subangular to subrounded fine to coarse of quartzite, limestone and sandstone. *0.08m: Rootlets noted.*
(0.18) 0.30	203.86	MADE GROUND: Light brown gravelly slightly clayey sand. Gravel is subangular to subrounded fine to coarse of brick, limestone, sandstone and concrete.
(0.70) 1.00	203.16	MADE GROUND: Firm dark grey sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of sandstone and limestone.
(0.20) 1.20	202.96	MADE GROUND: Brown gravelly slightly clayey sand. Gravel is subangular fine to coarse of sandstone. Cobbles and/or boulders of sandstone noted.
		MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).

Legend / Well/ Backfill



Ground Water (m)

Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Log last updated 03/07/2024

Chiselling / Hard Strata

From (m)	To (m)	Time (hr)

Casing Depths

Diameter (mm)	Depth (m)
139	19.50

Hole Diameter

Diameter (mm)	Depth (m)
139	19.50
121	22.50

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 19.50m
3. Rotary cored from 19.50 - 22.50m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH03

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 204.16 — Scale 1:50
Easting: 411724.82 — Northing: 414682.77

Client: M&R Investment Property Limited — Driller: SS — Logged By: LJ — Sheet 2 of 3

Method: Rotary Open Hole with Rotary Core Follow On — Checked By: EMB — Dates: 16/04/2024 - 17/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
							10	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	(18.30)			
							11					
							12					
							13					
							14					
						OH						
							15					
							16					
							1716/04/2024 1700 (16.50) Dry					
							18					
							19					
						NI	17/04/2024 1700 (17.00) Dry 18/04/2024 0800 (17.00) Dry	Strong yellowish brown SANDSTONE. Destructured. Recovered as gravel.	19.50 (0.10) 19.60	184.66 184.56		

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								139	19.50	139	19.50
										121	22.50

Log last updated 03/07/2024

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 19.50m
3. Rotary cored from 19.50 - 22.50m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH03

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 204.16 | Scale 1:50
Easting: 411724.82 | Northing: 414682.77

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 3 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: EMB | Dates: 16/04/2024 - 17/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
	19.50 - 21.00		100	37	27	6	20	Strong yellowish brown SANDSTONE. Fractures are horizontal planar rough with sand and gravel infill	(0.49)			
						NI		Very weak thinly laminated yellowish brown SILTSTONE. Destructured. Recovered as gravelly clay	20.09 (0.16)	184.07		
						2		Strong yellowish brown SANDSTONE. Destructured. Fractures are vertical planar rough with sand and infill	20.25	183.91		
						20			(0.99)			
						A	21					
	21.00 - 22.50		97	10	10	NI						
						15		Strong yellowish brown SANDSTONE. Fractures are horizontal and vertical planar and undulating rough with sand and gravel infill	21.24	182.92		
							22		(1.26)			
							18/04/2024 1700 (19.50) Dry	End of Borehole at 22.50 m	22.50	181.66		
							23					
							24					
							25					
							26					
							27					
							28					
							29					

Ground Water (m)

Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Log last updated 03/07/2024

Chiselling / Hard Strata

From (m)	To (m)	Time (hr)

Casing Depths

Diameter (mm)	Depth (m)
139	19.50

Hole Diameter

Diameter (mm)	Depth (m)
139	19.50
121	22.50

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 19.50m
3. Rotary cored from 19.50 - 22.50m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH04

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 207.05 — Scale 1:50

Easting: 411661.87 — Northing: 414747.40

Client: M&R Investment Property Limited — Driller: SS — Logged By: LJ — Sheet 1 of 3

Method: Rotary Open Hole with Rotary Core Follow On — Checked By: EMB — Dates: 12/04/2024 - 15/04/2024

SAMPLE DETAILS

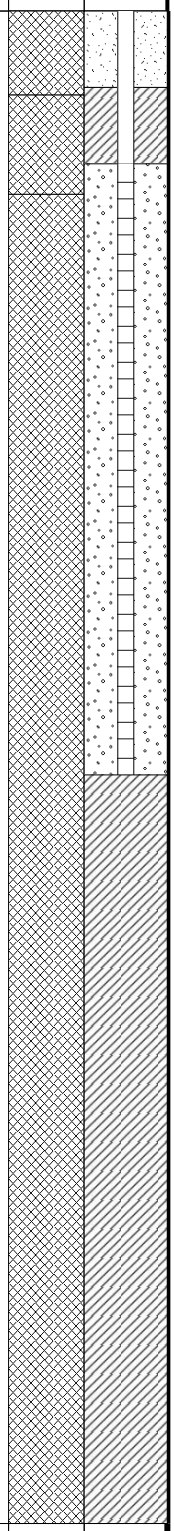
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI
B	0.10 - 0.50					
D	0.20					
ES	0.20					
B	0.55 - 0.95					
D	0.60					
ES	0.60					
D	1.00					
ES	1.00					

(Casing) Groundwater: 1.20 - 17.00, 0 % Water

STRATA RECORD

Description	Depth (m)	Level (m AOD)
MADE GROUND: Light grey locally red silty very gravelly sand. Gravel is angular to rounded fine to coarse of brick, limestone, sandstone, flint and quartzite. Cobbles and/or boulders of brick and sandstone noted.	(0.55)	
MADE GROUND: Stiff to firm dark grey slightly sandy slightly gravelly clay. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone. Cobbles and/or boulders of sandstone noted. *Between 0.70-0.80m: Sandstone obstruction.*	0.55	206.50
MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	(0.65)	
	1.20	205.85

Legend / Well/ Backfill



Ground Water (m)				
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Chiselling / Hard Strata		
From (m)	To (m)	Time (hr)

Casing Depths	
Diameter (mm)	Depth (m)
139	16.50

Hole Diameter	
Diameter (mm)	Depth (m)
139	16.50
121	21.50

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 19.00m
3. Rotary cored from 19.00 - 21.50m.
4. Exploratory hole terminated after reaching competent bedrock.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole BH04

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 207.05 — Scale 1:50

Easting: 411661.87 — Northing: 414747.40

Client: M&R Investment Property Limited — Driller: SS — Logged By: LJ — Sheet 2 of 3

Method: Rotary Open Hole with Rotary Core Follow On — Checked By: EMB — Dates: 12/04/2024 - 15/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
							10	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	(17.80)			
							11					
							12					
							13					
							14					
							15					
							16					
							1712/04/2024 1700 (16.50) Dry					
							18					
							19		19.00	188.05		
	19.00 - 20.50		97	59	35	A... NI 10		Strong yellowish brown SANDSTONE. Fractures are horizontal, subhorizontal and sub vertical undulating and planar rough with clay and sand infill.	(1.50)			

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter		General Remarks
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)	1. No groundwater encountered
								139	16.50	139	16.50	2. Rotary open holed from 1.20 - 19.00m
										121	21.50	3. Rotary cored from 19.00 - 21.50m.
												4. Exploratory hole terminated after reaching competent bedrock.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole BH04

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 207.05 | Scale 1:50
Easting: 411661.87 | Northing: 414747.40

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 3 of 3

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: EMB | Dates: 12/04/2024 - 15/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
						NI	20	Strong yellowish brown SANDSTONE. Fractures are horizontal, subhorizontal and sub vertical undulating and planar rough with clay and sand infill. *Between 20.21-20.26m: Recovered as gravelly clayey sand.*				
						12						
						A…		Weak yellowish brown SANDSTONE. Distinctly weathered.	20.50	186.55		
						NI			(0.36)			
	20.50 - 21.50		85	14	14	0		Strong yellowish brown SANDSTONE.	20.86	186.19		
							21		(0.14)	186.05		
						NA		Very weak grey MUDSTONE. Deconstructed. Recovered as gravelly clay.	21.00			
									(0.50)			
								End of Borehole at 21.50 m	21.50	185.55		
							22					
							23					
							24					
							25					
							26					
							27					
							28					
							29					

Ground Water (m)

Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Log last updated 03/07/2024

Chiselling / Hard Strata

From (m)	To (m)	Time (hr)

Casing Depths

Diameter (mm)	Depth (m)
139	16.50

Hole Diameter

Diameter (mm)	Depth (m)
139	16.50
121	21.50

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 19.00m
3. Rotary cored from 19.00 - 21.50m.
4. Exploratory hole terminated after reaching competent bedrock.

BOREHOLE RECORD

Borehole BH05

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 199.99 | Scale 1:50
Easting: 411778.76 | Northing: 414757.80

Client: M&R Investment Property Limited | Driller: SS | Logged By: LJ | Sheet 1 of 2

Method: Rotary Open Hole with Rotary Core Follow On | Checked By: EMB | Dates: 08/04/2024 - 15/04/2024

SAMPLE DETAILS

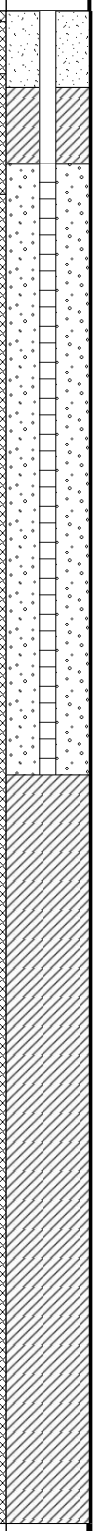
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI
B	0.10 - 0.40					
D	0.20					
ES	0.20					
B	0.50 - 0.70					
D	0.60					
ES	0.60					
D	1.00					
ES	1.00					
D	1.20	N=7				
SPT (S)	1.20 - 1.65	(4,2/1,1, 1,4)				

(Casing) Groundwater: (1.20) Dry

STRATA RECORD Description

Description	Depth (m)	Level (m AOD)
MADE GROUND: Black macadam.	(0.07)	199.92
MADE GROUND: Yellowish brown locally red gravelly silty sand. Gravel is angular to subrounded fine to coarse of brick, sandstone and macadam. Cobbles and/or boulders of brick and sandstone noted.	0.07 (0.34)	
MADE GROUND: Soft very dark grey locally red and cream slightly sandy gravelly clay. Gravel is angular to subrounded fine to coarse of brick, concrete and sandstone.	0.41 (0.79)	199.58
MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).	1.20 (15.30)	198.79

Legend / Well/ Backfill



9 09/04/2024 1700 (7.50) Dry
10/04/2024 0800 (7.50) Dry

Ground Water (m)

Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Chiselling / Hard Strata

From (m)	To (m)	Time (hr)

Casing Depths

Diameter (mm)	Depth (m)
200	1.20
139	15.50

Hole Diameter

Diameter (mm)	Depth (m)
121	19.50

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 16.50m
3. Rotary cored from 16.50 - 19.50m.
4. Exploratory hole terminated after reaching competent bedrock.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole BH05

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 199.99 — Scale 1:50
Easting: 411778.76 — Northing: 414757.80

Client: M&R Investment Property Limited — Driller: SS — Logged By: LJ — Sheet 2 of 2

Method: Rotary Open Hole with Rotary Core Follow On — Checked By: EMB — Dates: 08/04/2024 - 15/04/2024

SAMPLE DETAILS							(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing	TCR %	SCR %	RQD %	FI						
B ES	10.00 10.00 - 10.50						10	MADE GROUND: Brown SANDSTONE (Quarry Backfill) (Drillers description).				
D SPT (S)	11.00 11.00 - 11.45	N=17 (3,4/5,5, 3,4)					11 (11.00) Dry					
							12					
							13					
							14					
B ES	15.00 15.00 - 15.50						15					
D SPT (S)	16.00 - 16.45 16.00 - 16.45	N=14 (9,13/3,2 ,5,4)					16 (15.00) Dry					
							16.50 - 19.50 80 % Water 10/04/2024 1730 (15.50) Dry 11/04/2024 0800 (15.50) Dry	Very weak grey MUDSTONE. Destructured. Recovered as a gravelly clay.	16.50 (0.26) 16.76	183.49 183.23		
	16.50 - 18.00		100	68	58	NA 13 NI 15 6	17	Strong yellowish brown SANDSTONE. Fractures are horizontal, subhorizontal and subvertical undulating rough with clay and gravel infill				
	18.00 - 19.50		97	71	49	A 9 16	18 19		(2.74)			
							11/04/2024 1700 (15.50) Dry	End of Borehole at 19.50 m	19.50	180.49		

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
								200	1.20	121	19.50
								139	15.50		

Log last updated 03/07/2024

General Remarks

1. No groundwater encountered
2. Rotary open holed from 1.20 - 16.50m
3. Rotary cored from 16.50 - 19.50m.
4. Exploratory hole terminated after reaching competent bedrock.

TRIAL PIT RECORD

TP No. TP01

Contract No.: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 211.27 — Scale 1:25

Easting: 411598.23 — Northing: 414623.38

Client: M&R Investment Property Limited — **Logged By:** AL — Sheet 1 of 1

Method: Machine Excavated Trial Pit — **Checked By:** EMB — Dates: 09/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
B	0.10 - 0.30			MADE GROUND: Brown sandy gravel. Gravel is subangular fine to coarse of sandstone and quartzite.				
D	0.20 - 0.25							
ES	0.20 - 0.25							
B	0.40 - 0.60				(0.80)			
D	0.50 - 0.55							
ES	0.50 - 0.55							
				MADE GROUND: Dark brown sandy slightly clayey gravel. Gravel is subangular to subrounded fine to coarse of sandstone, quartzite, brick and clinker. Cobbles are subangular of sandstone.	0.80	210.47		
B	0.90 - 1.10							
D	1.00 - 1.05		1					
ES	1.00 - 1.05							
					(1.60)			
B	1.90 - 2.10							
D	2.00 - 2.05		2					
ES	2.00 - 2.05							
				MADE GROUND: Dark brown sandy clayey gravel with high cobble content. Gravel is subangular fine to coarse of sandstone and slate. Cobbles and boulders are subangular of sandstone.	2.40	208.87		
					(0.60)			
B	2.80 - 3.00							
D	3.00		3	End of Trial Pit at 3.00 m	3.00	208.27		
ES	3.00							
			4					
			5					

Remarks

1. No groundwater encountered.
2. Pit terminated due to sides being unstable.
3. Pit backfilled with arisings.

Ground Water (m)	
Depth Strike	Remarks

Excavation Details

Dimensions: 1.00m x 6.00m

Stability: Unstable

Weather: Rain

Remarks: Machine Excavated Trial Pit

Orientation

A B C D — 160°

TRIAL PIT RECORD

TP No. TP02

Contract No.: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 209.03 — Scale 1:25

Easting: 411671.03 — Northing: 414656.05

Client: M&R Investment Property Limited — **Logged By:** AL — Sheet 1 of 1

Method: Machine Excavated Trial Pit — **Checked By:** EMB — Dates: 09/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
				MADE GROUND: Black macadam.	(0.10)			
B	0.10 - 0.30			MADE GROUND: Light brown sandy slightly clayey gravel with high cobble content. Gravel is subangular to subrounded fine to coarse of sandstone, slate, slag like material, clinker, concrete and brick. Cobbles are subangular of sandstone and brick.	0.10	208.93		
D	0.20 - 0.25							
ES	0.20 - 0.25							
B	0.40 - 0.60							
D	0.50 - 0.55				(0.70)			
ES	0.50 - 0.55							
				MADE GROUND: Very soft slightly sandy gravelly clay with high cobble content. Gravel is subangular to subrounded fine to coarse of brick, concrete, sandstone, slate, slag like material and clinker. Cobbles are subangular of concrete, brick and sandstone.	0.80	208.23		
B	0.90 - 1.10							
D	1.00 - 1.05		1					
ES	1.00 - 1.05							
B	1.90 - 2.10							
D	2.00 - 2.05		2					
ES	2.00 - 2.05				(2.70)			
			3					
B	3.30 - 3.50							
D	3.50			End of Trial Pit at 3.50 m	3.50	205.53		
ES	3.50							
			4					
			5					

Remarks

1. No groundwater encountered.
2. Pit terminated at 3.50m due to sides being unstable.
3. Pit backfilled with arisings.

Ground Water (m)	
Depth Strike	Remarks

Excavation Details

Dimensions: 1.00m x 6.00m

Stability: Unstable

Weather: Rain

Remarks: Machine Excavated Trial Pit

Orientation

A B C D

110°

TRIAL PIT RECORD

TP No. TP03

Contract No.: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 206.68 — Scale 1:25

Easting: 411677.58 — Northing: 414713.93

Client: M&R Investment Property Limited — **Logged By:** CA — Sheet 1 of 1

Method: Machine Excavated Trial Pit — **Checked By:** EMB — Dates: 10/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
B	0.05 - 0.30			MADE GROUND: Black macadam.	(0.05) 0.05	206.64		
D ES	0.20 0.20		▼	MADE GROUND: Greyish brown sandy slightly clayey gravel. Gravel is angular to subangular fine to coarse of sandstone and brick.	(0.25) 0.30	206.38		
D ES	0.50 0.50			MADE GROUND: Greyish brown slightly sandy clayey gravel with medium cobble content. Gravel is angular to subangular fine to coarse of sandstone and brick. Cobbles are subangular sandstone.	(0.50) 0.80	205.88		
B D ES	0.90 - 1.10 1.00 1.00		1	MADE GROUND: Orangish brown slightly sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone and brick. Cobbles and boulders are subangular of sandstone.	(0.60) 1.40	205.28		
B D ES	1.90 - 2.10 2.00 2.00		2	MADE GROUND: Orangish brown sandy gravel with high cobble and boulder content. Gravel is angular to subangular fine to coarse of sandstone and brick. Cobbles and boulders are subangular of sandstone.	(2.10)			
D ES	3.00 3.00		3					
D ES	3.50 3.50		4 5	End of Trial Pit at 3.50 m	3.50	203.18		

Remarks

1. Pit was terminated at target depth.
2. Groundwater encountered at 0.25m.

Ground Water (m)

Depth Strike	Remarks
0.25	

Excavation Details

Dimensions: 2.40m x 5.20m
Stability: Unstable at the A and C side
Weather: Overcast with dry ground
Remarks: Machine Excavated Trial Pit

Orientation

A D B C — 268°

TRIAL PIT RECORD

TP No. TP04

Contract No.: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 205.38 — Scale 1:25

Easting: 411708.93 — Northing: 414749.98

Client: M&R Investment Property Limited

Logged By: AL

Sheet 1 of 1

Method: Machine Excavated Trial Pit

Checked By: EMB

Dates: 09/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
B	0.10 - 0.30			MADE GROUND: Brown sandy slightly clayey gravel with high cobble content. Gravel is subangular to subrounded fine to coarse of sandstone, brick, quartzite, concrete, slag like material and clinker. Cobbles are subangular of brick and sandstone.				
D	0.20 - 0.25							
ES	0.20 - 0.25							
B	0.40 - 0.60				(0.70)			
D	0.50 - 0.55							
ES	0.50 - 0.55							
				MADE GROUND: Very soft brown slightly sandy gravelly clay with high cobble and medium boulder content. Gravel is subangular fine to coarse of sandstone, brick, slag like material, clinker, quartzite and ceramic. Cobbles and boulders are subangular of sandstone, brick and concrete.	0.70	204.68		
B	0.90 - 1.10							
D	1.00 - 1.05		1					
ES	1.00 - 1.05							
B	1.80 - 2.10							
D	2.00 - 2.05		2					
ES	2.00 - 2.05							
					(3.30)			
B	2.90 - 3.10							
D	3.00 - 3.05		3	*Between 3.00-4.00m: Fragmented fibrous sheeting recorded. Potential asbestos containing material.*				
ES	3.00 - 3.05							
			4	End of Trial Pit at 4.00 m	4.00	201.38		
			5					

Remarks

1. No groundwater encountered.
2. Pit terminated at 4.00m due to finding potential ACM in pit.
3. Pit was backfilled with arisings.

Ground Water (m)

Depth Strike	Remarks

Excavation Details

Dimensions: 1.00m x 6.00m

Stability: Unstable

Weather: Rain

Remarks: Machine Excavated Trial Pit

Orientation

A B C D

150°

TRIAL PIT RECORD

TP No. TP05

Contract No.: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 199.36 — Scale 1:25

Easting: 411793.28 — Northing: 414738.77

Client: M&R Investment Property Limited — **Logged By:** AL — Sheet 1 of 1

Method: Machine Excavated Trial Pit — **Checked By:** EMB — Dates: 08/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Backfill
B	0.10 - 0.30			MADE GROUND: Black macadam.	(0.10) 0.10	199.26		
D ES	0.20 - 0.25 0.25			MADE GROUND: Brown very gravelly slightly clayey sand with high cobble content. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone. Cobbles and boulders are subangular of sandstone and brick.				
B	0.40 - 0.60				(0.60)			
D ES	0.50 - 0.55 0.50 - 0.55							
				MADE GROUND: Soft dark brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse of brick, sandstone, concrete and clinker.	0.70	198.66		
B	0.90 - 1.10							
D ES	1.00 - 1.05 1.00 - 1.05		1		(0.80)			
B	1.50 - 1.80			MADE GROUND: Very soft brown mottled reddish brown slightly sandy gravelly clay with high cobble content. Gravel is subangular to subrounded fine to coarse of sandstone and concrete, slag like material and brick. Cobbles are subangular of sandstone.	1.50	197.86		
D ES	2.00 - 2.05 2.00 - 2.05		2		(1.50)			
B	2.70 - 2.90							
D ES	3.00 3.00		3	End of Trial Pit at 3.00 m	3.00	196.36		
			4					
			5					

Remarks

1. No groundwater encountered.
2. High wall encountered at 2.00m.
3. Pit was backfilled with arisings.

Ground Water (m)	
Depth Strike	Remarks

Excavation Details

Dimensions: 1.00m x 8.00m

Stability: Unstable

Weather: Rain

Remarks: Machine Excavated Trial Pit

Orientation

A B C D

160°

BOREHOLE RECORD

Borehole WS01

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 212.43 | Scale 1:50
Easting: 411563.18 | Northing: 414683.51

Client: M&R Investment Property Limited | Driller: KE | Logged By: CA | Sheet 1 of 1

Method: Windowless Sampling | Checked By: EMB | Dates: 09/04/2024

SAMPLE DETAILS			(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing						
D	0.20			MADE GROUND: Greyish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and quartzite.	(0.40)			
ES	0.20				0.40	212.03		
B	0.40 - 0.60			MADE GROUND: Dark brown mottled orangish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick, slag like material and ash.	(0.20)			
D	0.50				0.60	211.83		
ES	0.50							
B	0.90 - 1.10			MADE GROUND: Orangish brown sandy gravel. Cobbles and/ or boulders noted. Gravel is angular to subangular fine to coarse of sandstone and brick. Cobbles and/or boulders are of angular sandstone.	(0.95)			
D	1.00							
ES	1.00							
SPT (C)	1.20 - 1.55	N=50+ (4,9/16,20,14 for 50mm)	Dry	*At 1.20m: Hard strata encountered.*				
			09/04/2024 1700 (0.00) Dry	End of Borehole at 1.55 m	1.55	210.88		

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
										87	1.55

Log last updated 03/07/2024

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.
3. Exploratory hole terminated upon encountering hard strata.
4. Exploratory hole backfilled and relocated.

BOREHOLE RECORD

Borehole WS01A

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 212.49 — Scale 1:50

Easting: 411563.75 — Northing: 414682.44

Client: M&R Investment Property Limited — Driller: KE — Logged By: CA — Sheet 1 of 1

Method: Windowless Sampling — Checked By: EMB — Dates: 09/04/2024

SAMPLE DETAILS			(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
Type	Depth From-To (m)	Insitu Testing						
D	0.20			MADE GROUND: Greyish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and quartzite.	(0.40)			
ES	0.20				0.40	212.09		
D	0.50			MADE GROUND: Dark brown mottled orangish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick, slag like material and ash.	(0.20)			
ES	0.50				0.60	211.89		
B	0.90 - 1.10			MADE GROUND: Dense orangish brown sandy gravel. Gravel is angular to subangular fine to coarse of sandstone.				
D	1.00		1					
ES	1.00							
SPT (C)	1.20 - 1.65	N=44 (6,10/10,10,10,14)	Dry		(1.40)			
SPT (C)	1.70 - 1.92	N=50+ (15,10/50 for 70mm)	Dry					
D	1.80							
ES	1.90							
			2 09/04/2024 1700 (0.00) Dry	*At 2.00m: Hard strata encountered.*	2.00	210.49		
				End of Borehole at 2.00 m				
			3					
			4					
			5					
			6					
			7					
			8					
			9					
			10					

Ground Water (m)					Chiselling / Hard Strata			Casing Depths		Hole Diameter	
Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)	From (m)	To (m)	Time (hr)	Diameter (mm)	Depth (m)	Diameter (mm)	Depth (m)
										87	2.00

Log last updated 03/07/2024

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.
3. Exploratory hole terminated upon encountering hard strata.

BOREHOLE RECORD

Borehole WS02

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 210.10 — Scale 1:50

Easting: 411636.60 — Northing: 414677.24

Client: M&R Investment Property Limited — Driller: KE — Logged By: CA — Sheet 1 of 1

Method: Windowless Sampling — Checked By: EMB — Dates: 09/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)
D	0.20			MADE GROUND: Greyish brown sandy clayey gravel. Gravel is angular to subrounded fine to coarse of sandstone, ash, clinker, brick and quartzite.		
ES	0.20				(0.60)	
D	0.50					
ES	0.50			MADE GROUND: Dark brown mottled orangish brown slightly sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick, clinker and ash.	0.60	209.50
B	0.80 - 1.20					
D	1.00		1			
ES	1.00					
SPT (C)	1.20 - 1.65	N=8 (1,2/2,2,2,2)	Dry			
					(1.70)	
ES	1.80					
D	1.90					
SPT (C)	2.00 - 2.45	N=7 (1,0/1,1,2,3)	2 Dry			
				MADE GROUND: Stiff dark grey mottled brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, brick and ash.	2.30	207.80
D	2.50					
					(0.70)	
ES	2.80					
SPT (C)	3.00 - 3.45	N=37 (3,3/2,3,7,25)	3 Dry		3.00	207.10
				MADE GROUND: Orangish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and ash.		
ES	3.80					
D	3.90					
SPT (C)	4.00 - 4.45	N=13 (3,4/3,3,4,3)	4 Dry			
					(2.45)	
D	4.60					
ES	4.80					
SPT (C)	5.00 - 5.45	N=15 (4,4/4,3,5,3)	5 Dry			
			09/04/2024 1700 (0.00) Dry	End of Borehole at 5.45 m	5.45	204.65
			6			
			7			
			8			
			9			
			10			

Legend / Well/Backfill

Ground Water (m) Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Chiselling / Hard Strata From (m)	To (m)	Time (hr)

Casing Depths Diameter (mm)	Depth (m)

Hole Diameter Diameter (mm)	Depth (m)
87	3.00
77	4.00
67	5.45

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.
3. Gas/groundwater monitoring well installed.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole WS03

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 207.16 | Scale 1:50
Easting: 411664.94 | Northing: 414712.60

Client: M&R Investment Property Limited | Driller: KE | Logged By: CA | Sheet 1 of 1

Method: Windowless Sampling | Checked By: EMB | Dates: 09/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
D	0.20			MADE GROUND: Light brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and quartzite.	(0.40)			
ES	0.20				0.40	206.76		
D	0.50			MADE GROUND: Greyish brown slightly sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone and brick.	(0.50)			
ES	0.50							
B	0.60 - 0.80				0.90	206.26		
D	1.00		1	MADE GROUND: Orangish brown mottled greyish brown gravelly clayey sand. Gravel is angular to subangular fine to coarse of sandstone and brick.				
ES	1.00							
SPT (C)	1.20 - 1.65	N=9 (3,3/2,2,2,3)	Dry					
D	1.50				(1.10)			
ES	1.80							
D	2.00		2 Dry	MADE GROUND: Orangish brown sandy clayey gravel. Gravel is angular to subangular fine to coarse of sandstone.	2.00	205.16		
SPT (C)	2.00 - 2.45	N=17 (4,2/4,6,5,2)						
SPT (C)	3.00 - 3.45	N=12 (4,4/3,3,3,3)	3 Dry					
D	3.50							
ES	3.80				(3.45)			
SPT (C)	4.00 - 4.45	N=7 (4,3/2,2,2,1)	4 Dry					
D	4.20							
SPT (C)	5.00 - 5.45	N=6 (2,1/1,3,1,1)	5 Dry					
			09/04/2024 1700 (0.00) Dry	End of Borehole at 5.45 m	5.45	201.71		
			6					
			7					
			8					
			9					
			10					

Ground Water (m) Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Chiselling / Hard Strata From (m)	To (m)	Time (hr)

Casing Depths Diameter (mm)	Depth (m)

Hole Diameter Diameter (mm)	Depth (m)
87	3.00
77	4.00
67	5.45

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole WS04

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 203.48 | Scale 1:50
Easting: 411742.96 | Northing: 414706.54

Client: M&R Investment Property Limited | Driller: KE | Logged By: CA | Sheet 1 of 1

Method: Windowless Sampling | Checked By: EMB | Dates: 10/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
				MADE GROUND: Black macadam.	(0.10)	203.38		
D	0.20			MADE GROUND: Greyish brown sandy gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and macadam.	0.10			
ES	0.20				(0.30)			
B	0.40 - 0.70				0.40	203.08		
D	0.50			MADE GROUND: Orangish brown sandy gravel. Gravel is angular to subangular fine to coarse of sandstone, mortar and brick.	(0.30)			
ES	0.50				0.70	202.78		
B	0.80 - 1.20							
D	1.00		1	MADE GROUND: Firm greyish brown sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, mortar and brick.				
ES	1.00							
SPT (C)	1.20 - 1.65	N=15 (2,3/3,3,5,4)	Dry					
D	1.50							
ES	1.80							
SPT (C)	2.00 - 2.45	N=8 (1,2/1,2,2,3)	2 Dry		(2.50)			
D	2.30							
ES	2.50							
SPT (C)	3.00 - 3.45	N=17 (6,4/4,3,5,5)	3 Dry					
D	3.30			MADE GROUND: Firm dark grey slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, mudstone, ash and concrete.	3.20	200.28		
					(0.35)			
				MADE GROUND: Firm light brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, mudstone and ash.	3.55	199.93		
ES	3.80				(0.45)			
SPT (C)	4.00 - 4.45	N=14 (2,2/3,4,4,3)	4 Dry		4.00	199.48		
D	4.20			MADE GROUND: Firm dark grey slightly sandy slightly gravelly clay. Gravel is angular to subrounded fine to coarse of sandstone, mudstone and ash.				
ES	4.50			*Between 4.50-5.00m: Becomes sandy.*				
					(1.45)			
SPT (C)	5.00 - 5.45	N=14 (3,3/3,4,3,4)	5 Dry					
			10/04/2024 1700 (0.00) Dry	End of Borehole at 5.45 m	5.45	198.03		
			6					
			7					
			8					
			9					
			10					

Ground Water (m) Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Chiselling / Hard Strata From (m)	To (m)	Time (hr)

Casing Depths Diameter (mm)	Depth (m)

Hole Diameter Diameter (mm)	Depth (m)
87	3.00
77	4.00
67	5.45

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.

Log last updated 03/07/2024

BOREHOLE RECORD

Borehole WS05

Contract No: M30412

Site: Blackmoorfoot Road, Huddersfield

GL (m AOD) 199.38 | Scale 1:50
Easting: 411773.09 | Northing: 414777.76

Client: M&R Investment Property Limited | Driller: KE | Logged By: CA | Sheet 1 of 1

Method: Windowless Sampling | Checked By: EMB | Dates: 10/04/2024

SAMPLE DETAILS Type	Depth From-To (m)	Insitu Testing	(Casing) Groundwater	STRATA RECORD Description	Depth (m)	Level (m AOD)	Legend	Well/ Backfill
				MADE GROUND: Black macadam.	(0.10)	199.28		
D	0.20			MADE GROUND: Greyish brown sandy gravel. Gravel is angular to subangular fine to coarse of sandstone, brick and macadam.	0.10			
ES	0.20				(0.30)			
D	0.50				0.40	198.98		
ES	0.50			MADE GROUND: Orangish brown sandy gravel. Cobbles and/ or boulders noted. Gravel is angular to subangular fine to coarse of sandstone, clinker, mortar and brick. Cobbles and/or boulders are of angular brick.	(0.60)			
D	1.00		1		1.00	198.38		
ES	1.00			MADE GROUND: Soft greyish brown mottled dark grey and orangish brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, mudstone, concrete, ash and brick.				
SPT (C)	1.20 - 1.65	N=4 (1,1/1,1,1,1)	Dry					
D	1.50							
ES	1.80							
SPT (C)	2.00 - 2.45	N=7 (4,2/4,1,1,1)	2 Dry		(2.00)			
SPT (C)	3.00 - 3.45	N=22 (1,1/3,8,5,6)	3 Dry		3.00	196.38		
				MADE GROUND: Stiff light brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse of sandstone, mudstone, ash and brick.	(0.60)			
D	3.40							
ES	3.50				3.60	195.78		
				MADE GROUND: Loose dark grey mottled light brown and orangish brown slightly sandy clayey gravel. Gravel is angular to subrounded fine to coarse of sandstone, mudstone, clinker and ash.				
D	4.00		4 Dry					
SPT (C)	4.00 - 4.45	N=7 (3,3/2,1,3,1)						
D	4.10							
					(1.85)			
SPT (C)	5.00 - 5.45	N=7 (2,2/2,2,2,1)	5 Dry					
			10/04/2024 1700 (0.00) Dry	End of Borehole at 5.45 m	5.45	193.92		
			6					
			7					
			8					
			9					
			10					

Ground Water (m) Depth Struck (m)	Casing Depth (m)	Water Level	Minutes	Water sealed (m)

Log last updated 03/07/2024

Chiselling / Hard Strata From (m)	To (m)	Time (hr)

Casing Depths Diameter (mm)	Depth (m)

Hole Diameter Diameter (mm)	Depth (m)
87	3.00
77	4.00
67	5.45

General Remarks

1. Hand dug inspection pit down to 1.20m.
2. No groundwater encountered.

Appendix E

Chemical Testing Results

Certificate of Analysis

Certificate Number 24-07542 *Issued:* 22-Apr-24

Client Dunelm Geotechnical & Environmental Ltd
Chambers Business Centre
Chapel Road
Oldham
OL8 4QQ

Our Reference 24-07542

Client Reference ~ M30412

Order No ~ PO4455

Contract Title ~ Blackmoorfoot Road

Description 11 Soil samples.

Date Received 12-Apr-24

Date Started 12-Apr-24

Date Completed 22-Apr-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.

Approved By Redacted

Kirk Bridgewood
General Manager

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 24-07542
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Sample ID	Depth	Lab No	Completed	Matrix Description
WS01A	0.5	2324137	22/04/2024	Brown gravelly, clayey SAND
WS02	0.5	2324138	22/04/2024	Brown gravelly, clayey SAND
WS02	4.8	2324139	22/04/2024	Brown gravelly, clayey SAND
WS03	0.2	2324140	22/04/2024	Brown gravelly, sandy CLAY
TP01	1	2324141	22/04/2024	Brown gravelly, clayey SAND
TP02	0.5	2324142	22/04/2024	Brown gravelly, sandy CLAY
TP03	0.2	2324143	22/04/2024	Brown gravelly, clayey SAND
TP03	0.5	2324144	22/04/2024	Brown gravelly, sandy CLAY
TP04	0.5	2324145	22/04/2024	Brown gravelly, sandy CLAY
TP05	0.5	2324146	22/04/2024	Brown gravelly, sandy CLAY
TP05	2	2324147	22/04/2024	Brown gravelly, sandy CLAY

~Symbol key at end of report

Summary of Chemical Analysis
Soil Samples

Our Ref 24-07542
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

			Lab No	2324137	2324138	2324139	2324140	2324141	2324142	2324143
			Sample ID ~	WS01A	WS02	WS02	WS03	TP01	TP02	TP03
			Depth ~	0.50	0.50	4.80	0.20	1.00	0.50	0.20
			Other ID ~							
			Sample Type ~	ES	ES	ES	ES	ES	ES	ES
			Sampling Date ~	09/04/2024	09/04/2024	09/04/2024	09/04/2024	09/04/2024	09/04/2024	09/04/2024
			Sampling Time ~	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**							
Metals										
Arsenic	DETSC 2301#	0.2	mg/kg	6.0	6.0		4.0	2.8	6.5	3.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.5		0.6	0.3	0.4	0.3
Chromium	DETSC 2301#	0.15	mg/kg	11	18		10	11	11	6.8
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg	22	16		14	14	11	10
Lead	DETSC 2301#	0.3	mg/kg	59	30		23	13	31	20
Mercury	DETSC 2325#	0.05	mg/kg	0.08	0.06		< 0.05	< 0.05	< 0.05	< 0.05
Nickel	DETSC 2301#	1	mg/kg	8.7	15		9.7	23	5.9	6.0
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5		< 0.5	< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg	48	77		53	51	38	30
Inorganics										
pH	DETSC 2008#		pH	8.0	8.2	7.7	8.5	8.4	8.6	8.6
Organic matter	DETSC 2002#	0.1	%	1.7	0.9			0.3	0.8	
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	24	17	62	27	11	23	14
Petroleum Hydrocarbons										
TPH (C6-C40)	DETSC 3311*	10	mg/kg	26				< 10	150	
PAHs										
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03	< 0.03	< 0.03	
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03	< 0.03	< 0.03	
Acenaphthene	DETSC 3303#	0.03	mg/kg	0.04	< 0.03		< 0.03	< 0.03	0.06	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		< 0.03	< 0.03	0.05	
Phenanthrene	DETSC 3303#	0.03	mg/kg	0.26	0.36		0.07	0.09	0.27	
Anthracene	DETSC 3303	0.03	mg/kg	0.06	0.08		< 0.03	< 0.03	0.07	
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.34	0.92		0.10	0.13	0.36	
Pyrene	DETSC 3303#	0.03	mg/kg	0.30	0.85		0.09	0.12	0.32	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.11	0.33		0.04	0.05	0.12	
Chrysene	DETSC 3303	0.03	mg/kg	0.11	0.34		0.04	0.06	0.12	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.09	0.36		0.04	0.06	0.13	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	0.03	0.15		< 0.03	< 0.03	0.05	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	0.07	0.30		0.03	0.05	0.11	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.13		< 0.03	< 0.03	0.05	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03		< 0.03	< 0.03	< 0.03	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	0.03	0.14		< 0.03	< 0.03	0.06	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	1.4	4.0		0.38	0.54	1.8	

Symbol key at end of report

Summary of Chemical Analysis
Soil Samples

Our Ref 24-07542
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

			Lab No	2324144	2324145	2324146	2324147
			Sample ID ~	TP03	TP04	TP05	TP05
			Depth ~	0.50	0.50	0.50	2.00
			Other ID ~				
			Sample Type ~	ES	ES	ES	ES
			Sampling Date ~	09/04/2024	09/04/2024	09/04/2024	09/04/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg		13	22	53
Cadmium	DETSC 2301#	0.1	mg/kg		0.7	0.1	0.2
Chromium	DETSC 2301#	0.15	mg/kg		18	20	24
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0	< 1.0	< 1.0
Copper	DETSC 2301#	0.2	mg/kg		47	55	190
Lead	DETSC 2301#	0.3	mg/kg		150	44	230
Mercury	DETSC 2325#	0.05	mg/kg		0.21	< 0.05	0.19
Nickel	DETSC 2301#	1	mg/kg		16	19	24
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5	< 0.5	< 0.5
Zinc	DETSC 2301#	1	mg/kg		95	78	55
Inorganics							
pH	DETSC 2008#		pH	8.2	8.6	8.2	8.4
Organic matter	DETSC 2002#	0.1	%			0.9	1.0
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	43	14	24	75
Petroleum Hydrocarbons							
TPH (C6-C40)	DETSC 3311*	10	mg/kg				
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	0.04
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		0.29	0.05	0.30
Anthracene	DETSC 3303	0.03	mg/kg		0.06	< 0.03	0.05
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.42	0.08	0.46
Pyrene	DETSC 3303#	0.03	mg/kg		0.37	0.07	0.40
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		0.13	0.03	0.15
Chrysene	DETSC 3303	0.03	mg/kg		0.15	0.04	0.18
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		0.12	0.03	0.16
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		0.05	< 0.03	0.07
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		0.09	< 0.03	0.12
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	0.06
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		0.04	< 0.03	0.06
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		1.8	0.24	2.0

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-07542
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2324137	WS01A 0.50	SOIL	NAD	none	Ben Rose
2324138	WS02 0.50	SOIL	NAD	none	Ben Rose
2324140	WS03 0.20	SOIL	NAD	none	Ben Rose
2324141	TP01 1.00	SOIL	NAD	none	Ben Rose
2324142	TP02 0.50	SOIL	NAD	none	Ben Rose
2324143	TP03 0.20	SOIL	NAD	none	Ben Rose
2324145	TP04 0.50	SOIL	NAD	none	Ben Rose
2324146	TP05 0.50	SOIL	NAD	none	Ben Rose
2324147	TP05 2.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-07542
Client Ref ~ M30412
Contract ~ Blackmoorfoot Road

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2324137	WS01A 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324138	WS02 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324139	WS02 4.80 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324140	WS03 0.20 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324141	TP01 1.00 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324142	TP02 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324143	TP03 0.20 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324144	TP03 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324145	TP04 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324146	TP05 0.50 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324147	TP05 2.00 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-07699 *Issued:* 18-Apr-24

Client Dunelm Geotechnical & Environmental Ltd
Chambers Business Centre
Chapel Road
Oldham
OL8 4QQ

Our Reference 24-07699

Client Reference ~ M30412

Order No ~ PO4455

Contract Title ~ Blackmoorfoot Road

Description 2 Soil samples.

Date Received 16-Apr-24

Date Started 16-Apr-24

Date Completed 18-Apr-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.

Approved By Redacted

Kirk Bridgewood
General Manager

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 24-07699
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Sample ID	Depth	Lab No	Completed	Matrix Description
BH05	10	2324958	18/04/2024	Brown very gravelly, sandy CLAY
BH05	15	2324959	18/04/2024	Brown very gravelly, sandy CLAY

~Symbol key at end of report

Summary of Chemical Analysis
Soil Samples

Our Ref 24-07699
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

			Lab No	2324958	2324959
			Sample ID ~	BH05	BH05
			Depth ~	10.00	15.00
			Other ID ~		
			Sample Type ~	D	D
			Sampling Date ~	10/04/2024	10/04/2024
			Sampling Time ~	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Inorganics					
pH	DETSC 2008#		pH	6.0	6.6
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	45	40

Symbol key at end of report

Information in Support of the Analytical Results

Our Ref 24-07699
Client Ref ~ M30412
Contract ~ Blackmoorfoot Road

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2324958	BH05 10.00 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324959	BH05 15.00 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-07700 *Issued:* 22-Apr-24

Client Dunelm Geotechnical & Environmental Ltd
Chambers Business Centre
Chapel Road
Oldham
OL8 4QQ

Our Reference 24-07700

Client Reference ~ M30412

Order No ~ PO4455

Contract Title ~ Blackmoorfoot Road

Description 4 Soil samples.

Date Received 16-Apr-24

Date Started 16-Apr-24

Date Completed 22-Apr-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.

Approved By Redacted

Kirk Bridgewood
General Manager

Summary of Chemical Analysis
Matrix Descriptions

Our Ref 24-07700
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Sample ID	Depth	Lab No	Completed	Matrix Description
WS04	1.8	2324960	22/04/2024	Brown very gravelly, sandy CLAY (Possible made ground - brick)
WS05	0.5	2324961	22/04/2024	Brown very gravelly, sandy CLAY (Possible made ground - brick)
WS05	1	2324962	22/04/2024	Brown very gravelly, sandy CLAY (Possible made ground - brick)

~Symbol key at end of report

Summary of Chemical Analysis
Soil Samples

Our Ref 24-07700
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

			Lab No	2324960	2324961	2324962	2324963
			Sample ID ~	WS04	WS05	WS05	WS05
			Depth ~	1.80	0.50	1.00	3.50
			Other ID ~				
			Sample Type ~	ES	ES	ES	D
			Sampling Date ~	10/04/2024	10/04/2024	10/04/2024	10/04/2024
			Sampling Time ~	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**				
Metals							
Arsenic	DETSC 2301#	0.2	mg/kg	5.6	5.5	82	
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.8	0.4	
Chromium	DETSC 2301#	0.15	mg/kg	16	9.8	24	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	
Copper	DETSC 2301#	0.2	mg/kg	20	15	94	
Lead	DETSC 2301#	0.3	mg/kg	21	29	120	
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.51	
Nickel	DETSC 2301#	1	mg/kg	18	9.5	21	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	
Zinc	DETSC 2301#	1	mg/kg	55	83	78	
Inorganics							
pH	DETSC 2008#		pH	7.4	8.6	8.3	8.2
Organic matter	DETSC 2002#	0.1	%	0.4	1.0	2.7	
Sulphate Aqueous Extract as SO4 (2:1)	DETSC 2076#	10	mg/l	26	13	34	18
Petroleum Hydrocarbons							
TPH (C6-C40)	DETSC 3311*	10	mg/kg	< 10	760	140	
PAHs							
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.04	
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	0.03	
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.15	0.29	
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.03	0.07	
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.19	0.50	
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.18	0.46	
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.08	0.19	
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	0.09	0.20	
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.10	0.20	
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.06	
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.07	0.13	
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.03	0.05	
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04	0.06	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	0.94	2.3	

Summary of Asbestos Analysis
Soil Samples

Our Ref 24-07700
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
2324960	WS04 1.80	SOIL	NAD	none	Ben Rose
2324961	WS05 0.50	SOIL	Chrysotile	Chrysotile present as fibre bundles	Ben Rose
2324962	WS05 1.00	SOIL	Chrysotile	Chrysotile present as fibre bundles	Ben Rose

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Information in Support of the Analytical Results

Our Ref 24-07700
Client Ref ~ M30412
Contract ~ Blackmoorfoot Road

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2324960	WS04 1.80 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324961	WS05 0.50 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324962	WS05 1.00 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		
2324963	WS05 3.50 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 2002	Organic matter	%	0.1	Air Dried	No	Yes	Yes
DETSC 2003	Loss on ignition	%	0.01	Air Dried	No	Yes	Yes
DETSC 2008	pH	pH Units	1	Air Dried	No	Yes	Yes
DETSC 2076	Sulphate Aqueous Extract as SO4	mg/l	10	Air Dried	No	Yes	Yes
DETSC 2084	Total Organic Carbon	%	0.5	Air Dried	No	Yes	Yes
DETSC 2119	Ammoniacal Nitrogen as N	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide free	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Cyanide total	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2130	Phenol - Monohydric	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2130	Thiocyanate	mg/kg	0.6	Air Dried	No	Yes	Yes
DETSC 2301	Arsenic	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Barium	mg/kg	1.5	Air Dried	No	Yes	Yes
DETSC 2301	Beryllium	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium Available	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cadmium	mg/kg	0.1	Air Dried	No	Yes	Yes
DETSC 2301	Cobalt	mg/kg	0.7	Air Dried	No	Yes	Yes
DETSC 2301	Chromium	mg/kg	0.15	Air Dried	No	Yes	Yes
DETSC 2301	Copper	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2301	Manganese	mg/kg	20	Air Dried	No	Yes	Yes
DETSC 2301	Molybdenum	mg/kg	0.4	Air Dried	No	Yes	Yes
DETSC 2301	Nickel	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2301	Lead	mg/kg	0.3	Air Dried	No	Yes	Yes
DETSC 2301	Selenium	mg/kg	0.5	Air Dried	No	Yes	Yes
DETSC 2301	Zinc	mg/kg	1	Air Dried	No	Yes	Yes
DETSC 2311	Boron (water soluble)	mg/kg	0.2	Air Dried	No	Yes	Yes
DETSC 2321	Total Sulphate as SO4	%	0.01	Air Dried	No	Yes	Yes
DETSC 2325	Mercury	mg/kg	0.05	Air Dried	No	Yes	Yes
DETSC 3049	Sulphur (free)	mg/kg	0.75	As Received	No	Yes	Yes
DETSC 3072	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3072	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3072	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3072	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3072	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3072	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes
DETSC 3303	Acenaphthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Acenaphthylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(a)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(b)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(k)fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Benzo(g,h,i)perylene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Dibenzo(a,h)anthracene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Fluoranthene	mg/kg	0.03	As Received	No	Yes	Yes

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS
DETSC 3303	Indeno(1,2,3-c,d)pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Naphthalene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Phenanthrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3303	Pyrene	mg/kg	0.03	As Received	No	Yes	Yes
DETSC 3311	C10-C24 Diesel Range Organics (DRO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	C24-C40 Lube Oil Range Organics (LORO)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3311	EPH (C10-C40)	mg/kg	10	As Received	No	Yes	Yes
DETSC 3321	Benzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Ethylbenzene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Toluene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	m+p Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3321	o Xylene	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 28 + PCB 31	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 52	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 101	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 118	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 153	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 138	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB 180	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3401	PCB Total	mg/kg	0.01	As Received	No	Yes	Yes
DETSC 3521	Ali/Aro C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C12	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C12-C16	mg/kg	1.2	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C16-C21	mg/kg	1.5	As Received	No	Yes	Yes
DETSC 3521	Aliphatic C21-C35	mg/kg	3.4	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C12	mg/kg	0.9	As Received	No	Yes	Yes
DETSC 3521	Aromatic C10-C35	mg/kg	10	As Received	No	Yes	Yes
DETSC 3521	Aromatic C12-C16	mg/kg	0.5	As Received	No	Yes	Yes
DETSC 3521	Aromatic C16-C21	mg/kg	0.6	As Received	No	Yes	Yes
DETSC 3521	Aromatic C21-C35	mg/kg	1.4	As Received	No	Yes	Yes

Method details are shown only for those determinands listed in Annex A of the MCERTS standard. Anything not included on this list falls outside the scope of MCERTS. No Recovery Factors are used in the determination of results. Results reported assume 100% recovery. Full method statements are available on request.

Appendix A - Details of Analysis

Method	Parameter	Units	Limit of Detection	Sample Preparation	Sub-Contracted	UKAS	MCERTS

Key:
~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-13452 *Issued:* 04-Jul-24

Client Dunelm Geotechnical & Environmental Ltd
Chambers Business Centre
Chapel Road
Oldham
OL8 4QQ

Our Reference 24-13452

Client Reference ~ M30412

Order No ~ PO4455

Contract Title ~ Blackmoorfoot Road

Description One Soil sample.

Date Received 12-Apr-24

Date Started 01-Jul-24

Date Completed 04-Jul-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.

Approved By Redacted

Kirk Bridgewood
General Manager

2139

Summary of Asbestos Analysis
Samples

Our Ref 24-13452
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No	Sample ID	Sample Location	Material Type	Result	Comment*	Analyst

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 24-13452
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No		2358542
Sample ID ~		TP05
Depth ~		2.00
Other ID ~		
Sample Type ~		ES
Sampling Date ~		09/04/2024
Sampling Time ~		

Test	**Method**	**Units**		
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %		**0.009**
Gravimetric Quantification (a)	DETSC 1102	Mass %		na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %		0.009
Quantification by PCOM (c)	DETSC 1102	Mass %		na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g		na
Breakdown of Gravimetric Analysis (a)				
Mass of Sample		g		16.47
ACMs present*		type		
Mass of ACM in sample		g		
% ACM by mass		%		
% asbestos in ACM		%		
% asbestos in sample		%		
Breakdown of Detailed Gravimetric Analysis (b)				
% Amphibole bundles in sample		Mass %		na
% Chrysotile bundles in sample		Mass %		0.009
Breakdown of PCOM Analysis (c)				
% Amphibole fibres in sample		Mass %		na
% Chrysotile fibres in sample		Mass %		na
Breakdown of Potentially Respirable Fibre Analysis (d)				
Amphibole fibres		Fibres/g		na
Chrysotile fibres		Fibres/g		na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 24-13452
Client Ref ~ M30412
Contract ~ Blackmoorfoot Road

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2358542	TP05 2.00 SOIL	09/04/24	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

Certificate of Analysis

Certificate Number 24-13453 *Issued:* 04-Jul-24

Client Dunelm Geotechnical & Environmental Ltd
Chambers Business Centre
Chapel Road
Oldham
OL8 4QQ

Our Reference 24-13453

Client Reference ~ M30412

Order No ~ PO4455

Contract Title ~ Blackmoorfoot Road

Description 2 Soil samples.

Date Received 16-Apr-24

Date Started 01-Jul-24

Date Completed 04-Jul-24

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. 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 except in full, without the prior written approval of the laboratory.

Approved By Redacted

Kirk Bridgewood
General Manager

2139

Summary of Asbestos Analysis

Samples

Our Ref 24-13453
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No	Sample ID	Sample Location	Material Type	Result	Comment*	Analyst

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Asbestos Quantification Analysis
Soil Samples

Our Ref 24-13453
Client Ref ~ M30412
Contract Title ~ Blackmoorfoot Road

Lab No			2358543	2358544
Sample ID ~			WS05	WS05
Depth ~			0.50	1.00
Other ID ~				
Sample Type ~			ES	ES
Sampling Date ~			10/04/2024	10/04/2024
Sampling Time ~				
Test	**Method**	**Units**		
Total Mass% Asbestos (a+b+c)	DETSC 1102	Mass %		**0.003**	**0.004**
Gravimetric Quantification (a)	DETSC 1102	Mass %		na	na
Detailed Gravimetric Quantification (b)	DETSC 1102	Mass %		0.003	0.004
Quantification by PCOM (c)	DETSC 1102	Mass %		na	na
Potentially Respirable Fibres (d)	DETSC 1102	Fibres/g		na	na
Breakdown of Gravimetric Analysis (a)					
Mass of Sample		g		11.80	10.49
ACMs present*		type			
Mass of ACM in sample		g			
% ACM by mass		%			
% asbestos in ACM		%			
% asbestos in sample		%			
Breakdown of Detailed Gravimetric Analysis (b)					
% Amphibole bundles in sample		Mass %		na	na
% Chrysotile bundles in sample		Mass %		0.003	0.004
Breakdown of PCOM Analysis (c)					
% Amphibole fibres in sample		Mass %		na	na
% Chrysotile fibres in sample		Mass %		na	na
Breakdown of Potentially Respirable Fibre Analysis (d)					
Amphibole fibres		Fibres/g		na	na
Chrysotile fibres		Fibres/g		na	na

* Denotes test or material description outside of UKAS accreditation.
% asbestos in Asbestos Containing Materials (ACMs) is determined by
by reference to HSG 264.
Recommended sample size for quantification is approximately 1kg
# denotes deviating sample

Information in Support of the Analytical Results

Our Ref 24-13453
Client Ref ~ M30412
Contract ~ Blackmoorfoot Road

Containers Received & Deviating Samples

Lab No	Sample ID ~	Date Sampled ~	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2358543	WS05 0.50 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		
2358544	WS05 1.00 SOIL	10/04/24	GJ 250ml, GJ 60ml, PT 1L		

Key: G-Glass P-Plastic J-Jar T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Key:

~ Sample details are provided by the client and can affect the validity of the results
***** -not accredited.
# -MCERTS (accreditation only applies if report carries the MCERTS logo).
$ -subcontracted.
n/s -not supplied.
I/S -insufficient sample.
U/S -unsuitable sample.
t/f -to follow.
nd -not detected.

End of Report

HazWasteOnline™

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.

14GY8-ENE1S-EBW7U

Job name

M30412 Blackmoorfoot Road

Description/Comments

Project

M30412

Site

Blackmoorfoot Road, Huddersfield,

Classified by

Name:
Becki Burndred
Date:
02 Jul 2024 10:58 GMT
Telephone:
0191 378 3151

Company:
Dunelm Geotechnical & Environmental Ltd
Unit 567, Chambers Business Centre,
Chapel Road
Oldham
OL8 4QQ

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	08 Feb 2024

Next 3 year Refresher due by Feb 2027

Purpose of classification

2 - Material Characterisation

Address of the waste

Blackmoorfoot Road, Crosland Hill, Huddersfield **Post Code** HD4 7AE

SIC for the process giving rise to the waste

41201 Construction of commercial buildings

Description of industry/producer giving rise to the waste

Redevelopment of existing site into new commercial units

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

Waste created during the excavation of soils

Description of the waste

Predominantly granular made ground.

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS04	1.8	Non Hazardous		3
2	WS05	0.5	Non Hazardous		5
3	WS05[2]	1	Non Hazardous		7
4	WS01A	0.5	Non Hazardous		9
5	WS02	0.5	Non Hazardous		11
6	WS03	0.2	Non Hazardous		13
7	TP01	1	Non Hazardous		15
8	TP02	0.5	Non Hazardous		17
9	TP03	0.2	Non Hazardous		19
10	TP04	0.5	Non Hazardous		20
11	TP05	0.5	Non Hazardous		22
12	TP05[2]	2	Non Hazardous		24

Related documents

#	Name	Description
1	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: Becki Burndred

Created date: 02 Jul 2024 10:58 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	26
Appendix B: Rationale for selection of metal species	27
Appendix C: Version	27

Classification of sample: WS04

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

Sample details

Sample name:		LoW Code:	
WS04		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
1.8 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		5.6	mg/kg	1.32	7.394	mg/kg	0.000739 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.228	mg/kg	0.0000228 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		16	mg/kg	1.462	23.385	mg/kg	0.00234 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	22.518	mg/kg	0.00225 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	21	mg/kg	1.56	32.756	mg/kg	0.0021 %		
6		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18	mg/kg	2.976	53.573	mg/kg	0.00536 %		
7		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		55	mg/kg	2.774	152.578	mg/kg	0.0153 %		
8		pH			PH		7.4	pH		7.4	pH	7.4 pH		
9		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
10		acenaphthene		201-469-6	83-32-9		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
11		fluorene		201-695-5	86-73-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
12		phenanthrene		201-581-5	85-01-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
13		anthracene		204-371-1	120-12-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
14		fluoranthene		205-912-4	206-44-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
15		pyrene		204-927-3	129-00-0		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
16		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
17		chrysene	601-048-00-0	205-923-4	218-01-9		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<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									
18		benzo[b]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-032-00-3	200-028-5	50-32-8									
21	•	indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
23	•	benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-883-8	191-24-2									
24		phenol				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		**<LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0281 %		

Key

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

Classification of sample: WS05

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

Sample details

Sample name:		LoW Code:	
WS05		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.5 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				5.5	mg/kg	1.32	7.262	mg/kg	0.000726 %		
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.8	mg/kg	1.142	0.914	mg/kg	0.0000914 %		
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.8	mg/kg	1.462	14.323	mg/kg	0.00143 %		
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				15	mg/kg	1.126	16.888	mg/kg	0.00169 %		
		029-002-00-X	215-270-7	1317-39-1									
5		lead { lead chromate }			1	29	mg/kg	1.56	45.235	mg/kg	0.0029 %		
		082-004-00-2	231-846-0	7758-97-6									
6		nickel { nickel chromate }				9.5	mg/kg	2.976	28.275	mg/kg	0.00283 %		
		028-035-00-7	238-766-5	14721-18-7									
7		zinc { zinc chromate }				83	mg/kg	2.774	230.254	mg/kg	0.023 %		
		024-007-00-3	236-878-9	13530-65-9									
8		TPH (C6 to C40) petroleum group				760	mg/kg		760	mg/kg	0.076 %		
				TPH									
9		pH				8.6	pH		8.6	pH	8.6 pH		
				PH									
10		acenaphthylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-917-1	208-96-8									
11		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-469-6	83-32-9									
12		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-695-5	86-73-7									
13		phenanthrene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			201-581-5	85-01-8									
14		anthracene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
			204-371-1	120-12-7									
15		fluoranthene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
			205-912-4	206-44-0									
16		pyrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			204-927-3	129-00-0									
17		benzo[a]anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
		601-033-00-9	200-280-6	56-55-3									

#		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									
18		chrysene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-048-00-0	205-923-4	218-01-9									
19		benzo[b]fluoranthene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
		601-034-00-4	205-911-9	205-99-2									
20		benzo[k]fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-036-00-5	205-916-6	207-08-9									
21		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-032-00-3	200-028-5	50-32-8									
22	•	indeno[123-cd]pyrene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
24	•	benzo[ghi]perylene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-883-8	191-24-2									
25		phenol				0.94	mg/kg		0.94	mg/kg	0.000094 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.109 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated 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 because There was no free phase product visible.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.076%)

Classification of sample: WS05[2]

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

Sample details

Sample name:		LoW Code:	
WS05[2]		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
1 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		82	mg/kg	1.32	108.267	mg/kg	0.0108 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		94	mg/kg	1.126	105.834	mg/kg	0.0106 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	120	mg/kg	1.56	187.178	mg/kg	0.012 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.51	mg/kg	1.353	0.69	mg/kg	0.000069 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		21	mg/kg	2.976	62.502	mg/kg	0.00625 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		78	mg/kg	2.774	216.383	mg/kg	0.0216 %		
9		TPH (C6 to C40) petroleum group			TPH		140	mg/kg		140	mg/kg	0.014 %		
10		pH			PH		8.3	pH		8.3	pH	8.3 pH		
11		naphthalene	601-052-00-2	202-049-5	91-20-3		0.04	mg/kg		0.04	mg/kg	0.000004 %		
12		acenaphthylene		205-917-1	208-96-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
13		acenaphthene		201-469-6	83-32-9		0.03	mg/kg		0.03	mg/kg	0.000003 %		
14		fluorene		201-695-5	86-73-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
15		phenanthrene		201-581-5	85-01-8		0.29	mg/kg		0.29	mg/kg	0.000029 %		
16		anthracene		204-371-1	120-12-7		0.07	mg/kg		0.07	mg/kg	0.000007 %		
17		fluoranthene		205-912-4	206-44-0		0.5	mg/kg		0.5	mg/kg	0.00005 %		

#		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									
18	•	pyrene				0.46	mg/kg		0.46	mg/kg	0.000046 %		
			204-927-3	129-00-0									
19		benzo[a]anthracene				0.19	mg/kg		0.19	mg/kg	0.000019 %		
		601-033-00-9	200-280-6	56-55-3									
20		chrysene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		601-048-00-0	205-923-4	218-01-9									
21		benzo[b]fluoranthene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
		601-034-00-4	205-911-9	205-99-2									
22		benzo[k]fluoranthene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
		601-036-00-5	205-916-6	207-08-9									
23		benzo[a]pyrene; benzo[def]chrysene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-032-00-3	200-028-5	50-32-8									
24	•	indeno[123-cd]pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-893-2	193-39-5									
25		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
26	•	benzo[ghi]perylene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			205-883-8	191-24-2									
27		phenol				2.3	mg/kg		2.3	mg/kg	0.00023 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0794 %		

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 because There was no free phase product visible.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.014%)

Classification of sample: WS01A

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

Sample details

Sample name:		LoW Code:	
WS01A		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.5 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				6	mg/kg	1.32	7.922	mg/kg	0.000792 %		
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11	mg/kg	1.462	16.077	mg/kg	0.00161 %		
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
		029-002-00-X	215-270-7	1317-39-1									
5		lead { lead chromate }			1	59	mg/kg	1.56	92.029	mg/kg	0.0059 %		
		082-004-00-2	231-846-0	7758-97-6									
6		mercury { mercury dichloride }				0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
		080-010-00-X	231-299-8	7487-94-7									
7		nickel { nickel chromate }				8.7	mg/kg	2.976	25.894	mg/kg	0.00259 %		
		028-035-00-7	238-766-5	14721-18-7									
8		zinc { zinc chromate }				48	mg/kg	2.774	133.159	mg/kg	0.0133 %		
		024-007-00-3	236-878-9	13530-65-9									
9		TPH (C6 to C40) petroleum group				26	mg/kg		26	mg/kg	0.0026 %		
				TPH									
10		pH				8	pH		8	pH	8pH		
				PH									
11		acenaphthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			201-469-6	83-32-9									
12		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-695-5	86-73-7									
13		phenanthrene				0.26	mg/kg		0.26	mg/kg	0.000026 %		
			201-581-5	85-01-8									
14		anthracene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			204-371-1	120-12-7									
15		fluoranthene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
			205-912-4	206-44-0									
16		pyrene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
			204-927-3	129-00-0									
17		benzo[a]anthracene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-033-00-9	200-280-6	56-55-3									

#		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									
18		chrysene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-048-00-0	205-923-4	218-01-9									
19		benzo[b]fluoranthene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-034-00-4	205-911-9	205-99-2									
20		benzo[k]fluoranthene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		601-036-00-5	205-916-6	207-08-9									
21		benzo[a]pyrene; benzo[def]chrysene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-032-00-3	200-028-5	50-32-8									
22	•	indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-893-2	193-39-5									
23		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
24	•	benzo[ghi]perylene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
			205-883-8	191-24-2									
25		phenol				1.4	mg/kg		1.4	mg/kg	0.00014 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0296 %		

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 because There was no free phase product visible.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0026%)

Classification of sample: WS02

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

Sample details

Sample name:		LoW Code:	
WS02		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.5 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				6	mg/kg	1.32	7.922	mg/kg	0.000792 %		
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.5	mg/kg	1.142	0.571	mg/kg	0.0000571 %		
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18	mg/kg	1.462	26.308	mg/kg	0.00263 %		
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	18.014	mg/kg	0.0018 %		
		029-002-00-X	215-270-7	1317-39-1									
5		lead { lead chromate }			1	30	mg/kg	1.56	46.794	mg/kg	0.003 %		
		082-004-00-2	231-846-0	7758-97-6									
6		mercury { mercury dichloride }				0.06	mg/kg	1.353	0.0812	mg/kg	0.00000812 %		
		080-010-00-X	231-299-8	7487-94-7									
7		nickel { nickel chromate }				15	mg/kg	2.976	44.644	mg/kg	0.00446 %		
		028-035-00-7	238-766-5	14721-18-7									
8		zinc { zinc chromate }				77	mg/kg	2.774	213.609	mg/kg	0.0214 %		
		024-007-00-3	236-878-9	13530-65-9									
9		pH				8.2	pH		8.2	pH	8.2 pH		
				PH									
10		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-469-6	83-32-9									
11		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-695-5	86-73-7									
12		phenanthrene				0.36	mg/kg		0.36	mg/kg	0.000036 %		
			201-581-5	85-01-8									
13		anthracene				0.08	mg/kg		0.08	mg/kg	0.000008 %		
			204-371-1	120-12-7									
14		fluoranthene				0.92	mg/kg		0.92	mg/kg	0.000092 %		
			205-912-4	206-44-0									
15		pyrene				0.85	mg/kg		0.85	mg/kg	0.000085 %		
			204-927-3	129-00-0									
16		benzo[a]anthracene				0.33	mg/kg		0.33	mg/kg	0.000033 %		
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				0.34	mg/kg		0.34	mg/kg	0.000034 %		
		601-048-00-0	205-923-4	218-01-9									

#		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									
18		benzo[b]fluoranthene				0.36	mg/kg		0.36	mg/kg	0.000036 %		
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.3	mg/kg		0.3	mg/kg	0.00003 %		
		601-032-00-3	200-028-5	50-32-8									
21	•	indeno[123-cd]pyrene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		601-041-00-2	200-181-8	53-70-3									
23	•	benzo[ghi]perylene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
			205-883-8	191-24-2									
24		phenol				4	mg/kg		4	mg/kg	0.0004 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0349 %		

Key

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

Classification of sample: WS03

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

Sample details

Sample name:		LoW Code:	
WS03		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.2 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				4	mg/kg	1.32	5.281	mg/kg	0.000528 %		
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.6	mg/kg	1.142	0.685	mg/kg	0.0000685 %		
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				10	mg/kg	1.462	14.616	mg/kg	0.00146 %		
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				14	mg/kg	1.126	15.762	mg/kg	0.00158 %		
		029-002-00-X	215-270-7	1317-39-1									
5		lead { lead chromate }			1	23	mg/kg	1.56	35.876	mg/kg	0.0023 %		
		082-004-00-2	231-846-0	7758-97-6									
6		nickel { nickel chromate }				9.7	mg/kg	2.976	28.87	mg/kg	0.00289 %		
		028-035-00-7	238-766-5	14721-18-7									
7		zinc { zinc chromate }				53	mg/kg	2.774	147.03	mg/kg	0.0147 %		
		024-007-00-3	236-878-9	13530-65-9									
8		pH				8.5	pH		8.5	pH	8.5 pH		
				PH									
9		acenaphthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-469-6	83-32-9									
10		fluorene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			201-695-5	86-73-7									
11		phenanthrene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			201-581-5	85-01-8									
12		anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			204-371-1	120-12-7									
13		fluoranthene				0.1	mg/kg		0.1	mg/kg	0.00001 %		
			205-912-4	206-44-0									
14		pyrene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
			204-927-3	129-00-0									
15		benzo[a]anthracene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-033-00-9	200-280-6	56-55-3									
16		chrysene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-048-00-0	205-923-4	218-01-9									
17		benzo[b]fluoranthene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
		601-034-00-4	205-911-9	205-99-2									

#		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									
18		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-036-00-5	205-916-6	207-08-9									
19		benzo[a]pyrene; benzo[def]chrysene				0.03	mg/kg		0.03	mg/kg	0.000003 %		
		601-032-00-3	200-028-5	50-32-8									
20	•	indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-893-2	193-39-5									
21		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
22	•	benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-883-8	191-24-2									
23		phenol				0.38	mg/kg		0.38	mg/kg	0.000038 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0236 %		

Key

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

Classification of sample: TP01

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

Sample details

Sample name:		LoW Code:	
TP01		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
1 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		2.8	mg/kg	1.32	3.697	mg/kg	0.00037 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		11	mg/kg	1.462	16.077	mg/kg	0.00161 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		14	mg/kg	1.126	15.762	mg/kg	0.00158 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	13	mg/kg	1.56	20.278	mg/kg	0.0013 %		
6		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		23	mg/kg	2.976	68.454	mg/kg	0.00685 %		
7		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		51	mg/kg	2.774	141.481	mg/kg	0.0141 %		
8		pH			PH		8.4	pH		8.4	pH	8.4 pH		
9		acenaphthene		201-469-6	83-32-9		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
10		fluorene		201-695-5	86-73-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
11		phenanthrene		201-581-5	85-01-8		0.09	mg/kg		0.09	mg/kg	0.000009 %		
12		anthracene		204-371-1	120-12-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
13		fluoranthene		205-912-4	206-44-0		0.13	mg/kg		0.13	mg/kg	0.000013 %		
14		pyrene		204-927-3	129-00-0		0.12	mg/kg		0.12	mg/kg	0.000012 %		
15		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.05	mg/kg		0.05	mg/kg	0.000005 %		
16		chrysene	601-048-00-0	205-923-4	218-01-9		0.06	mg/kg		0.06	mg/kg	0.000006 %		
17		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.06	mg/kg		0.06	mg/kg	0.000006 %		

#		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									
18		benzo[k]fluoranthene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-036-00-5	205-916-6	207-08-9									
19		benzo[a]pyrene; benzo[def]chrysene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-032-00-3	200-028-5	50-32-8									
20	•	indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-893-2	193-39-5									
21		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
22	•	benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-883-8	191-24-2									
23		phenol				0.54	mg/kg		0.54	mg/kg	0.000054 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.026 %		

Key

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

Classification of sample: TP02

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

Sample details

Sample name:		LoW Code:	
TP02		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.5 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				6.5	mg/kg	1.32	8.582	mg/kg	0.000858 %		
		033-003-00-0	215-481-4	1327-53-3									
2		cadmium { cadmium oxide }				0.4	mg/kg	1.142	0.457	mg/kg	0.0000457 %		
		048-002-00-0	215-146-2	1306-19-0									
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11	mg/kg	1.462	16.077	mg/kg	0.00161 %		
			215-160-9	1308-38-9									
4		copper { dicopper oxide; copper (I) oxide }				11	mg/kg	1.126	12.385	mg/kg	0.00124 %		
		029-002-00-X	215-270-7	1317-39-1									
5		lead { lead chromate }			1	31	mg/kg	1.56	48.354	mg/kg	0.0031 %		
		082-004-00-2	231-846-0	7758-97-6									
6		nickel { nickel chromate }				5.9	mg/kg	2.976	17.56	mg/kg	0.00176 %		
		028-035-00-7	238-766-5	14721-18-7									
7		zinc { zinc chromate }				38	mg/kg	2.774	105.418	mg/kg	0.0105 %		
		024-007-00-3	236-878-9	13530-65-9									
8		TPH (C6 to C40) petroleum group				150	mg/kg		150	mg/kg	0.015 %		
				TPH									
9		pH				8.6	pH		8.6	pH	8.6 pH		
				PH									
10		acenaphthene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			201-469-6	83-32-9									
11		fluorene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			201-695-5	86-73-7									
12		phenanthrene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
			201-581-5	85-01-8									
13		anthracene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
			204-371-1	120-12-7									
14		fluoranthene				0.36	mg/kg		0.36	mg/kg	0.000036 %		
			205-912-4	206-44-0									
15		pyrene				0.32	mg/kg		0.32	mg/kg	0.000032 %		
			204-927-3	129-00-0									
16		benzo[a]anthracene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-033-00-9	200-280-6	56-55-3									
17		chrysene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-048-00-0	205-923-4	218-01-9									

#		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									
18		benzo[b]fluoranthene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-034-00-4	205-911-9	205-99-2									
19		benzo[k]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-036-00-5	205-916-6	207-08-9									
20		benzo[a]pyrene; benzo[def]chrysene				0.11	mg/kg		0.11	mg/kg	0.000011 %		
		601-032-00-3	200-028-5	50-32-8									
21	•	indeno[123-cd]pyrene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
			205-893-2	193-39-5									
22		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
23	•	benzo[ghi]perylene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			205-883-8	191-24-2									
24		phenol				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0345 %		

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 because There was no free phase product visible.

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.015%)

Classification of sample: TP03

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

Sample details

Sample name:		LoW Code:	
TP03		Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:			
0.2 m		Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		3.2	mg/kg	1.32	4.225	mg/kg	0.000423 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.343	mg/kg	0.0000343 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		6.8	mg/kg	1.462	9.939	mg/kg	0.000994 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		10	mg/kg	1.126	11.259	mg/kg	0.00113 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	20	mg/kg	1.56	31.196	mg/kg	0.002 %		
6		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		6	mg/kg	2.976	17.858	mg/kg	0.00179 %		
7		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		30	mg/kg	2.774	83.224	mg/kg	0.00832 %		
8		pH			PH		8.6	pH		8.6	pH	8.6 pH		
											Total:	0.0147 %		

Key

	User supplied data
	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
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP04

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

Sample details

Sample name:
TP04
Sample Depth:
0.5 m

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: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.7	mg/kg	1.142	0.8	mg/kg	0.00008 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		18	mg/kg	1.462	26.308	mg/kg	0.00263 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		47	mg/kg	1.126	52.917	mg/kg	0.00529 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	150	mg/kg	1.56	233.972	mg/kg	0.015 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.21	mg/kg	1.353	0.284	mg/kg	0.0000284 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		16	mg/kg	2.976	47.62	mg/kg	0.00476 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		95	mg/kg	2.774	263.544	mg/kg	0.0264 %		
9		pH			PH		8.6	pH		8.6	pH	8.6 pH		
10		acenaphthene		201-469-6	83-32-9		0.04	mg/kg		0.04	mg/kg	0.000004 %		
11		phenanthrene		201-581-5	85-01-8		0.29	mg/kg		0.29	mg/kg	0.000029 %		
12		anthracene		204-371-1	120-12-7		0.06	mg/kg		0.06	mg/kg	0.000006 %		
13		fluoranthene		205-912-4	206-44-0		0.42	mg/kg		0.42	mg/kg	0.000042 %		
14		pyrene		204-927-3	129-00-0		0.37	mg/kg		0.37	mg/kg	0.000037 %		
15		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.13	mg/kg		0.13	mg/kg	0.000013 %		
16		chrysene	601-048-00-0	205-923-4	218-01-9		0.15	mg/kg		0.15	mg/kg	0.000015 %		
17		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.12	mg/kg		0.12	mg/kg	0.000012 %		

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		EU CLP index number	EC Number	CAS Number									
18		benzo[k]fluoranthene				0.05	mg/kg		0.05	mg/kg	0.000005 %		
		601-036-00-5	205-916-6	207-08-9									
19		benzo[a]pyrene; benzo[def]chrysene				0.09	mg/kg		0.09	mg/kg	0.000009 %		
		601-032-00-3	200-028-5	50-32-8									
20	•	indeno[123-cd]pyrene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-893-2	193-39-5									
21		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
22	•	benzo[ghi]perylene				0.04	mg/kg		0.04	mg/kg	0.000004 %		
			205-883-8	191-24-2									
23		phenol				1.8	mg/kg		1.8	mg/kg	0.00018 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0562 %		

Key

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

Classification of sample: TP05

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

Sample details

Sample name:
TP05
Sample Depth:
0.5 m

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: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		22	mg/kg	1.32	29.047	mg/kg	0.0029 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.1	mg/kg	1.142	0.114	mg/kg	0.0000114 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		20	mg/kg	1.462	29.231	mg/kg	0.00292 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		55	mg/kg	1.126	61.924	mg/kg	0.00619 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	44	mg/kg	1.56	68.632	mg/kg	0.0044 %		
6		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		19	mg/kg	2.976	56.549	mg/kg	0.00565 %		
7		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		78	mg/kg	2.774	216.383	mg/kg	0.0216 %		
8		pH			PH		8.2	pH		8.2	pH	8.2 pH		
9		phenanthrene		201-581-5	85-01-8		0.05	mg/kg		0.05	mg/kg	0.000005 %		
10		anthracene		204-371-1	120-12-7		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
11		fluoranthene		205-912-4	206-44-0		0.08	mg/kg		0.08	mg/kg	0.000008 %		
12		pyrene		204-927-3	129-00-0		0.07	mg/kg		0.07	mg/kg	0.000007 %		
13		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.03	mg/kg		0.03	mg/kg	0.000003 %		
14		chrysene	601-048-00-0	205-923-4	218-01-9		0.04	mg/kg		0.04	mg/kg	0.000004 %		
15		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.03	mg/kg		0.03	mg/kg	0.000003 %		
16		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
17		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<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									
18	•	indeno[123-cd]pyrene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-893-2	193-39-5									
19		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
20	•	benzo[ghi]perylene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
			205-883-8	191-24-2									
21		phenol				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0438 %		

Key

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

Classification of sample: TP05[2]

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

Sample details

Sample name:
TP05[2]
Sample Depth:
2 m

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: 0% No Moisture Correction applied (MC)

#		Determinand	EU CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1		arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		53	mg/kg	1.32	69.977	mg/kg	0.007 %		
2		cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.2	mg/kg	1.142	0.228	mg/kg	0.0000228 %		
3		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		24	mg/kg	1.462	35.077	mg/kg	0.00351 %		
4		copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		190	mg/kg	1.126	213.919	mg/kg	0.0214 %		
5		lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	230	mg/kg	1.56	358.757	mg/kg	0.023 %		
6		mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.19	mg/kg	1.353	0.257	mg/kg	0.0000257 %		
7		nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		24	mg/kg	2.976	71.43	mg/kg	0.00714 %		
8		zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		55	mg/kg	2.774	152.578	mg/kg	0.0153 %		
9		pH			PH		8.4	pH		8.4	pH	8.4 pH		
10		acenaphthene		201-469-6	83-32-9		0.04	mg/kg		0.04	mg/kg	0.000004 %		
11		phenanthrene		201-581-5	85-01-8		0.3	mg/kg		0.3	mg/kg	0.00003 %		
12		anthracene		204-371-1	120-12-7		0.05	mg/kg		0.05	mg/kg	0.000005 %		
13		fluoranthene		205-912-4	206-44-0		0.46	mg/kg		0.46	mg/kg	0.000046 %		
14		pyrene		204-927-3	129-00-0		0.4	mg/kg		0.4	mg/kg	0.00004 %		
15		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.15	mg/kg		0.15	mg/kg	0.000015 %		
16		chrysene	601-048-00-0	205-923-4	218-01-9		0.18	mg/kg		0.18	mg/kg	0.000018 %		
17		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.16	mg/kg		0.16	mg/kg	0.000016 %		

#		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									
18		benzo[k]fluoranthene				0.07	mg/kg		0.07	mg/kg	0.000007 %		
		601-036-00-5	205-916-6	207-08-9									
19		benzo[a]pyrene; benzo[def]chrysene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-032-00-3	200-028-5	50-32-8									
20	•	indeno[123-cd]pyrene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			205-893-2	193-39-5									
21		dibenz[a,h]anthracene				<0.03	mg/kg		<0.03	mg/kg	<0.000003 %		**<LOD**
		601-041-00-2	200-181-8	53-70-3									
22	•	benzo[ghi]perylene				0.06	mg/kg		0.06	mg/kg	0.000006 %		
			205-883-8	191-24-2									
23		phenol				2	mg/kg		2	mg/kg	0.0002 %		
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0778 %		

Key

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

Appendix A: Classifier defined and non GB MCL determinands

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

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

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

copper {dicopper oxide; copper (I) oxide}

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

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.158.6092.11254 (06 Jun 2024)
HazWasteOnline Database: 2024.158.6092.11254 (06 Jun 2024)

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

Appendix F

Geotechnical Testing Results

Laboratory Report Front Sheet

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
01642 033318
Redacted

10258

Client details:

Reference: M30412
Name: Dunelm North West
Address: Dunelm Geotechnical & Environmental Ltd,
Unit 567,
Chambers Business Centre,
Chapel Road,
Oldham,
OL8 4QQ

Telephone: Redacted
Email:

FAO: Ellie-May Barry

Samples received:

Date commenced: 19/04/2024

Date reported: 11/07/2024

Observations and interpretations are outside of the UKAS Accreditiation

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 in full, without the prior written approval of the laboratory.

Samples will be held at the laboratory for a period of 4 weeks after the report date. After the above reporting date the samples will be disposed of. Should further testing be required then the office should be informed before the above date.

Signature:	Approved Signitories:
Redacted	☐ D.Anderson (Managing Director) ☑ J. Brischuk (Laboratory Manager) ☐

Summary of Rock Point Load Tests

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

Hole	Sample			Specimen		Rock type and test condition	Test Type		Failure validity	Dimensions			Is	Is(50)	Remarks
	Depth m	Ref	Type	Depth m	Ref		Type	Dir.		W mm	D mm	D' mm	MPa	MPa	
BH02	22.72		C			Sandstone	D	L	Valid		85		2.07	2.62	
BH02	22.72		C			Sandstone	A	P	Valid	85	90		1.91	2.59	
BH03	20.09		C			Sandstone	D	L	Valid		85		0.02	0.02	
BH03	20.09		C			Sandstone	A	P	Valid	85	55		0.80	0.98	
BH04	19.47		C			Sandstone	D	L	Valid		83		2.08	2.62	
BH04	19.47		C			Sandstone	A	P	Valid	85	60		3.02	3.74	
BH05	18.00		C			Sandstone	D	L	Valid		85		2.08	2.64	
BH05	18.00		C			Sandstone	A	P	Valid	85	90		2.20	2.98	

Test not currently within the scope of G2M Testing UKAS accrediation schedule

Column	Key	Description
Test Type	A	Axial
	B	Block
	D	Diametral
	I	Irregular lump
Test Direction	L	Parallel to planes of weakness
	P	Perpendicular to planes of weakness
	U	Unknown
Dimensions	W	Width
	D	Platen seperation at start of test
	D'	Platen seperation at sample failure
	Is	Point Load Index
	Is(50)	Corrected Point Load Index to equivalent 50 mm diameter

Approved by	Redacted
Approval date	10/07/2024 08:25
Date report generated	
Report Number	

Laboratory Report Front Sheet

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
Redacted

10258

Client details:

Reference: M30412
Name: Dunelm North West
Address: Dunelm Geotechnical & Environmental Ltd,
Unit 567,
Chambers Business Centre,
Chapel Road,
Oldham,
OL8 4QQ

Telephone: Redacted
Email:

FAO: Ellie-May Barry

Samples received: 15/04/2024

Date commenced: 19/04/2024

Date reported: 03/05/2024

Observations and interpretations are outside of the UKAS Accreditiation

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 in full, without the prior written approval of the laboratory.

Samples will be held at the laboratory for a period of 4 weeks after the report date. After the above reporting date the samples will be disposed of. Should further testing be required then the office should be informed before the above date.

Signature:	Approved Signitories:
Redacted	☐ D.Anderson (Managing Director) ☑ J. Brischuk (Laboratory Manager) ☐

Summary of Classification Tests

G2M Testing (Stockton)

12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

10258

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

Hole	Depth Top m	Depth Base m	Type	*w* %	Oven temp. oc	wa %	Pa %	Pr %	wL %	wP %	IP %	IL	Plasticity class	Preparation method
BH04	1.00		D	14	105									
BH05	0.60		D	17	105		44	56	34-f	25	9		ML	Tested after washing to remove >425µm
BH05	10.00		B	19	105		19	81					NP	Tested after >425µm removed by hand
BH05	16.00		D	15	105		38	62					NP	Tested after >425µm removed by hand
TP01	1.90		B	17	105		26	74	29-f	21	8		CL	Tested after washing to remove >425µm
TP02	2.00		D	21	105		80	20	31-f	18	13		CL	Tested after >425µm removed by hand
TP03	0.90		B	16	105									
TP04	2.00		D	24	105		71	29	36-f	19	17		CI	Tested after >425µm removed by hand
TP05	1.00		D	18	105		31	69	34-f	21	13		CL	Tested after washing to remove >425µm
WS02	2.50		D	27	105									
WS03	2.00		D	8.6	105									
WS04	0.80		B	21	105		86	14	38-f	25	13		MI	Tested after >425µm removed by hand
WS05	3.40		D	42	105		77	23	112-s	62	50		ME	Tested after >425µm removed by hand

All tests found in G2M Testing UKAS Schedule of Accreditation are tested to standard unless otherwise indicated

Key	Description		Category	BS Test Code
w	Moisture content			BS 1377:1990 Part 2 Clause 3.2
wa	Equivalent moisture content passing 425µm sieve			BS 1377:1990 Part 2 Clause 3.2
wL	Liquid limit	Single point	-s	BS 1377:1990 Part 2 Clause 4.4
		Four point	-f	BS 1377:1990 Part 2 Clause 4.3
wP	Plastic limit			BS 1377:1990 Part 2 Clause 5.2
Pa	Percentage passing 425um sieve			
Pr	Percentage retained 425um sieve			
IP	Plasticity index			BS 1377:1990 Part 2 Clause 5.4
IL	Liquidity index			BS 1377:1990 Part 2 Clause 5.4
	Suffix indicating test is "Not UKAS Accredited"		*	

Approved by	D Anderson
Approval date	03/05/2024 11:31
Date report generated	
Report Number	

PARTICLE SIZE DISTRIBUTION

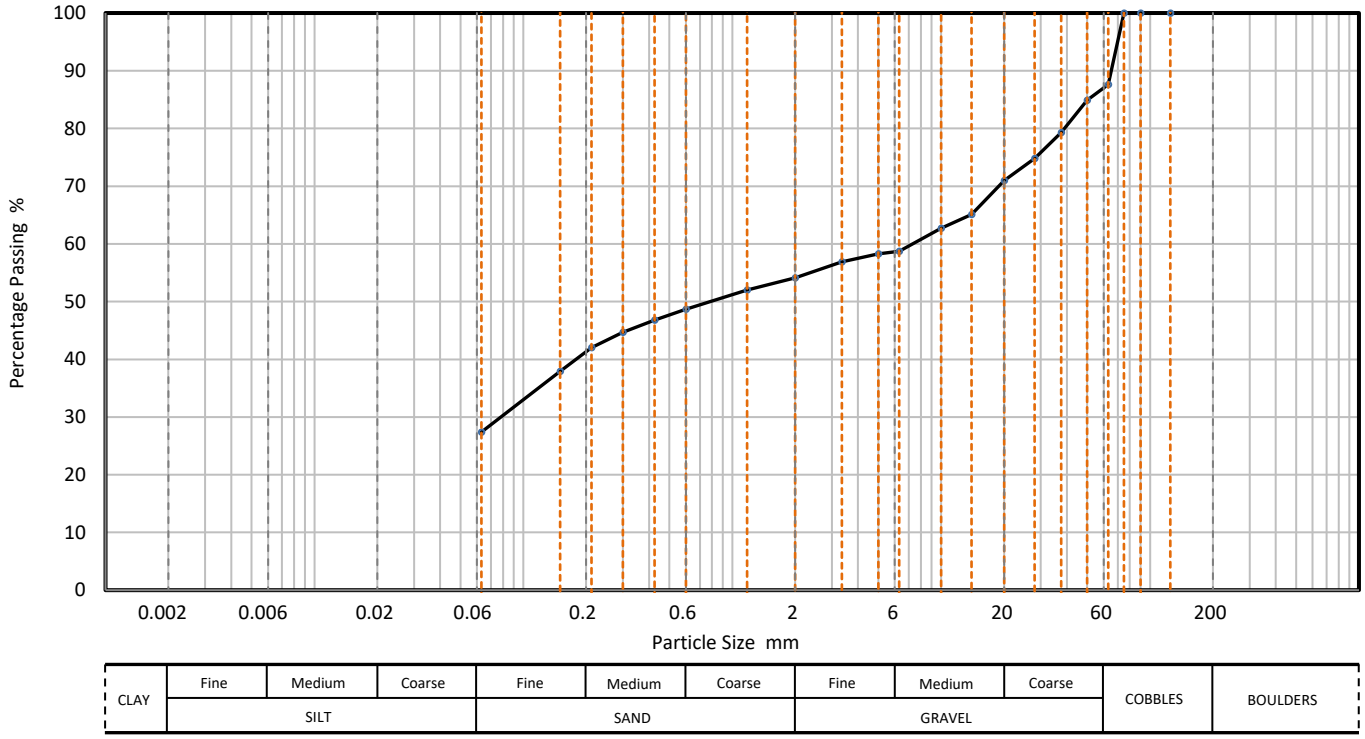
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

UKAS TESTING
10258

Hole	BH04	Lab sample ID	G2MT202404194
Depth (Top) m	1.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Cobbly, very Sandy, very Clayey, GRAVEL
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	88		
50	85		
37.5	79		
28	75		
20	71		
14	65		
10	63		
6.3	59		
5	58		
3.35	57		
2	54		
1.18	52		
0.6	49		
0.425	47		
0.3	45		
0.212	42		
0.15	38		
0.063	27		

Dry Mass of sample, g: 6900

Sample Proportions	% dry mass
Very coarse	12.4
Gravel	33.5
Sand	26.7
Fines <0.063mm	27.0

Grading Analysis		
D100	mm	
D60	mm	7.3
D30	mm	0.0782
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Accreditation status
Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:23

PARTICLE SIZE DISTRIBUTION

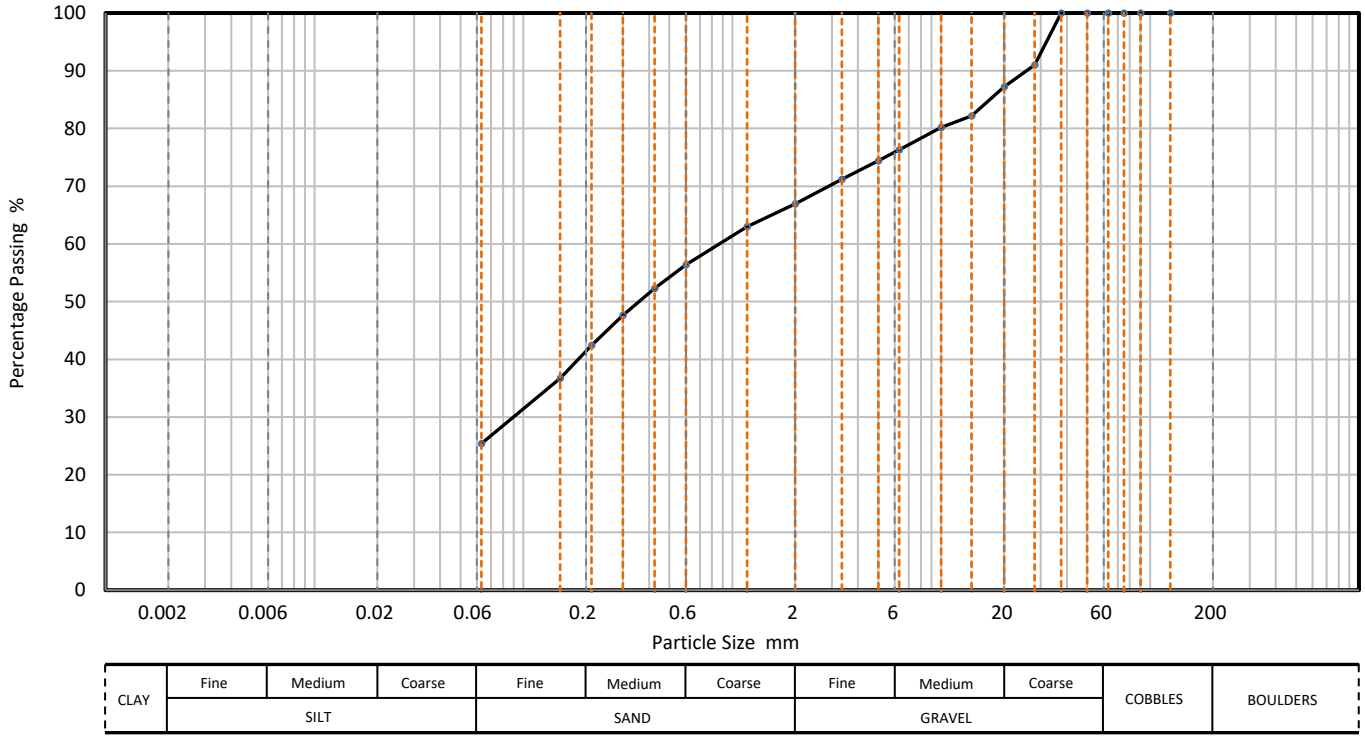
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

UKAS TESTING 10258

Hole	BH05	Lab sample ID	G2MT202404195
Depth (Top) m	0.60	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Very Clayey, very Gravelly, SAND
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	91		
20	87		
14	82		
10	80		
6.3	76		
5	74		
3.35	71		
2	67		
1.18	63		
0.6	56		
0.425	52		
0.3	48		
0.212	42		
0.15	37		
0.063	25		

Dry Mass of sample, g: 1515

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	33.1
Sand	41.6
Fines <0.063mm	25.0

Grading Analysis		
D100	mm	
D60	mm	0.87
D30	mm	0.09
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:32

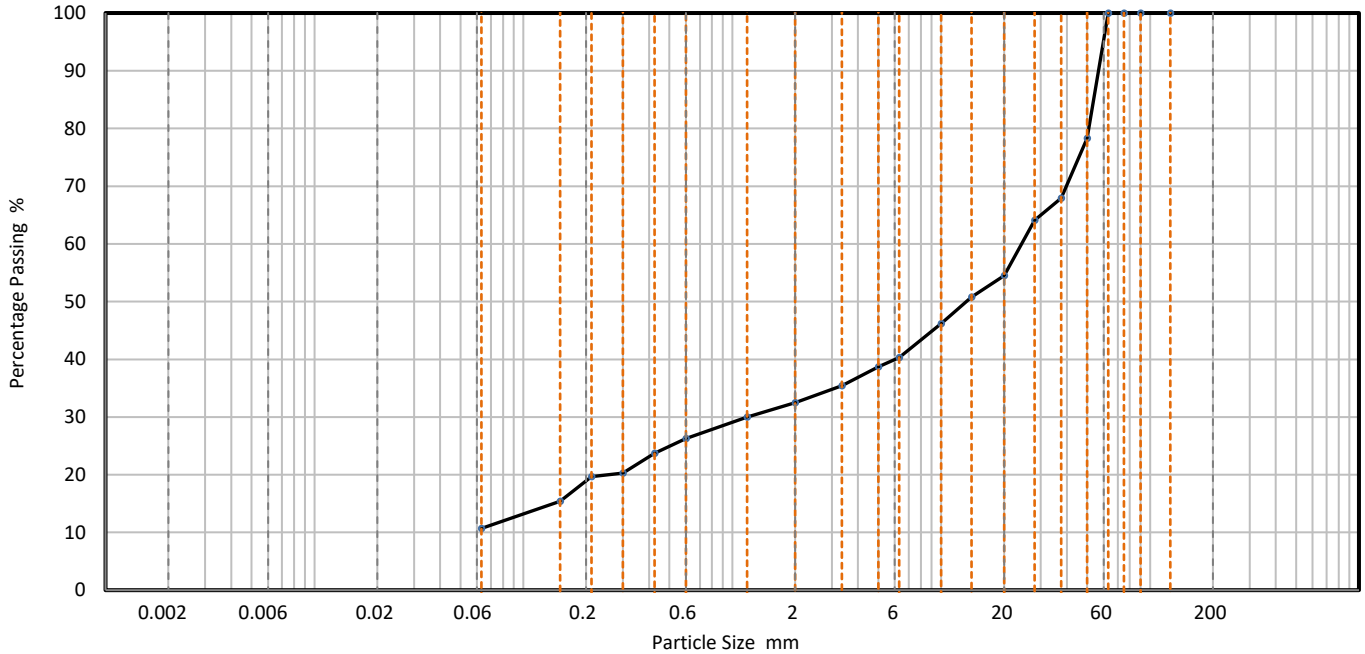
PARTICLE SIZE DISTRIBUTION

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
Redacted

UKAS TESTING
10258

Hole	BH05	Lab sample ID	G2MT202404196
Depth (Top) m	10.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Clayey, very Sandy, GRAVEL
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	78		
37.5	68		
28	64		
20	55		
14	51		
10	46		
6.3	40		
5	39		
3.35	35		
2	33		
1.18	30		
0.6	26		
0.425	24		
0.3	20		
0.212	20		
0.15	15		
0.063	11		

Dry Mass of sample, g: 2257

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	67.5
Sand	21.7
Fines <0.063mm	11.0

Grading Analysis		
D100	mm	
D60	mm	24.3
D30	mm	1.18
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:37

PARTICLE SIZE DISTRIBUTION

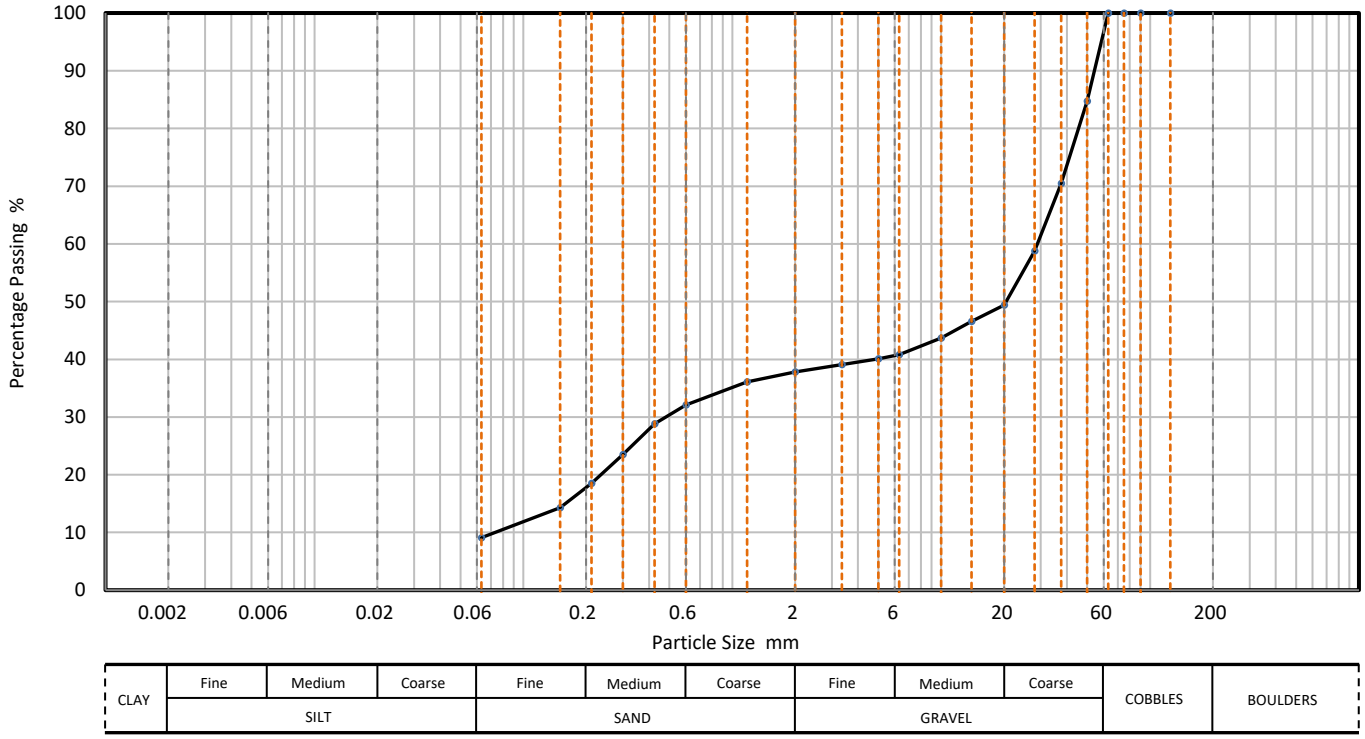
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

UKAS TESTING 10258

Hole	TP01	Lab sample ID	G2MT202404198
Depth (Top) m	1.90	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Slightly Clayey, very Sandy, GRAVEL
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	85		
37.5	71		
28	59		
20	49		
14	47		
10	44		
6.3	41		
5	40		
3.35	39		
2	38		
1.18	36		
0.6	32		
0.425	29		
0.3	24		
0.212	19		
0.15	14		
0.063	9		

Dry Mass of sample, g: 9179

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	62.2
Sand	28.7
Fines <0.063mm	9.0

Grading Analysis		
D100	mm	
D60	mm	28.9
D30	mm	0.483
D10	mm	0.0731
Uniformity Coefficient		390
Curvature Coefficient		0.11

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:43

PARTICLE SIZE DISTRIBUTION

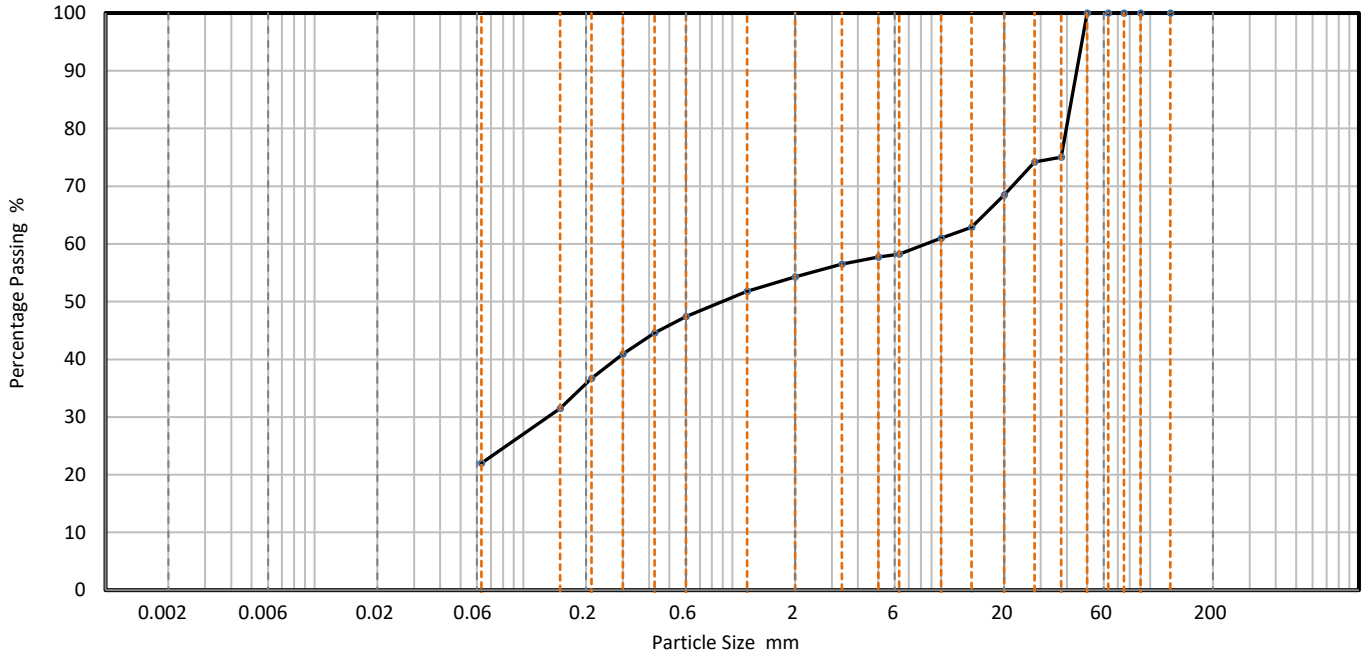
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

UKAS TESTING 10258

Hole	TP03	Lab sample ID	G2MT2024041910
Depth (Top) m	0.90	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Very Clayey, very Sandy, GRAVEL
Sample type	B		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	75		
28	74		
20	69		
14	63		
10	61		
6.3	58		
5	58		
3.35	57		
2	54		
1.18	52		
0.6	47		
0.425	45		
0.3	41		
0.212	37		
0.15	32		
0.063	22		

Dry Mass of sample, g: 4475

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	45.7
Sand	32.3
Fines <0.063mm	22.0

Grading Analysis		
D100	mm	
D60	mm	8.53
D30	mm	0.131
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 08:56

PARTICLE SIZE DISTRIBUTION

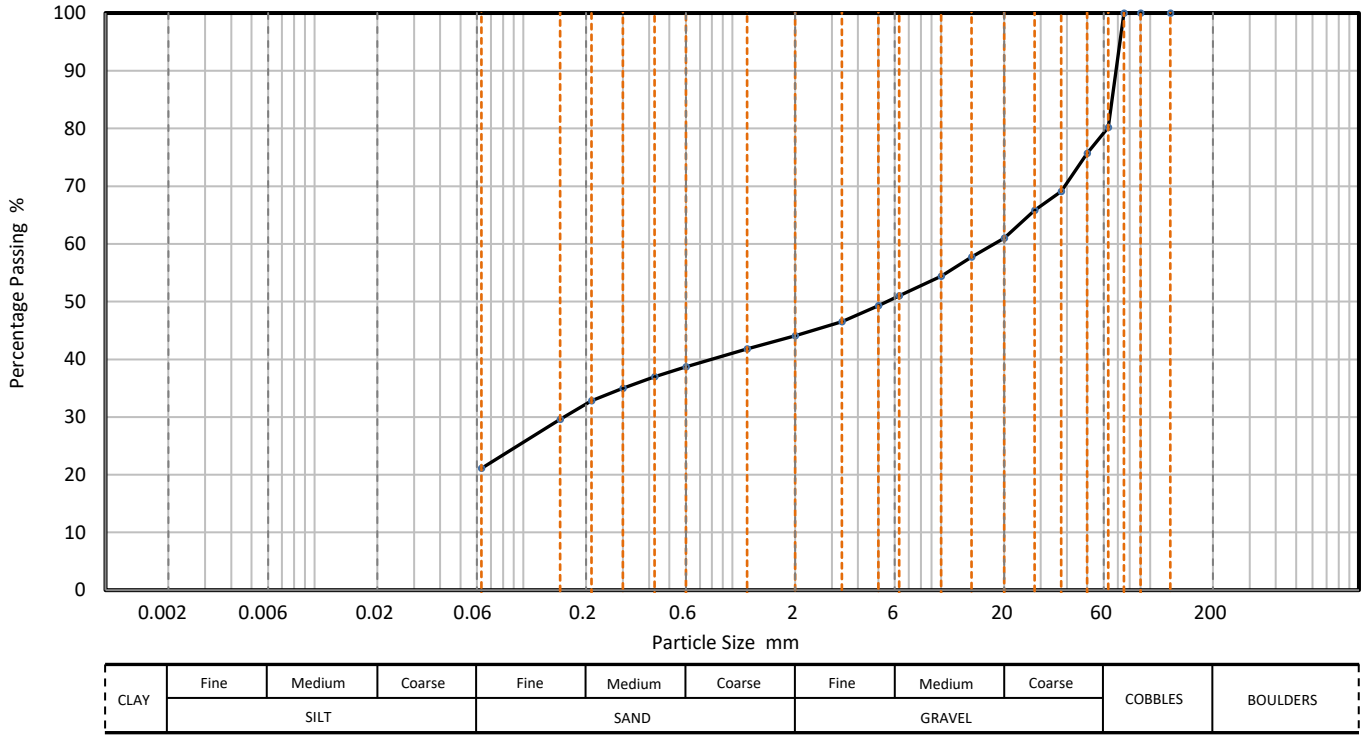
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

10258

Hole	TP04	Lab sample ID	G2MT2024041911
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Cobbly, very Clayey, very Sandy, GRAVEL
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	80		
50	76		
37.5	69		
28	66		
20	61		
14	58		
10	54		
6.3	51		
5	49		
3.35	47		
2	44		
1.18	42		
0.6	39		
0.425	37		
0.3	35		
0.212	33		
0.15	30		
0.063	21		

Dry Mass of sample, g: 4385

Sample Proportions	% dry mass
Very coarse	19.8
Gravel	36.1
Sand	23.0
Fines <0.063mm	21.0

Grading Analysis		
D100	mm	
D60	mm	17.9
D30	mm	0.157
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:01

PARTICLE SIZE DISTRIBUTION

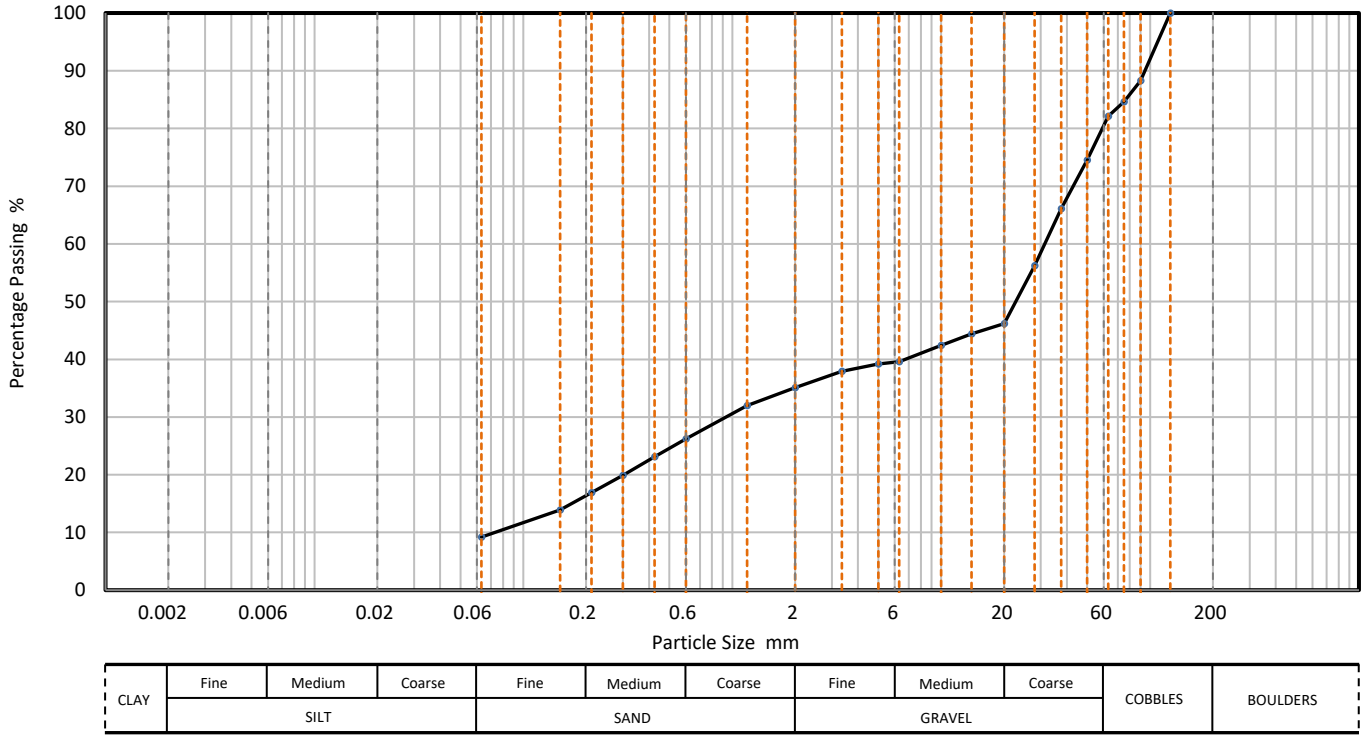
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

10258

Hole	TP05	Lab sample ID	G2MT2024041912
Depth (Top) m	1.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Slightly Clayey, Cobbly, very Sandy, GRAVEL
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	88		
75	85		
63	82		
50	75		
37.5	66		
28	56		
20	46		
14	44		
10	42		
6.3	40		
5	39		
3.35	38		
2	35		
1.18	32		
0.6	26		
0.425	23		
0.3	20		
0.212	17		
0.15	14		
0.063	9		

Dry Mass of sample, g: 8791

Sample Proportions	% dry mass
Very coarse	17.9
Gravel	46.9
Sand	26.0
Fines <0.063mm	9.0

Grading Analysis		
D100	mm	125
D60	mm	31.4
D30	mm	0.937
D10	mm	0.0734
Uniformity Coefficient		430
Curvature Coefficient		0.38

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:16

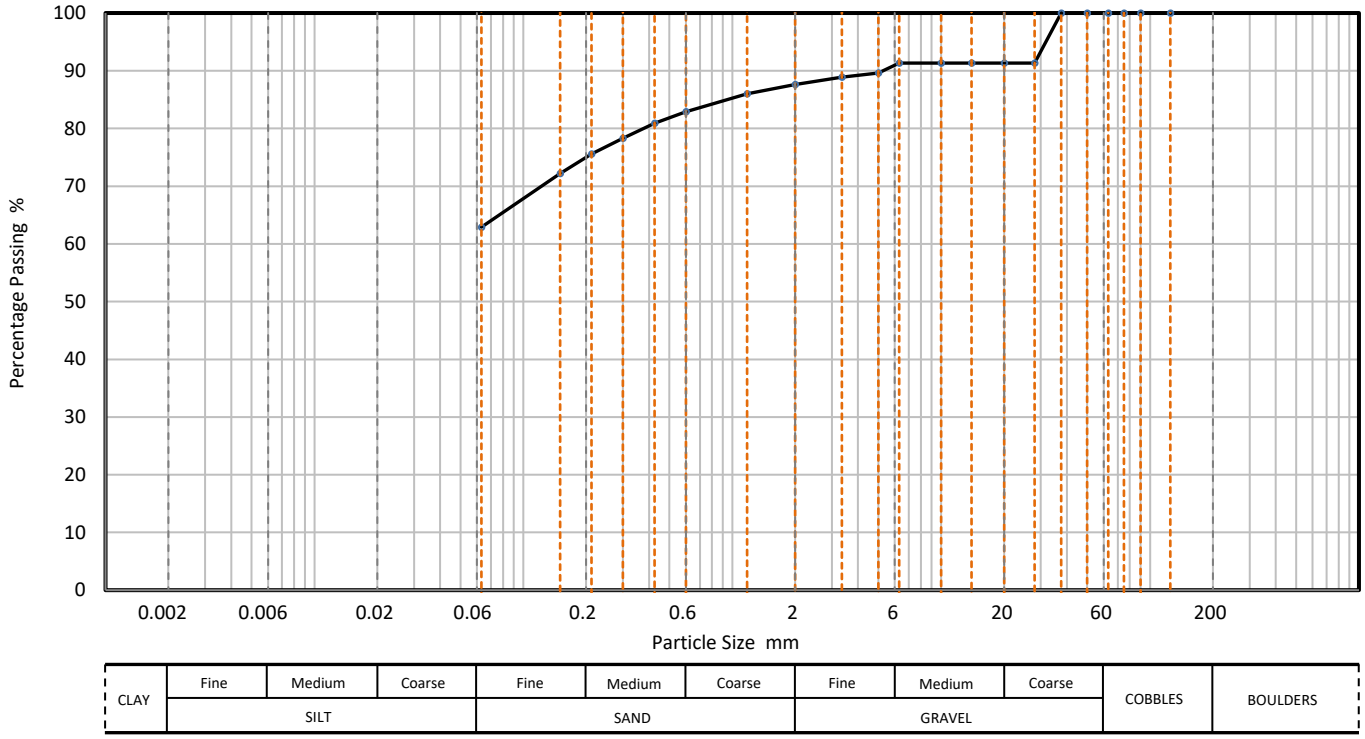
PARTICLE SIZE DISTRIBUTION

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
Redacted

10258

Hole	WS02	Lab sample ID	G2MT2024041913
Depth (Top) m	2.50	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Gravelly, very Sandy, CLAY
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	91		
20	91		
14	91		
10	91		
6.3	91		
5	90		
3.35	89		
2	88		
1.18	86		
0.6	83		
0.425	81		
0.3	78		
0.212	76		
0.15	72		
0.063	63		

Dry Mass of sample, g: 978

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	12.4
Sand	24.7
Fines <0.063mm	63.0

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

Remarks
Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	24/04/2024 11:23

PARTICLE SIZE DISTRIBUTION

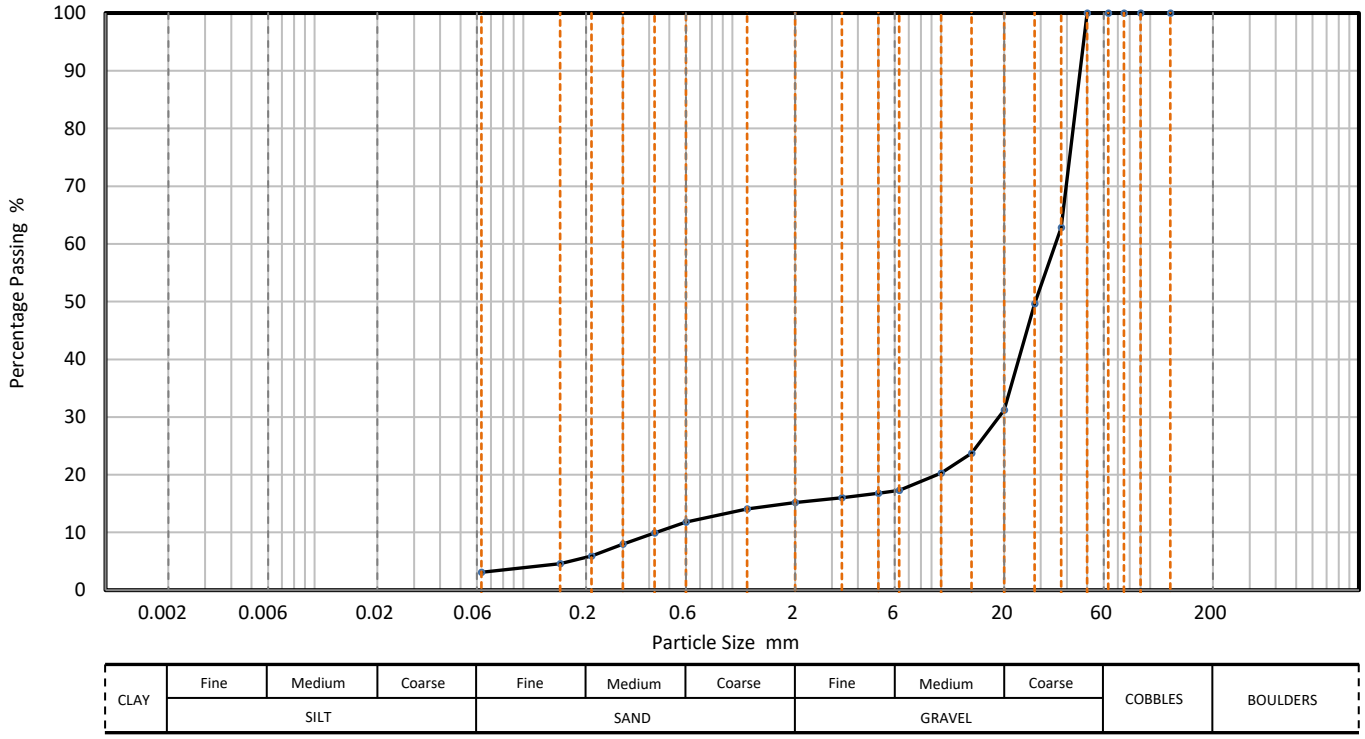
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

UKAS TESTING 10258

Hole	WS03	Lab sample ID	G2MT2024041914
Depth (Top) m	2.00	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Slightly Clayey/Silty, Sandy, GRAVEL
Sample type	D		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	63		
28	50		
20	31		
14	24		
10	20		
6.3	17		
5	17		
3.35	16		
2	15		
1.18	14		
0.6	12		
0.425	10		
0.3	8		
0.212	6		
0.15	5		
0.063	3		

Dry Mass of sample, g: 665

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	84.8
Sand	12.1
Fines <0.063mm	3.0

Grading Analysis		
D100	mm	
D60	mm	35.2
D30	mm	18.9
D10	mm	0.432
Uniformity Coefficient		82
Curvature Coefficient		24

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	24/04/2024 11:26

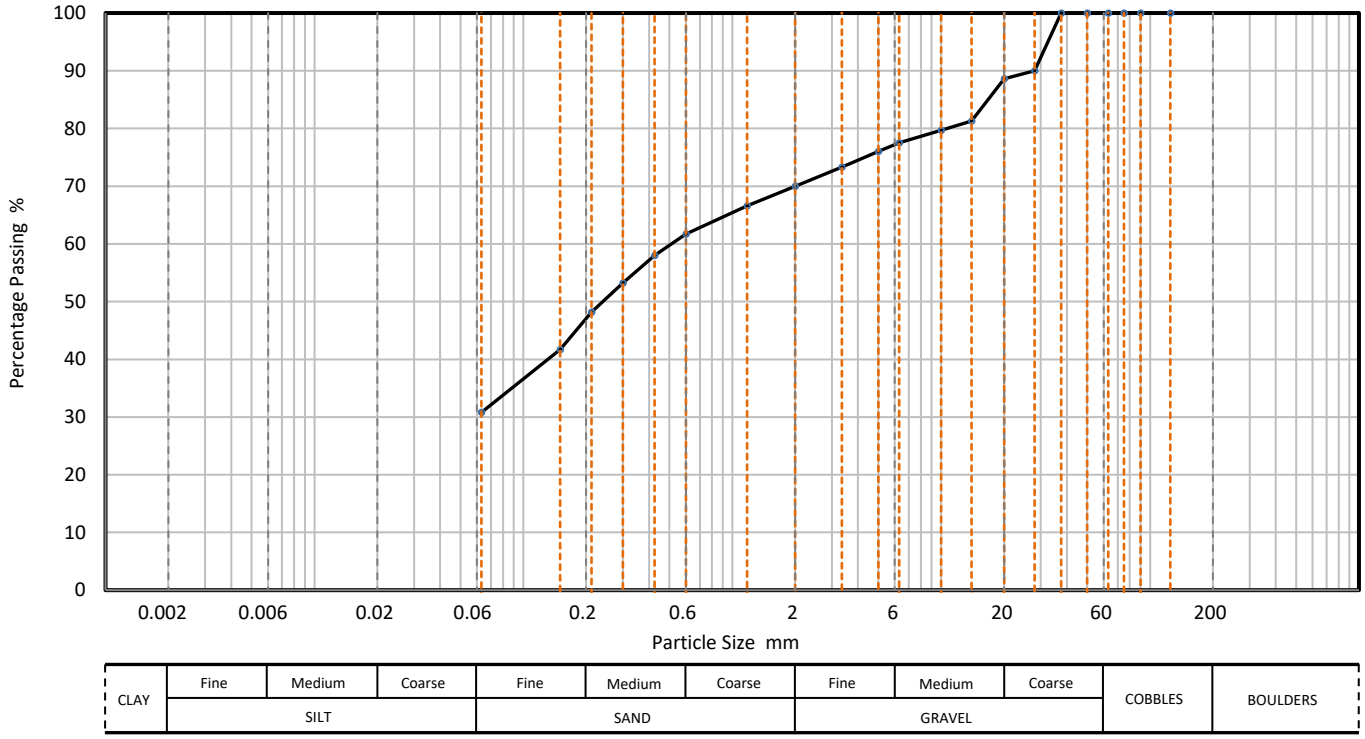
PARTICLE SIZE DISTRIBUTION

Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA
Redacted

UKAS TESTING
10258

Hole	WS04	Lab sample ID	G2MT2024041915
Depth (Top) m	0.80	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Very Gravelly, very Clayey, SAND
Sample type	B		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	90		
20	89		
14	81		
10	80		
6.3	78		
5	76		
3.35	73		
2	70		
1.18	67		
0.6	62		
0.425	58		
0.3	53		
0.212	48		
0.15	42		
0.063	31		

Dry Mass of sample, g: 1236

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	30.0
Sand	39.2
Fines <0.063mm	31.0

Grading Analysis		
D100	mm	
D60	mm	0.513
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status
Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 09:18

PARTICLE SIZE DISTRIBUTION

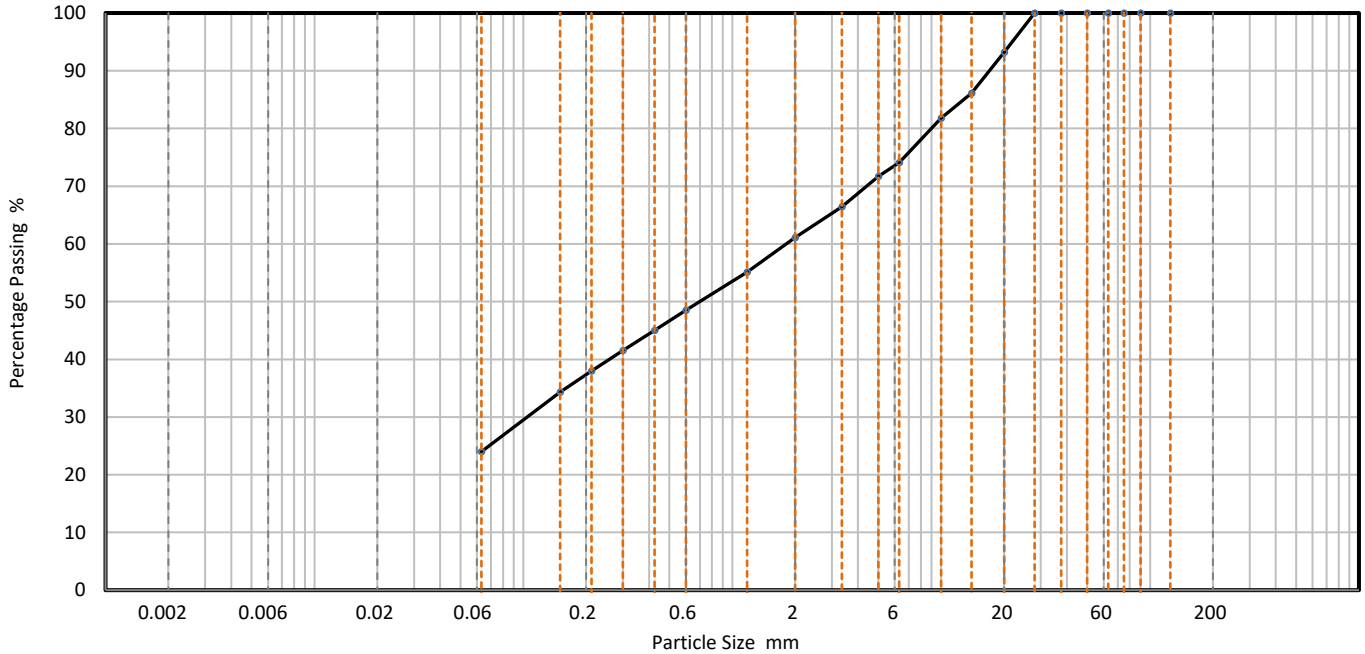
Site name	Job number
Blackmoorfoot Road, Huddersfield	M30412

G2M Testing (Stockton)
12-16 Yarm Road,
Stockton on Tees,
TS18 3NA

Redacted

10258

Hole	WS05	Lab sample ID	G2MT2024041916
Depth (Top) m	3.40	Test Method	BS 1377 - 2 : 1990 Clause 9.2
Depth (Base) m		Soil Description	Very Clayey, very Sandy, GRAVEL
Sample type	D		



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	93		
14	86		
10	82		
6.3	74		
5	72		
3.35	66		
2	61		
1.18	55		
0.6	49		
0.425	45		
0.3	42		
0.212	38		
0.15	34		
0.063	24		

Dry Mass of sample, g: 359

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	38.9
Sand	37.1
Fines <0.063mm	24.0

Grading Analysis		
D100	mm	
D60	mm	1.81
D30	mm	0.105
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with test method unless noted below

Sample tested was deviating in accordance with BS1377 test standard

Accreditation status

Hydrometer is the usual Sedimentation method carried out by G2M Testing and is part of the G2M Testing UKAS accreditation schedule.

Approved by	D Anderson
Approval date	03/05/2024 08:47

Appendix G

Gas and Groundwater Monitoring Results

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						REGIONAL TREND			INSTRUMENT DETAILS		NOTES		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Rising			**NAME**	GFM436			
30		04	2024	8:30	9:30				**SERIAL NUMBER**	13121			
AMBIENT READINGS									**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21.4	**CO2 (% v/v)**	ND	**CH4 (% v/v)**	ND	**PID reading (ppm)**	NR	**NAME**		1	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	987	**FINISH**	996	**SERIAL NUMBER**		**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	10	**FINISH**	11	**LAST CALIBRATION**		Cloudy		Wet

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	ND	ND	986.00	0.40	<0.1	<0.1	<0.1	20.80	21.70	NR	NR	<0.01	<0.01	DRY	4.95	
BH03		50mm	ND	ND	986.00	<0.1	<0.1	<0.1	<0.1	21.10	21.50	NR	NR	<0.01	<0.01	4.74	4.85	
BH04		50mm	ND	ND	986.00	<0.1	<0.1	<0.1	<0.1	20.80	21.50	NR	NR	<0.01	<0.01	DRY	5.04	
BH05		50mm	ND	ND	987.00	<0.1	<0.1	<0.1	<0.1	20.80	21.70	NR	NR	<0.01	<0.01	DRY	4.90	
WS02		50mm	ND	ND	987.00	<0.1	<0.1	<0.1	<0.1	21.30	21.50	NR	NR	<0.01	<0.01	DRY	4.03	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						REGIONAL TREND			INSTRUMENT DETAILS		NOTES		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Rising			**NAME**	GFM436			
30		04	2024	8:30	9:30				**SERIAL NUMBER**	13121			
AMBIENT READINGS									**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21.3	**CO2 (% v/v)**	ND	**CH4 (% v/v)**	ND	**PID reading (ppm)**	NR	**NAME**		1	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	986	**FINISH**	996	**SERIAL NUMBER**		**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	14	**FINISH**	14	**LAST CALIBRATION**		Cloudy		Wet

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	ND	ND	986.00	0.20	0.20	<0.1	<0.1	20.80	21.70	NR	NR	<0.01	<0.01	DRY	4.95	
BH03		50mm	ND	ND	987.00	1.00	0.10	<0.1	<0.1	21.30	22.00	NR	NR	<0.01	<0.01	DRY	4.85	
BH04		50mm	ND	ND	987.00	0.10	0.10	<0.1	<0.1	21.10	21.80	NR	NR	<0.01	<0.01	DRY	5.04	
BH05		50mm	ND	ND	988.00	0.60	0.10	0.10	<0.1	21.10	22.00	NR	NR	<0.01	<0.01	DRY	4.90	
WS02		50mm	ND	ND	986.00	0.20	0.10	<0.1	<0.1	21.20	21.80	NR	NR	<0.01	<0.01	DRY	4.03	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						**REGIONAL TREND**			**INSTRUMENT DETAILS**		**NOTES**		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Rising			**NAME**	GFM436			
30		05	2024	08:22	09:12				**SERIAL NUMBER**	13121			
AMBIENT READINGS									**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21	**CO2 (% v/v)**	ND	**CH4 (% v/v)**	ND	**PID reading (ppm)**	NR	**NAME**		3	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	1009	**FINISH**	1009	**SERIAL NUMBER**		**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	11	**FINISH**	11	**LAST CALIBRATION**		Cloudy		Dry

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	ND	ND	985.00	ND	ND	<0.1	<0.1	21.40	21.40	NR	NR	<0.01	<0.01	DRY	4.95	
BH03		50mm	ND	ND	986.00	ND	ND	<0.1	<0.1	21.70	21.70	NR	NR	<0.01	<0.01	DRY	4.85	
BH04		50mm	ND	ND	987.00	ND	ND	<0.1	<0.1	21.10	21.80	NR	NR	<0.01	<0.01	DRY	5.04	
BH05		50mm	ND	ND	987.00	0.30	0.20	<0.1	<0.1	21.10	21.70	NR	NR	<0.01	<0.01	DRY	4.90	
WS02		50mm	ND	ND	985.00	0.10	0.10	<0.1	<0.1	21.20	21.50	NR	NR	<0.01	<0.01	3.90	4.00	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						**REGIONAL TREND**		**INSTRUMENT DETAILS**		**NOTES**		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Falling		**NAME**	GFM436			
13		06	2024	12:09	12:49			**SERIAL NUMBER**	13121			
AMBIENT READINGS								**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		22	**CO2 (% v/v)**	<0.01	**CH4 (% v/v)**	<0.01	**PID reading (ppm)**	NR	**NAME**	4	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	987	**FINISH**	991	**SERIAL NUMBER**	**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	13	**FINISH**	13	**LAST CALIBRATION**	Cloudy		Dry

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	ND	ND	987.00	0.70	<0.1	<0.1	<0.1	21.80	22.00	NR	NR	<0.01	<0.01	DRY	4.95	
BH03		50mm	ND	ND	987.00	1.20	<0.1	0.60	<0.1	21.80	22.00	NR	NR	<0.01	<0.01	DRY	4.85	
BH04		50mm	ND	ND	987.00	1.10	<0.1	0.20	<0.1	21.10	22.00	NR	NR	<0.01	<0.01	DRY	5.04	
BH05		50mm	ND	ND	987.00	0.00	<0.1	<0.1	<0.1	21.70	22.00	NR	NR	<0.01	<0.01	DRY	4.90	
WS02		50mm	ND	ND	986.00	0.80	<0.1	<0.1	<0.1	21.60	22.10	NR	NR	<0.01	<0.01	DRY	4.00	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						**REGIONAL TREND**		**INSTRUMENT DETAILS**		**NOTES**		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Falling		**NAME**	GFM436			
08		07	2024	8:15	9:00			**SERIAL NUMBER**	13121			
AMBIENT READINGS								**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21.2	**CO2 (% v/v)**	<0.01	**CH4 (% v/v)**	<0.01	**PID reading (ppm)**	NR	**NAME**	5	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	991	**FINISH**	993	**SERIAL NUMBER**	**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	15	**FINISH**	15	**LAST CALIBRATION**	Fine		Dry

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	ND	ND	991.00	0.70	0.60	<0.1	<0.1	21.20	21.20	NR	NR	<0.01	<0.01	DRY	4.95	
BH03		50mm	ND	ND	992.00	1.40	0.70	<0.1	<0.1	21.20	21.30	NR	NR	<0.01	<0.01	DRY	4.85	
BH04		50mm	ND	ND	991.00	0.20	0.20	<0.1	<0.1	20.80	21.30	NR	NR	<0.01	<0.01	DRY	5.04	
BH05		50mm	ND	ND	993.00	1.50	0.30	1.00	<0.1	21.10	21.30	NR	NR	<0.01	<0.01	4.85	4.90	
WS02		50mm	ND	ND	991.00	0.70	0.30	<0.1	<0.1	21.10	21.30	NR	NR	<0.01	<0.01	DRY	4.00	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						**REGIONAL TREND**		**INSTRUMENT DETAILS**		**NOTES**		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Falling		**NAME**	GFM436			
25		07	2024	1430	1530			**SERIAL NUMBER**	13121			
AMBIENT READINGS								**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21.2	**CO2 (% v/v)**	<0.01	**CH4 (% v/v)**	<0.01	**PID reading (ppm)** NR	**NAME**		5	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	983	**FINISH** 981	**SERIAL NUMBER**		**WEATHER CONDITIONS**		**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	20	**FINISH** 22	**LAST CALIBRATION**		Fine		Dry

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	0.00	0.00	983.00	0.30	0.30	0.50	0.50	21.40	21.40	NR	NR	<0.01	<0.01	DRY	4.88	
BH03		50mm	0.00	0.00	983.00	0.10	0.10	4.20	4.20	12.40	12.40	NR	NR	<0.01	<0.01	DRY	4.90	
BH04		50mm	0.00	0.00	982.00	0.20	0.20	0.70	0.70	21.10	21.10	NR	NR	<0.01	<0.01	DRY	4.82	
BH05		50mm	0.00	0.00	982.00	0.10	0.10	3.20	3.20	15.90	15.90	NR	NR	<0.01	<0.01	DRY	4.94	
WS02		50mm	0.00	0.00	981.00	0.10	0.10	2.80	2.80	17.30	18.30	NR	NR	<0.01	<0.01	DRY	3.97	

GAS MONITORING DATA SHEET

PROJECT NUMBER		M30412
CONTRACT NAME		Blackmoorfoot Road

DATE & TIME						**REGIONAL TREND**		**INSTRUMENT DETAILS**		**NOTES**		
DATE		MONTH	YEAR	TIME (Start)	TIME (Finish)	Steady		**NAME**	GFM436			
01		08	2024	1200	1300			**SERIAL NUMBER**	13121			
AMBIENT READINGS								**LAST CALIBRATION**	24/11/2023	**VISIT NO**		
O2 (% v/v)		21.2	**CO2 (% v/v)**	<0.01	**CH4 (% v/v)**	<0.01	**PID reading (ppm)**	NR	**NAME**		5	**OF**	6
ATMOSPHERIC PRESSURE (mbar)					**START**	983	**FINISH**	981	**SERIAL NUMBER**		**WEATHER CONDITIONS**	**GROUND CONDITIONS**
AIR TEMPERATURE °C					**START**	20	**FINISH**	22	**LAST CALIBRATION**		Fine	Dry

BH No.	MON_ID	Pipe Diameter	Flow Rate (l/hr)		Relative pressure mbar	CH_4 (%v/v)		CO_2 (%v/v)		O_2 (%v/v)		PID (ppm)		H_2S (ppm)	CO (ppm)	SWL (m bgl)	Base of pipe (m bgl)	Remarks
			Peak	Steady		Peak	Steady	Peak	Steady	Minimum	Steady	Peak	Low	Range	Range			
BH02		50mm	0.00	0.00	992.00	0.40	0.40	0.50	0.50	21.20	21.20	NR	NR	<0.01	<0.01	DRY	4.90	
BH03		50mm	0.00	0.00	992.00	0.20	0.20	4.70	4.60	11.60	11.60	NR	NR	<0.01	<0.01	DRY	4.90	
BH04		50mm	0.00	0.00	993.00	0.30	0.30	0.70	0.70	20.80	20.80	NR	NR	<0.01	<0.01	DRY	4.80	
BH05		50mm	0.00	0.00	993.00	0.20	0.20	3.30	3.30	16.00	16.00	NR	NR	<0.01	<0.01	DRY	4.93	
WS02		50mm	0.00	0.00	991.00	0.20	0.20	2.40	2.40	19.20	19.20	NR	NR	<0.01	<0.01	DRY	4.96	

Appendix H

Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

Dunelm Conditions of Offer, Notes on Limitations & Basis for Contract

These conditions accompany our tender and supercede any previous conditions issued. The firm will prepare a report solely for the use of the Client (the party invoiced) and its agent(s). No reliance should be placed on the contents of this report, in whole or in part by 3rd parties. The report, its content and format and associated data are copyright, and the property of the firm. Photocopying of part or all of the contents, transfer or reproduction of any kind is forbidden without written permission from the firm. A charge may be levied against such approval, the same to be made at the discretion of the firm.

Site investigation is a process of sampling. The scope and size of an investigation may be considered proportional to levels of confidence regarding the ground and groundwater conditions. The exploratory holes undertaken investigate only a small volume of the ground in relation to the overall size of the site, and can only provide a general indication of site conditions. The opinions provided and recommendations given in this report are based on the ground conditions as encountered within each of the exploratory holes. There may be different ground conditions elsewhere on the site which have not been identified by this investigation and which therefore have not been taken into account in this report. Reports are generally subject to the comments of the local authority and Environment Agency. The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that mobile contamination, soil gas levels and groundwater levels may vary owing to seasonal, tidal and/or weather related effects. Unrecorded ancient mining may occur anywhere where seams that have been worked and influence the rock and soil above. Dissolution cavities can occur where gypsum or chalk is present. Rotary drilling is the recommended technique to prove the integrity of the rock.

Where the scope of the investigation is limited via access to information, time constraints, equipment limitations, testing, interpretation or by the client or his agents budgetary constraints, elements not set out in the proposal and excluded from the report are deemed to be omitted from the scope of the investigation.

The firm cannot be held liable and do not warrant, or otherwise guarantee the validity of information provided by third parties and subsequently used in our reports. The firm are not responsible for the action negligent or otherwise of subcontractors or third parties.

Desk studies are generally prepared in accordance with RICS guidelines. Environmental site investigations are generally undertaken as 'exploratory investigations' in accordance with the definitions provided in paragraph 5.2.7 of BS 10175:2011 +A2:2017 in order to confirm the conceptual assumptions, and in accordance with BS5930:2015+A1:2020. You are advised to familiarize yourself with the typical scope of such an investigation. No pumping of water will be undertaken unless a licence or facilities/equipment have been arranged by others.

Where the type, number or/and depth of exploratory hole is specified by others, the firm cannot and will not be responsible for any subsequent shortfall or inadequacy in data, and any consequent shortfall in interpretation of environmental and geotechnical aspects which may be required at a later date in order to facilitate the design of permanent or temporary works.

All information acquired by the firm in the course of investigation is the property of the firm, and, only also becomes the joint property of the Client only on the complete settlement of all invoices relating to the project. The firm reserves the right to use the information in commercial tendering and marketing, unless the Client expressly wishes otherwise in writing. The quoted rates do not include VAT, we will invoice on an interim basis (on completion of fieldwork, on completion of report and on completion of gas monitoring (if applicable)) and payment terms are 30 days from dispatch of invoice from our offices. Quotes are subject to a site visit.

We have allowed for 1 mobilisation and normal working hours unless otherwise stated. The scope of the investigation may be reviewed following the desk study and/or fieldwork and additional costs maybe required if ground conditions dictate. We have not allowed for acquiring buried utility/services information and cannot be responsible for damage to underground services or pipes not shown to us or not clearly shown on plans. Costs incurred will be passed on to you, and in commissioning the firm, you understand and accept that you/your agent have a contractual relationship with the firm & you accept this. Our rates assume unobstructed, reasonably level and firm access to the exploratory positions and adequate clear working areas and headroom. We have priced on the basis that you or your client have the necessary permissions, wayleaves and approvals to access land. All boreholes and pits are backfilled with arisings except where gas monitoring pipes are installed with stopcock covers. Dunelm are not responsible for any uneven surfaces as a result of siteworks and rutting and backfilled excavations may require re-levelling and/or making good by others after fieldwork is complete. Dunelm have not allowed for subsequent reinstatement as a result of settlement. Should artesian water be encountered the cost of dealing with this would be charged at dayworks plus supervision with any temporary works/materials at cost plus 20%. Should access to the site be restricted for reasons beyond our control such as soft or boggy ground then there may be the requirement for hiring in plant such as a tractor or tracked dumper, the cost of this would be charged at cost plus 20%. Should the site fall into a BDA Red Classification and further protection measures be required, this would be charged at cost plus 20%. The rates we have supplied for geotechnical laboratory testing are for sample recovered from BDA Green and Yellow classified sites. If the site is deemed to be Red we can supply uplifted testing rates on request. No price has been provided or requested for a return visit to remove pipework and covers. No price has been provided or requested for a return visit to remove pipework and covers. Hourly rates apply to consultancy only and do not include expenses unless otherwise shown. If warranties are required, legal costs incurred will be passed on to you assuming the firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.the, firm agree to complete such warranties, modified or otherwise and you understand and agree to pay all costs.

We reserve the right to pursue full payment of the invoice prior to release of any information including reports. We advise you/your client that we may elect to pursue our statutory rights under late payment legislation and will apply 8% to the base rate for unreasonably late payments. We will also apply the right to claim any associated legal costs incurred with recovery of late payments. The firm is exempt from the CIS Scheme. The firm offer to undertake work <u>only</u> in strict accordance with conditions covered by our current insurances, which are available for inspection. The company are not responsible for acts, negligent or otherwise of subcontractors and as a matter of policy cannot indemnify any other parties. Professional indemnity Insurance is limited to ten times the invoice net total except where stated otherwise by the firm, and we give notice that consequential loss as a direct or indirect result of the firms activities or omission of the same are excluded.

Where the works require a Coal Authority Permit (hereafter referred to as ‘the Permit’), we will apply for the Permit in the name of the employer, who, upon accepting the quotation, is deemed to have accepted the Terms and Conditions in respect of the Permit.