Environmental
Geotechnical
Specialists

# PHASE 1 ENVIRONMENTAL DESK STUDY & COAL MINING RISK ASSESSMENT

# REPORT

| | |
|---|---|
| job number | C5994/26/E/989 |
| date | 21.05.2026 |
| site address | Proposed Barn Conversion,<br>Lower Chatts Farm,<br>Cliff Hollins Lane, Bradford,<br>West Yorkshire, BD12 7ET |
| written by | S. Hale |
| checked by | R. Palmer |
| issued by | S. Hale |

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# Report on a Phase One Desk Study

| | |
|---|---|
| Location: | Proposed Barn Conversion<br>Lower Chatts Farm, Cliff Hollins Lane, Bradford, West Yorkshire, BD12 7ET |
| For: | HCP Properties |
| Consultant: | Cadvis 3D Ltd |
| Report No. | C5994/26/E/9289 Report date: May 2026 |

For and on behalf of **Rogers Geotechnical Services Ltd**


| | |
|---|---|
| **Steven Hale** BSc FGS<br>Geo-environmental Engineer | **Rob Palmer** MSc FGS ACIEH<br>Engineering Director |


## 1. Introduction

The site comprises an existing agricultural barn and the immediate area around it. The site is approximately 0.14 hectares in size and its National Grid reference is centred around 417951 428190.

It is understood that the development proposals currently comprise the change in use and alterations to an existing barn to form a dwelling. In order to assist with this decision-making process, and any planning and construction aspects of the development, a phase one environmental desk study has been commissioned and is the subject of this report.

This report may be regarded as a Preliminary Risk Assessment in accordance with the Environment Agency's guidance document Model Procedures for the Management of Land Contamination (CLR 11, 2004). This Phase 1 Desk Study has been undertaken with due regard to current contaminated land guidance issued by the Royal Institution of Chartered Surveyors (RICS) together with BS 10175:2011+A2:2017, "Investigation of Potentially Contaminated Land - Code of Practice" and relevant sections of BS 5930: 2015:+A1:2020, "Code of Practice for Ground Investigations".

As a part of this desk study the following data has been considered.

- Site Plan - Appendix 1
- Historical maps - Appendix 2
- Groundsure Reports - Appendix 3
- Photographs - Appendix 4
- Consultants Coal Mining Report - Appendix 5

The data obtained from the above-mentioned sources has been summarised below[1] in the following sections.

[1] This report is a summary only and reference must be made in full to the information provided in the Groundsure Report.

## 1.1 Site Walkover and Description

In accordance with issued guidance, a site walkover was conducted on the 11th May 2026 and the following observations were made:

**General site description/current site use**
The site is currently an existing agricultural barn.

**Site boundaries/access**
The is accessible via a gate off of Cliff Hollins Lane.

**Topography**
The site slopes downwards slightly towards the northwest.

**Surface cover of site**
Hard standing and rough ground cover the majority of the site. Vegetation covers the embankment located adjacent to the northwest boundary of the barn.

**Visible evidence of contamination/ contaminative sources**
At the time of the walkover no obvious sources of contamination were observed.

**Presence of vegetation and wildlife**
Grass and some young trees and shrubs cover the embankment present adjacent to the barn. No obvious signs of fauna were observed.

**Services**
The status of underground services is unknown. Some small, overhead cables were noted on the southwest corner of the barn.

**Site neighbours**
The site is located within a larger farm complex with other barns presents to the southeast and some residential dwellings present to the southwest. Pastures are present to the north and west of the site.

In order to ensure that the site is fully characterised and to comply with the Environment Act 1995[2], a Phase One Desk Study has been commissioned by Cadvis 3D Ltd on behalf of the client. The desk study is intended to assess the environmental impact of historical, current and future factors on the development. This report will present the data obtained and provide a conceptual ground model and preliminary risk assessment as well as discussing the scope of any intrusive investigation that may be required. This report does not consider ecological impacts (e.g. bats) or botanical risks (e.g. Japanese Knotweed).

[2]S57 of the Environment Act 1995 inserted the contaminated land regime into the Environmental Protection Act 1990 (Part 2A). The regime **'provides a risk-based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment'** See http://www.environment-agency.gov.uk/research/planning/40405.aspx. This places a duty on local authorities to inspect their areas for contaminated land and require its remediation using the 'suitable for use' approach. Much of this duty is discharged via the planning regime under the Town and Country Planning Act 1990 as historical land contamination is a 'material planning consideration.' The local authorities are required to secure the removal of unacceptable risks via remediation of the land, to therefore ensure the site is suitable for its new use. This is fulfilled via completion of a Phase One Environmental Desk Study, Phase Two Intrusive Investigation, Phase Three Remediation Strategy and Phase Four Validation Report. Therefore, as a minimum, once a site has been developed it should not be capable of being designated as 'contaminated land' under Part 2A of the Environmental Protection Act 1990, as inserted by the Environment Act 1995 (see also PPS 23 Planning and Pollution Control Section 8)

# 2. Site History

## 2.1 Historical Land Use

In order to determine the history of the site, previous editions of Historical Maps and Ordnance Survey Plans were inspected. The Historical Maps are presented in Appendix 2. Excerpts of overhead imagery are presented in the Groundsure Report in Appendix 3.

Table 1 below presents a summary of the history of the site and the immediate surrounding area.

**Table 1: Historical Land Use[3]**

| HISTORICAL MAPPING SUMMARY | | |
|---|---|---|
| **Map Dates and Source** | **On site** | **Within 250m** |
| 1852 – 1854 | The site appears to be comprised of undeveloped fields of presumed agricultural use. | High Royds Beck – 100m NW<br>The surrounding land use consists mainly of undeveloped land, fields and the occasional dwelling. |
| 1890 – 1893 | The site remains unchanged. | Road Pit (Coal & Ironstone) along with associated shafts and trackways present 50m S. |
| 1905 – 1908 | The site remains unchanged. | The Road Pit is now labelled as 'Disused', the associated trackway and ground workings have largely been removed. The associated Shafts are still present. |
| 1932 – 1933 | The site remains unchanged. | The Road Pit has been relabelled as the 'Chatts Colliery' and appears to have restarted operations. A Tramway is present 50m SE and continues beyond 250m SE. |
| 1938 | The site remains unchanged. | The Chatts Colliery is now labelled as 'Disused', however, the ground workings are still present. The associated Tramway has been dismantled. |
| 1948 – 1957 | The site remains unchanged. | The surrounding land use remains largely unchanged. |
| 1967 | The site remains unchanged. | The Chatts Colliery is no longer labelled and the majority of the ground workings are no longer present. |
| 1973 - 1983 | The site remains unchanged. | The surrounding land use remains largely unchanged. |
| 1990 – 1992 | The site remains unchanged. | Cliff Hollins Farm – 10m Se |
| 2001 – 2015 | The site remains unchanged. | The surrounding land use remains largely unchanged. |
| 2025 | The barn present during the walkover is now present to the site. | The surrounding land use remains largely unchanged. |

NB. All distances given are approximate only from closest boundary.

The existing aerial photography is available within the Groundsure Report. The photos taken between 1999 and 2000 show that the site was an undeveloped area of land. The barn present during the walkover was noted to have been constructed in the 2012 aerial photography, it appears that the barn was present during the 2015 historical mapping but was not presented. The remaining photos taken between 2018 and 2021 show no changes to the site.

[3] See Appendix 2

# 3. Review and Summary of Published Data

The following summarises the published data obtained for the site.

## 3.1 Published Geology and Geological Hazards

The appropriate map sheets, the geology viewer and the Groundsure Report have been examined the table below outlines the following geological data is present for the site:

**Table 2: Summary of Geological Data for the Site**

| BGS MAPPING DATA | | | |
|---|---|---|---|
| **Strata Type** | **Strata Name**[4] | **Parent Name** | **Description**[5] |
| Artificial Geology | Made Ground | N/A | Not indicated on site although construction may have resulted in the presence of made ground. |
| Superficial Geology | - | - | None indicated to underlie the site. |
| Solid Geology | Clifton Rock | Pennine Lower Coal Measures Formation | The Clifton Rock consists of up to three leaves of fine-grained cross-bedded or ripple cross-laminated sandstone and includes a thin coal. The Shertcliffe Coal rests on the top leaf, sometimes termed the Shertcliffe Seatstone. |
| | Pennine Lower Coal Measures Formation | Pennine Coal Measures Group | Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part. |

| MADE GROUND & INFILLED GROUNDWORKINGS | | |
|---|---|---|
| **Description** | **Location** | **Comments** |
| Records of Artificial Deposits, Groundworkings and infilled features | 46m SE, 67m S & 81m S | Refuse Heaps (1892-1967) |
| | 50m S | Road Pit/Chatts Colliery (1890-1967) |
| | 218m SW | Unspecified Quarry (1905-1948) |

| GEOLOGICAL FEATURES | | | |
|---|---|---|---|
| **Type** | **Location** | **Features** | **Comments** |
| Mining Activity | On site | Coal mining | The study site is located within the specified search distance of an identified mining area. A separate coal mining risk assessment is recommended to be undertaken. |
| | On site | Non-coal Mining | Evidence of ironstone mining in local area. Localised small-scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered. |
| Faults | 247m S | Fault | Normal fault, displacement unknown. This fault is not anticipated to affect the site. |
| Landslip Deposits | No data | No data | No data. |

[4] Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, and GeoIndex Onshore Viewer [*online resource from www.bgs.ac.uk*]
[5] Sources: British Geological Survey (NERC) Lexicon of Named Rock Units [*online resource from www.bgs.ac.uk*]

| MINERAL FEATURES | | | |
|---|---|---|---|
| **Seam Name** | **Seam thickness** | **Outcrop distance from site** | **Anticipated depth below site** (North) |
| Shertcliffe Coal (Sh) | 0.4 – 0.8m | On site (Eastern boundary) | At or near to the surface. |
| **BGS BOREHOLE DATA** | | | |
| **Reference**[6] | **Location** | **Strata Description** | **Depth** |
| - | No relevant boreholes present. | - | - |
| **NATURAL GROUND SUBSIDENCE & HAZARDS**[7] | | | |
| **Type** | | **Risk Rating** | |
| Potential for shrinking or swelling clay ground stability | | Very low. | |
| Potential for running sand ground stability | | Negligible. | |
| Potential for compressible ground stability | | Negligible. | |
| Potential for collapsible ground stability hazards | | Very low. | |
| Potential for landslide ground stability | | Very low. | |
| Potential for ground dissolution stability | | Negligible. | |

## 3.2 Mining, Quarrying and Natural Cavities

### 3.2.1 Coal Mining

The Groundsure Report states that the site is within an area that may be affected by coal mining. A Consultant's Coal Mining Report has therefore been obtained that is included in Appendix 5 of this report and may be summarised as follows:

**Table 3: Summary of the Consultant's Coal Mining Report**

| Has the report highlighted evidence or potential of: | | | |
|---|---|---|---|
| **Ref** | **Mining Feature** | **Yes/No** | **Comments** |
| 1 | Underground Coal Mining | Yes | The property is in a surface area that could be affected by underground mining in 2 seams of coal between 43m and 109m depth and worked between 1861 and 1894. |
| 2 | Probable Unrecorded Shallow Workings | Yes | No further details given. |
| 3 | Spine Roadways at Shallow Depth | No | No spine roadway recorded at shallow depth. |
| 4 | Mine Entries | Yes | Five mine entries recorded. Two shafts recorded to have been filled to an unknown specification in 1938. Two shafts and one adit with no treatment details given. |
| 5 | Abandoned mine plans | Yes | Plans of abandoned mine workings below the site are suggested to be available by the coal authority. Mine plan ID 21913397 in Series 5069 indeed shows mine workings within the Black Bed coal seam beneath the site at a depth of 77m. |
| 6 | Outcrops | Yes | The Consultant's report suggests that the Whinmoor coal seam outcrops on the west side of the site. |
| 7 | Geological Faults | No | No faults, fissures or breaklines recorded. |
| 8 | Opencast Mines | No | None recorded within 500 metres of the enquiry boundary. |

[6] https://mapapps2.bgs.ac.uk/geoindex/home.html
[7] See Groundsure report

| | | | |
|---|---|---|---|
| 9 | Coal Authority Managed Tips | No | None recorded within 500 metres of the enquiry boundary. |
| 10 | Site Investigations | No | None recorded within 50 metres of the enquiry boundary. |
| 11 | Remediated Sites | No | None recorded within 50 metres of the enquiry boundary. |
| 12 | Coal Mining Subsidence | No | The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31st October 1994.<br><br>There is no current Stop Notice delaying the start of remedial works or repairs to the property.<br><br>The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. |
| 13 | Mine Gas | No | None recorded within 500 metres of the enquiry boundary. |
| 14 | Mine Water Treatment Schemes | No | None recorded within 500 metres of the enquiry boundary. |
| 15 | Future Underground Mining | No | None recorded. |
| 16 | Coal Mining Licensing | No | None recorded within 200 metres of the enquiry boundary. |
| 17 | Court Orders | No | None recorded. |
| 18 | Section 46 Notices | No | No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence. |
| 19 | Withdrawal of Support Notices | No | The property is not in an area where a notice to withdraw support has been given.<br><br>The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support. |
| 20 | Payments to Owners of Former Copyhold Land | No | The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994. |

### 3.2.2 Non-Coal Mining

Localised small-scale underground mining of iron-ore may have occurred in the past or may be currently worked at significant depth. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered.

## 3.3 Radon Risk

The Groundsure Report highlights that at the purchase of the data set the risk from Radon Gas is outlined as the table below based on information from UK Health Security Agency (UKHSA) UK Radon.

| Table 4: Summary of Geological Data for the Site | |
|---|---|
| **RADON RISK**[8] | |
| Radon Risk: | The property is in a Radon Affected Area where between 1% and 3% of properties are at or above the action level. No radon[9] protective measures are necessary in the construction of new dwellings or extensions. |

## 3.4 Hydrogeology

| Table 5: Summary of Hydrogeological Data | | |
|---|---|---|
| **ENVIRONMENT AGENCY AQUIFER DESIGNATION**[10] | | |
| **Strata** | **Designation** | **Description** |
| Superficial Geology On Site | - | None present beneath the site. |
| Solid Geology 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. |
| **GROUNDWATER SENSITIVITY AND VULNERABILITY**[11] | | |
| **Description** | **Location** | **Details** |
| Groundwater Vulnerability | On Site | Bedrock aquifer: Low vulnerability. |
| Source Protection Zone | Within 250m | None recorded within 250m. |
| Abstraction Licences | Within 250m | None recorded within 250m. |
| Soil Leaching Potential | On Site | Leaching class: Low. |

## 3.5 Hydrology

| Table 6: Summary of Hydrological Data | | |
|---|---|---|
| **CONTROLLED WATERS**[12] | | |
| **Description** | **Location** | **Details** |
| Surface Water Features | 100m NW | High Royds Beck. |
| Records of Licensed Discharge Consents | 125m W | Effluent Type: Sewage discharges – Final/Treated effluent – Not water company. |
| | 151m NW | Effluent Type: Sewage discharges – Sewer storm overflow – Water company. |

[8] See Groundsure Report. Radon data is subject to periodic review and is only applicable from date of purchase of data. Further information regarding radon risk is present in the online Radon interactive map [*online resource https://www.ukradon.org/radonmaps/*]
[9] In outline, 'basic' radon protective measures involve the fitting of a gas tight ground barrier to protect against radon ingress. This should cover the whole building foot print and be lapped to the damp proof course in the walls and sealed around service penetrations. In addition, the membrane should also act as a damp-proof barrier. 'Full' radon protective measures requires the radon-proof ground barrier, together with a sump in the foundation, ready to take a fan if high levels of radon are detected after occupancy.
[10] See Groundsure report
[11] See Groundsure report
[12] See Groundsure report

| ENVIRONMENT AGENCY FLOOD RISK[13] | | |
|---|---|---|
| **Description** | **Location** | **Details** |
| Zone 2 | Within 250m | The site is not situated within a Zone 2 flood plain. |
| Zone 3 | Within 250m | The site is not situated within a Zone 3 flood plain. |
| Flood Defences | Within 250m | None recorded within 250m. |
| Groundwater Flooding Area | Within 250m | Limited potential for groundwater flooding to occur. |

## 3.6 Waste Management

| Table 7: Summary of Published Regulated Waste Management Facilities | | |
|---|---|---|
| ENVIRONMENT AGENCY, LOCAL AUTHORITY, BGS & HISTORIC LANDFILLS | | |
| **Waste Type** | **Location** | **Comments** |
| Active Landfill | Within 250m | None recorded within 250m |
| Historic Landfill | Within 250m | None recorded within 250m |
| Historic waste sites | Within 250m | None recorded within 250m |
| Licenced waste sites | Within 250m | None recorded within 250m |
| Waste Exemptions | 52m-62m SW<br><br>64m SE | Using and storing waste exemptions.<br><br>Using waste exemption. |

## 3.7 Regulated Industries and Industrial Land Uses

| Table 8: Summary of Industrial Land Uses and Contaminative Sources | | |
|---|---|---|
| HISTORICAL | | |
| **Land Use** | **Location** | **Classification** |
| Road Pit/Chatts Colliery | 100m S | Mining and Quarrying |
| Historical Construction | On Site | Historical Construction |
| CURRENT | | |
| **Land Use** | **Location** | **Classification** |
| Electricity Sub station | 179m W | Infrastructure |
| TANKS (Buried and Above Ground) | | |
| **Land Use** | **Location** | **Classification** |
| Underground Storage Tanks | Within 250m | None recorded |
| Overground Storage Tanks | Within 250m | None recorded |

[13] See Groundsure report

| POLLUTION INCIDENTS[14] | | | |
|---|---|---|---|
| **Description** | **Receptor** | **Location** | **Date** |
| General Biodegradable Materials and Wastes | Water: Category 3 (Minor)<br>Land: Category 4 (None)<br>Air: Category 4 (None) | 133m NW | Apr 2003 |
| General Biodegradable Materials and Wastes | Water: Category 2 (Significant)<br>Land: Category 4 (None)<br>Air: Category 3 (Minor) | 140m W | Aug 2001 |
| Contaminated Water | Water: Category 3 (Minor)<br>Land: Category 4 (None)<br>Air: Category 4 (None) | 161m NW | Oct 2002 |
| Pollutant Not Identified | Water: Category 2 (Significant)<br>Land: Category 4 (None)<br>Air: Category 4 (None) | 243m SW | Apr 2002 |
| Oils and Fuels | Water: Category 3 (Minor)<br>Land: Category 4 (None)<br>Air: Category 4 (None) | 248m SW | June 2002 |
| **REGULATED INDUSTRIES** | | | |
| **Description** | **Location** | **Details** | |
| Records of Part A(2) and Part B Activities and Enforcements | Within 250m | None recorded within 250m. | |
| **HAZARDOUS OR CONTROLLED SUBSTANCES** | | | |
| **Description** | **Location** | **Details** | |
| Control of Major Accident Hazard (COMAH) Sites | Within 250m | None recorded within 250m. | |
| Regulated Explosive Sites | Within 250m | None recorded within 250m. | |
| Hazardous Substance Storage/Usage | Within 250m | None recorded within 250m. | |

## 3.8 Unexploded Ordnance Risk

| Table 9: Unexploded Ordnance Risk | |
|---|---|
| **Location** | **Risk Rating** |
| On Site | the Zetica[15] online maps indicate that the site is at low risk from UXO. |

## 3.9 Sensitive Land Use

| Table 10: Summary of Sensitive Land Uses | | |
|---|---|---|
| **REGISTERED SENSITIVE LAND USES [16]** | | |
| **Description** | **Location** | **Details** |
| Designated Ancient Woodland | 163m SE | Chatts Wood – Ancient replanted woodland. |
| Green Belt | On Site | South and West Yorkshire Green Belt – Kirklees. |
| Nitrate Vulnerable Zones | On Site | Spen Beck from Source to River Calder NVZ – Surface Water |

[14] See Groundsure report
[15] Pre-desk study assessment [*online resource from www.zeticauxo.com*].
[16] See Groundsure Report

# 4. Preliminary Conceptual Site Model and Risk Assessment

## 4.1 Anticipated Ground Conditions

The site is located in an area of previous construction where made ground may be present. Superficial deposits are unlikely to be present. Bedrock is likely to comprise of sandstone associated with the Clifton Rock with undifferentiated mudstone, sandstone and siltstone with coal seams of the Pennine Lower Coal Measures Formation beneath.

## 4.2 Mining Assessment

The site is located in a recorded coal mining affected area as defined by the Coal Authority.

Based on the published geological and historical data the coal seams that are reported to outcrop within the local area are summarised as follows:

**Table 11: Summary of Coal Seams Within the Vicinity of the Site**

| Seam Name | Seam Thickness[17] | Outcrop Distance from Site[18] | Anticipated Depth below Site |
|---|---|---|---|
| Shertcliffe Coal (Sh) | 0.4 – 0.8m | On site (Eastern boundary) | At or near to the surface. |

### 4.2.1 Risks Posed by Shallow Coal Workings

The available information from the Consultant's Coal Mining Report suggests that the Whinmoor Coal seam is present outcropping to the western boundary of the site. However, it should be appreciated that this coal seam is not indicated to be present on the most recent publicly available geological records. The geological records suggest that this coal seam is thin and inconsistent in the area and may not actually be present or at an economical thickness. Notwithstanding this, the geological records do support the existence of the Shertcliffe Coal seam which is known to outcrop above the Clifton Rock on the eastern boundary of the site. It is suggested that this coal seam could have been mistaken for the Whinmoor Coal. In any case, if this seam was known to be close to ground level it could have been removed illicitly via shallow mining methods with relative ease. Nonetheless, with reference to the published geological map, given that the site is present on the Clifton Rock, any workings within the Shertcliffe Coal are anticipated to progress offsite towards the east. Therefore, a low risk rating has been placed on this seam and it is not necessary for further investigation to be undertaken. However, should evidence of coal, dayholes, bellpits or ground disturbance be recorded during the groundworks phase, then works should stop immediately and RGS contacted immediately for further consultation.

### 4.2.2 Risks Posed by Coal Workings at Depth

In regard to deeper mining which could affect the site, the property is in an area identified by the Coal Authority to be within a surface area that could be affected by past underground mining. Given that these workings are present in excess of 70m, it is considered that sufficient cover will be present such that the risk of instability to surface structures will be mitigated.

[17] Sources: British Geological Survey (NERC) Map Sheets 77; Huddersfield; Solid and Drift Edition, SE12NE and GeoIndex Onshore Viewer [*online resource from www.bgs.ac.uk*]
[18] See Groundsure Report

### 4.2.3 Risks Posed by Mine Entries

The Consultants Mining Report makes reference to four mineshafts and one adit within close proximity to the site. These mine entries are considered to be located at a sufficient distance, such that the site falls outside of the influence zone should a collapse occur. In the context of the guidance given by CIRIA SP32 – *Construction over abandoned mine workings* it should be appreciated that the minimum distance for siting structures from open or poorly filled shafts depends primarily on the nature and thickness of the surface deposits. This would presumably be on the basis that a significant ground collapse within intact rock would be improbable, therefore the crater associated with a collapsed mine entry would be located within the soils above the rock. Given the distance from the site to the mine entries, it will not be necessary to investigate these as a low risk is anticipated.

### 4.2.4 Risks Posed by Mine Gas

This assessment has identified that there is potential for mine workings to be present beneath the proposed development, albeit at depths in excess of 30m. The Consultants Coal Mining Report has not reported any incidents of mine gas within the vicinity of the development. Whilst shallow workings may not be present on the site itself, shallow mining activity off-site can represent a credible source of ground gas. As such, a moderate risk rating has been assigned, and further assessment may be required.

In view of the above, following intrusive investigation, it is strongly recommended that a detailed gas risk assessment is undertaken in accordance with relevant guidance. The risk assessment should take into consideration the current site conditions, and should be subject to reassessment after the formulation and/or completion of any remedial measures and proposed foundation solution. These documents should be prepared by a suitably experienced and qualified specialist.

### 4.2.5 Mining Risk Assessment

The risk to the stability of the proposed residential development has been evaluated from the data obtained and with reference to the following ratings and definitions:

Low - The possibility of instability is unlikely therefore no further action is necessary.

Moderate - The possibility of instability is likely and further investigation or remedial action may be required.

High - The possibility of instability is highly likely and further investigation or remedial action will be necessary.

**Table 12: Development Specific Risk Assessment**

| Item | Risk attributed to | Feature(s) Considered | Risk Rating |
|---|---|---|---|
| 3.1 | Shallow coal workings | Shertcliffe Coal seam | Low |
| 3.2 | Coal workings at depth | Underground mining has taken place in seams between 92m and 129m depth. | Low |
| 3.3 | Mine gas | Recorded workings at depth beneath the site. | Moderate |
| 3.4 | Mine Entries | Five mine entries recorded within the CCMR. | Low |

Based on the information provided in the table above it is considered that further investigation is not required for the potential coal seams which may be present beneath the site. However, it is recommended that gas monitoring be undertaken in order to delineate the potential for hazardous gases from mine workings.

## 4.3 Contamination Assessment

In order for a conceptual site model and preliminary risk assessment to be completed the historical maps and Groundsure data requires analysis to identify any past or present activities on the site and in the area that may have the potential to cause contamination on the site. Guidance has been issued by the Environment Agency, NHBC and Chartered Institute of Environmental Health. [19][20] Within this document, annex 3 provides examples of important contaminants that are associated with individual uses of land. This data assists in the formulation of any chemical testing regime.

The table below combines all identified potential current and historical aspects of the site and lists those that we consider potentially contaminative according to the guidance are given below:

**Table 13: Potentially Contaminative Sources**

| Land Use | Location | Contamination Risk and Profile | Monitoring Profile |
|---|---|---|---|
| Historical construction | Whole site | Made ground from demolitions of previous structures, immediately around the site over the documented history. This may include brick, concrete, timber, asbestos and metals. Historically road construction used ash as a sub-base material. | Ground gas may be generated from made ground. |
| Made/Infilled Ground | Whole Site | Materials used to infill depressions and form a level area for access or building. This may include brick, concrete, timber, ash, slag, coal and metals | Ground gas may be generated from made ground. |
| Mining activity | Whole Site | Potential contaminants could include metals, hydrocarbons and coal tar from previous mining activity on the site. | Ground gas may be generated from made ground. |

## 4.4 Preliminary Qualitative Risk Assessment

The potential of contamination hazards on the land has been identified and the risks associated with them are assessed in the following preliminary risk assessment in accordance with industry practice and the 'suitable for use' approach. This has been conducted using the source-pathway-receptor approach. This method dictates that there must be a risk contaminant produced at a 'source' in sufficient concentration to cause harm and there must be a 'pathway' for the contaminant to reach an identifiable 'receptor' for the linkage to be proved and a contamination hazard to be considered present. Not all substances are contaminants and not all contaminants are considered to be a risk. Indeed, DEFRA and The Environment Agency state that **'a contaminant is a substance which has the potential to cause harm, while a risk itself is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.**'

R&D Publication 66: 2008 states that the groups at risk of harm (receptors) can be identified by the following categorisation:

1. Humans: site personnel, end users, visitors and adjacent land users.

[19] Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D Publication 66: 2008 Volume 1 and 2.

2. The water environment – receptors: groundwater, surface water, coastal waters and artificial drainage.

3. Ecosystems: plants and animals.

4. Construction/building materials/services

In order to complete a conceptual site model and therefore a preliminary risk assessment, an appraisal of the sources of contamination, potential and actual, on and in the area of the site has therefore been completed with reference to this pollution linkage.[21]

### 4.4.1 Conceptual Ground Model & Preliminary Qualitative Risk Assessment

It is understood that the development proposals currently comprise the change in use and alterations to an existing barn to form a dwelling. In view of the sensitivity of the end users it is considered that the soil screening values (SSVs) for a residential with plant uptake end use should be employed.

The preliminary risk assessment has been evaluated with reference to the following ratings and definitions:

**N/A -** A source-pathway-receptor linkage is not considered to exist and therefore a risk assessment is not required.

**Low -** A pollution linkage is unlikely and/or the likelihood of harm occurring is low and of minor consequence.

**Moderate -** The linkage exists but further data is required to confirm that the contaminant has reached the receptor and the levels of contaminant are harmful.

**High -** The linkage exists and the available data indicates that significant harm may be caused and remedial action could be necessary.

[21] This assessment has been based on the information as to the proposed development that has been provided by the client. If the plans should change, the assessment should be re-evaluated.

| Table 14: Conceptual Site Model and Preliminary Qualitative Risk Assessment | | | | |
|---|---|---|---|---|
| **CONCEPTUAL SITE MODEL** | | | **PRELIMINARY RISK ASSESSMENT** | |
| **Pathways** | **Receptor** | **Linkage** | **Risk Rating** | **Action Required** |
| Direct contact/dermal absorption/soil ingestion | Operative | Yes – Made ground likely to be present on site. Operatives are likely to come in contact with the soil. | Moderate | Further testing required to reach a firm conclusion. |
| | End User | Yes – Made ground likely to be present on site. End users are likely to come in contact with the soil. | Moderate | |
| | Neighbours | Yes – Made ground likely to be present on site. Residential houses present directly adjacent to the site. | Moderate | |
| Inhalation of Dust/Vapours | Operative | Yes – Made ground likely to be present on site. Dust and vapours may be generated during site activity. | Moderate | Further testing required to reach a firm conclusion. |
| | End User | Yes – Made ground likely to be present on site. Vapours may accumulate in enclosed spaces. | Moderate | |
| | Neighbours | Yes – Made ground likely to be present on site. Residential properties present directly adjacent to the site. Dust may be generated during site activity which may migrate offsite to offsite receptors. | Moderate | |
| Ingestion of fruit/vegetables and/or waters | Operative | No – no edible plants or contained water sources in the area of the proposed new works. | N/A | Further testing required to reach a firm conclusion. |
| | End User | Yes – Made ground likely to be present on site. Soft landscaping proposed as part of the new development. | Moderate | |
| | Neighbours | Yes – Made ground likely to be present on site. Residential dwellings present within directly adjacent to the site. | Moderate | |
| Migration of hazardous gases via permeable strata | Operative | Yes – Made ground likely to be present on site. Possible sources of ground gas and made ground may be present from historical ground workings on site. | Moderate | A programme of monitoring is recommended to be undertaken with an initial six visits over a period of three months. At this point the results should be reviewed and whether monitoring can be curtailed or should continue to fully quantify the risks. |
| | End User | | Moderate | |
| | Neighbours | Yes – Made ground likely to be present on site. Possible sources of ground gas and made ground may be present from historical ground workings on site. There are no immediately adjoining structures. | Moderate | |

| | | | | |
|---|---|---|---|---|
| Migration of mine gas via permeable strata | Operative | Yes – Site has evidence of deep coal mining beneath the site. Potential pathway to the surface by mine entry, and via permeable unsaturated strata. | Moderate | A programme of monitoring is recommended to be undertaken with an initial six visits over a period of three months. At this point the results should be reviewed and whether monitoring can be curtailed or should continue to fully quantify the risks. |
| | End User | | | |
| Spillage/loss/run off direct to receiving water | Water Environment | Yes – Nearest surface water feature 100m northwest of site. Direct run off unlikely to receiving water. | Low | Further testing required to reach a firm conclusion. |
| Migration via permeable unsaturated strata | Water Environment | Yes – Made ground likely on site. Secondary aquifer located beneath the site. Made ground may be granular and promote infiltration. | Moderate | |
| Run off via drainage/sewers etc | Water Environment | Yes – Existing services and drainage may be present on site. | Low | |
| Direct contact with contaminated soils | Plants | Yes – Made ground likely on site. Soft landscaping areas may be present as part of the proposed development. | Moderate | Presence of suitable growing medium will need to be assessed.<br><br>Further testing required to reach a firm conclusion. |
| Uptake via root system | | | Moderate | |
| Direct contact with contaminated soils/ | Building Materials | Yes – Made ground likely to be present on site which may contain aggressive ground conditions. Foundation and service installation materials may be affected by the site soil. | Moderate | Further testing required to reach a firm conclusion. |
| Direct contact with contaminated groundwater | | | | |
| Exposure to Radon | Operative | Yes – site currently indicated to be present in a radon affected area[22]. | Low | Between 1% and 3% of properties are affected. The publication BR211 states that no protective measures are necessary.<br><br>It is recommended that a site-specific radon report is purchased for the site to fully determine the risks. |
| | End User | | | |

[22] Radon interactive map [*online resource https://www.ukradon.org/radonmaps/*] It should be appreciated that radon maps are subject to change and are updated regularly.

Notes:

1. The above data and table is a qualitative assessment of the probable risks identified at this site, based on the information made available to us from the client, third party professional data and walkover survey.

2. Should any additional or new data come to light, the risk assessment should be revisited and any necessary changes made to any recommendations resulting from this study.

3. Where further testing is recommended as part of the risk assessment, this is in order to provide a quantitative assessment of any contamination issues. It should at all times be considered that uncertainties may remain, and therefore any testing regime and ground investigation philosophy should be ready to accommodate any necessary alterations should any data come to light or it become evident that it has not been previously considered.

# 5. Intrusive Investigation

## 5.1 Site Investigation Philosophy

The information from the Phase 1 Desk Study shows there are potential sources of contamination on the site and in the surrounding area. In view of the above, any intrusive investigation should be undertaken in accordance with the sampling strategies given in BS10175: 2011 +A2:2017 and CLR4:1994. These two sampling strategies may be classified as:

- Non-Targeted – using a defined sampling pattern (BS10175)
- Targeted – based on prior knowledge and professional judgement (CLR4)

These sampling strategies are considered in more detail below. However, it is emphasised that they can be used individually or in combination depending on the depth of site knowledge.

**Non-Targeted Sampling**

If no obvious 'hot spots' of contamination have been identified on a site, it would be recommended that a stratified random pattern of sampling points be considered. This work should be undertaken with reference to BS10175: 2011 +A2: 2017 *Investigation of potentially contaminated sites – Code of practice*: 7.6, and BS5930 2015 + A1:2020, *Code of practice for ground investigations.*

**Targeted Sampling**

If a possible 'hot spot' of contamination has been identified on a site, it is recommended that a herringbone pattern of sampling points be considered in the immediate vicinity. If strong evidence of contamination has then been identified, it is recommended that sampling be highly focused to reflect that evidence and the investigator's experience. This work should be undertaken with reference to CLR4, *Sampling Strategies for Contaminated Land, 1994*.

The density of sampling required is defined in BS10175: 2011: +A2: 2017: 7.7.2.2.3, which indicates that an *exploratory* investigation usually requires a lower density sample spacing than does a *main* investigation. The BS goes on to state that *the actual density should depend upon the confidence and robustness required of decisions that will be based on the information obtained. Thus, the area and depth of interest will be related to the contaminants present, the pathways and the receptors. Typical densities of sampling grids can vary from 25m to 50m centres for exploratory investigations, and 10m to 25m centres for main investigations.*

## 5.2 Site Specific Investigation and Testing Rationale

In view of the information provided above it is considered that an investigation of the site should include the following main elements.

### 5.2.1 Geotechnical Assessment

An assessment of the geological strata and geotechnical parameter should be undertaken for the site this should include in-situ testing and collecting samples for subsequent laboratory testing.

### 5.2.2 Contamination Assessment

It may be appreciated that BS 10175 clause 7.7.2.2.3 suggests that the number of sampling points at the site should be based on a minimum of three testing locations or the size of the site with respect to the appropriate grid spacing, whichever the greater. On the basis of the site area being 0.14ha, the number of sampling points at the site should be considered with respect to the table below.

**Table 15: Summary of Sampling Strategy**

| NUMBER OF SAMPLING POINTS | | | | |
|---|---|---|---|---|
| | **Soil** | **Water** | **Standpipes** | **Standpipe Readings** |
| Exploratory Investigation 50m x 50m grid | 3 | - | 2 or 3 | A minimum of six visits over three months should be undertaken in the first case. The monitoring results should be reviewed following the initial phase and depending on the results, further visits may be required. |
| Target Areas | No specific target areas identified. | | | |

Chemical testing should be undertaken on the above grid spacing and the following testing regime should be undertaken based on the contamination source identified:

- **Metals** – Cd, Cr, Cu, Hg, Ni, Pb, Zn, V.
- **Semi Metals and Non-Metals** – As, Se, Free Cyanide and Phenols.
- **Hydrocarbons –** Polycyclic aromatic hydrocarbons (PAH EPA16), Total petroleum hydrocarbons (TPH CWG).
- **Others** – pH, Organic Content, soluble sulphates.
- **Asbestos**

### 5.2.3 Gas Monitoring

The final gas monitoring regime should be undertaken in accordance with Table 4.2 of CIRIA C665: 2007: *Assessing risks posed by hazardous ground gasses to buildings.* In that document guidance for the frequency of monitoring is provided on tables 5.5a and 5.5b *Typical/idealised frequency and period of monitoring* on page 60. For convenience, these tables have been combined and reproduced below.

**Table 16: Typical/idealised Frequency and Period of Monitoring**

| **Sensitivity of development** | **Generation potential of source** | | | | |
|---|---|---|---|---|---|
| | **Very low** | **Low** | **Moderate** | **High** | **Very High** |
| Low (commercial) | 4/1 | 6/2 | 6/3 | 12/6 | 12/12 |
| Moderate (flats) | 6/2 | 6/3 | 9/6 | 12/12 | 24/24 |
| **High (residential + gardens)** | **6/3** | **9/6** | **12/6** | **24/12** | **24/24** |

Notes:

a) The first number is the minimum number of readings and the second number is the minimum period in months, for example 4/1 – four sets of readings over 1 month.

b) At least two sets of readings must be at low and falling atmospheric pressure (but not restricted to periods below 1000mb) known as worst case conditions.

c) The frequency and period stated are considered to represent typical minimum requirements. Depending on specific circumstances fewer or additional readings may be required (e.g. any such variation subject to site specific justification). The NHBC guidance is also recommending these periods/frequencies of monitoring.

d) Historical data can be used as part of the data set.

e) Not all sites will require gas monitoring. However, this would need to be confirmed with demonstrable evidence.

f) Placing high sensitivity end use on a high hazard site is not normally acceptable unless the source is removed or treated to reduce its gassing potential. Under such circumstances long-term monitoring may not be appropriate or required.

g) This guidance should be read in conjunction with BS 8576:2013 figure 6 which may justify fewer readings in the first instance, where the generation potential is considered to be very low to low. However, this should be undertaken pragmatically, and further readings obtained according to the above table, where a potentially significant source is identified and initial readings suggest that remedial measures are not necessary.

### 5.2.4 Coal Mining Investigation

It is not anticipated that an investigation into the coal mining legacy beneath the site will be required. However, should evidence of surface disturbance or coal be identified during the groundworks phase, then further consultation shall be required.

### 5.2.5 Sustainable Drainage

Should sustainable Drainage Systems (SuDS) be required for the site, an investigation into the efficacy of such drainage systems should be undertaken. In the first stage this would be through identification of potentially permeable stratum and then investigation of the suitability of such deposits by soakaway tests in line with the guidance in BRE Digest 365.

## 5.3 Proposed Methods of Investigation

The table below outlines the methods of investigation which are considered necessary to identify and investigate the risks outlined in the conceptual model. The location of these investigation locations will be completed in line with the guidance outlined in the sampling methodology.

**Table 17: Proposed Methods of Investigation**

| Method of Investigation | Purpose/Target | Notes |
|---|---|---|
| Hand dug trial pits | Hand dug trial pits excavated to 1.20m to ensure positions are clear of underground services. | To be undertaken prior to drilling of all boreholes. To be undertaken alongside CAT scan and inspection of service plans. |
| Windowless sample boreholes drilled to 4.00m depth | To prove strength and composition of near surface deposits.<br>To collect samples for geotechnical and chemical testing.<br>To allow for installation of ground gas / groundwater monitoring standpipes. | To be undertaken at target locations in the first instance, then on random stratified sampling pattern across the remainder of the site.<br>Insitu Standard Penetration tests (SPT) to be undertaken at regular intervals. |
| Dynamic Probes | To prove the strength and competency of near surface soils to significant depth.<br>To attempt to prove depth to bedrock which may extend beneath termination depth of windowless sample boreholes. | To be undertaken at target locations in the first instance, then on random stratified sampling pattern across the remainder of the site. |
| Hand excavated Foundation Pits | Hand dug trial pits excavated adjacent to the existing structure to reveal their condition and depth.<br>To determine the founding stratum and depth. | Care taken to not damage existing foundations.<br>Samples of material directly underlying the foundation should be collected. |
| Ground Gas Monitoring | To undertake ground gas monitoring and quantify risks from presence of hazardous ground gases identified in CSM. | Gas monitoring to be undertaken over an initial six visits over 3 months, whereupon results will be reviewed.<br>Further monitoring may be required depending on findings of initial phase. |
| Chemical Testing | To identify presence of contamination arising from potential sources identified in CSM. | Samples collected should cover contaminants highlighted in Section 5.2.1.<br>Samples to be collected in appropriate plastic tubs and glass jars. |
| Geotechnical Testing | To confirm the properties and geotechnical parameter of the soils.<br>To aid in construction and development of foundations for new structures.<br>To confirm concrete classification. | Typical tests may include water content, Atterberg tests, particle size distribution, sedimentation, triaxial testing and oedometer testing. |

## 5.4 Reporting

The above data will need to be formulated into a formal assessment that should include the following:

- Geotechnical recommendations.
- Contamination assessment.
- Contamination remediation strategy.
- Any recommendations for further work, if required and including remediation where required and validation of completion of remedial measures reports.

As soon is as practicable, and prior to the above, this Phase 1 report should be forwarded to the relevant authorities, in order to ensure they have sufficient time to review and discuss any issues.

# 6. References


- British Standards Institution (2015), BS5930 2015 + A1:2020: *Code of practice for site investigations*, B.S.I., London.
- British Standards Institution (2007), Amendment No 1 to BS5930: *Code of practice for ground investigations*, B.S.I., London.
- British Standards Institution (2011) +A2:2017, BS 10175: *Investigation of potentially contaminated sites – Code of Practice,* British Standards Institute.
- British Standards Institution (2013), BS 8576 Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds.
- Department for Environment, Food and Rural Affairs and the Environment Agency, DEFRA R&D Publications, Environment Agency, Bristol.
- CLR 2, 1994, *Guidance on preliminary site inspection of contaminated land*, Volume 1.
- CLR 4, 1994, *Sampling Strategies for contaminated land*.
- R&D Publication 66: 2008 Guidance for the Safe Development of Housing on Land Affected by Contamination.
- CIRIA Report C665 (2007), Assessing risks posed by ground gasses in buildings.
- The Environment Agency: Groundwater source protection.

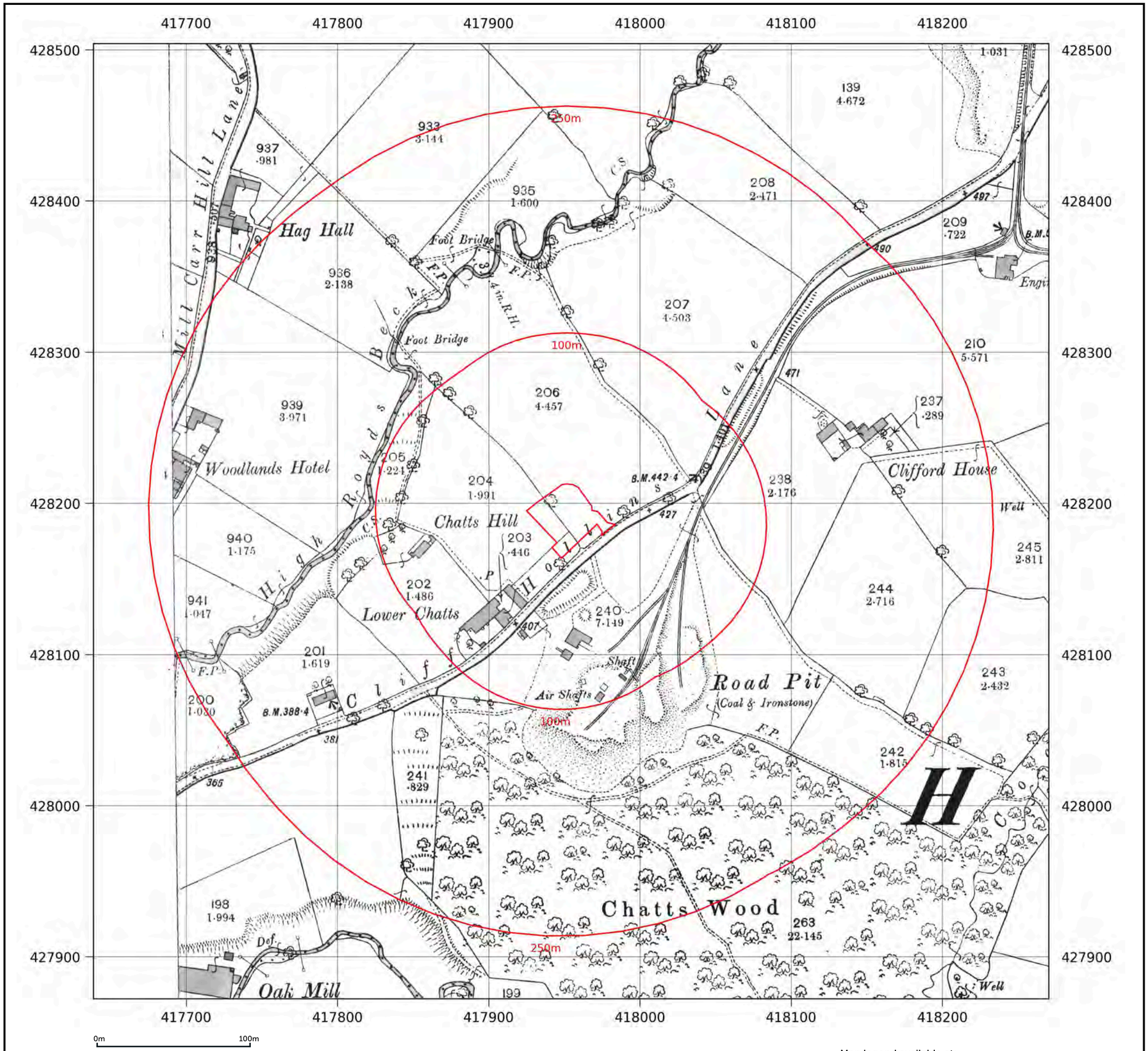
# Appendix 1

## Site Plans


Cliff Hollins Ln
Cliff Hollins Ln
Cliff Hollins Ln
Pearson Peter
Butchers
Cliff Hollins Ln
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# Appendix 2

## Historical Maps




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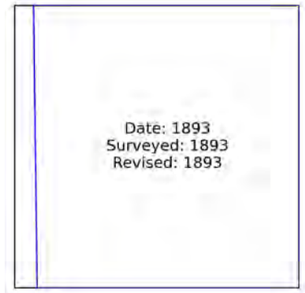
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| **Report ref:** | GS-OAO-3KN-DRH-TKT |
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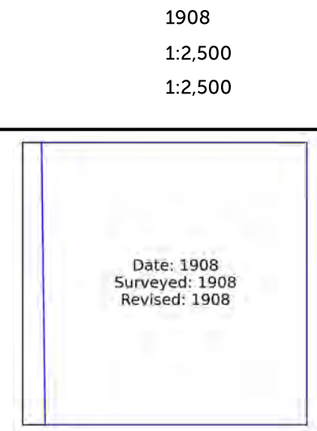
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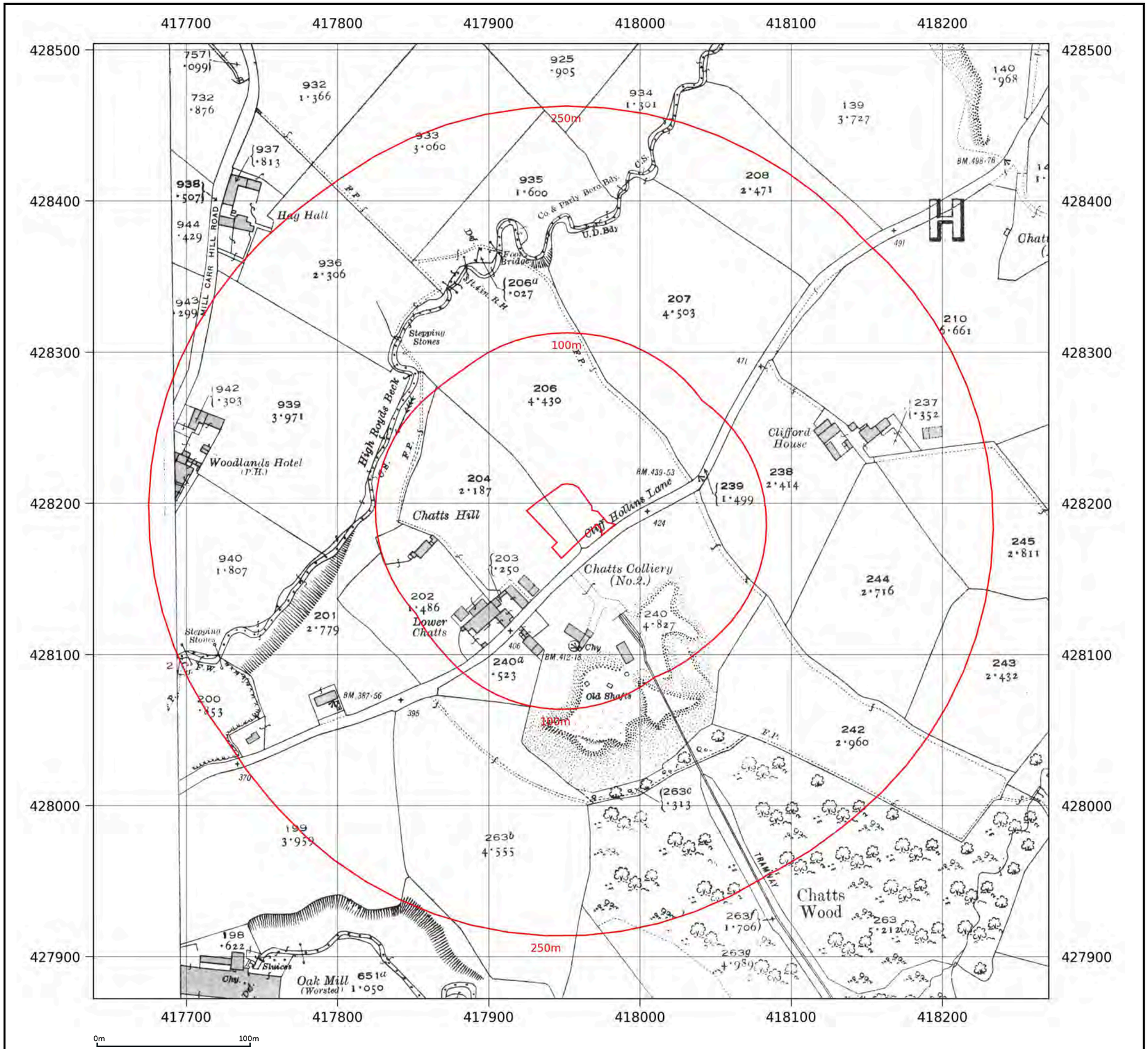

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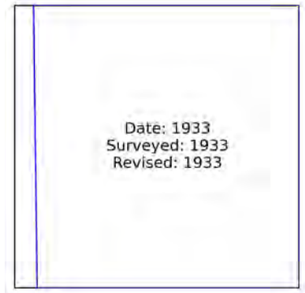
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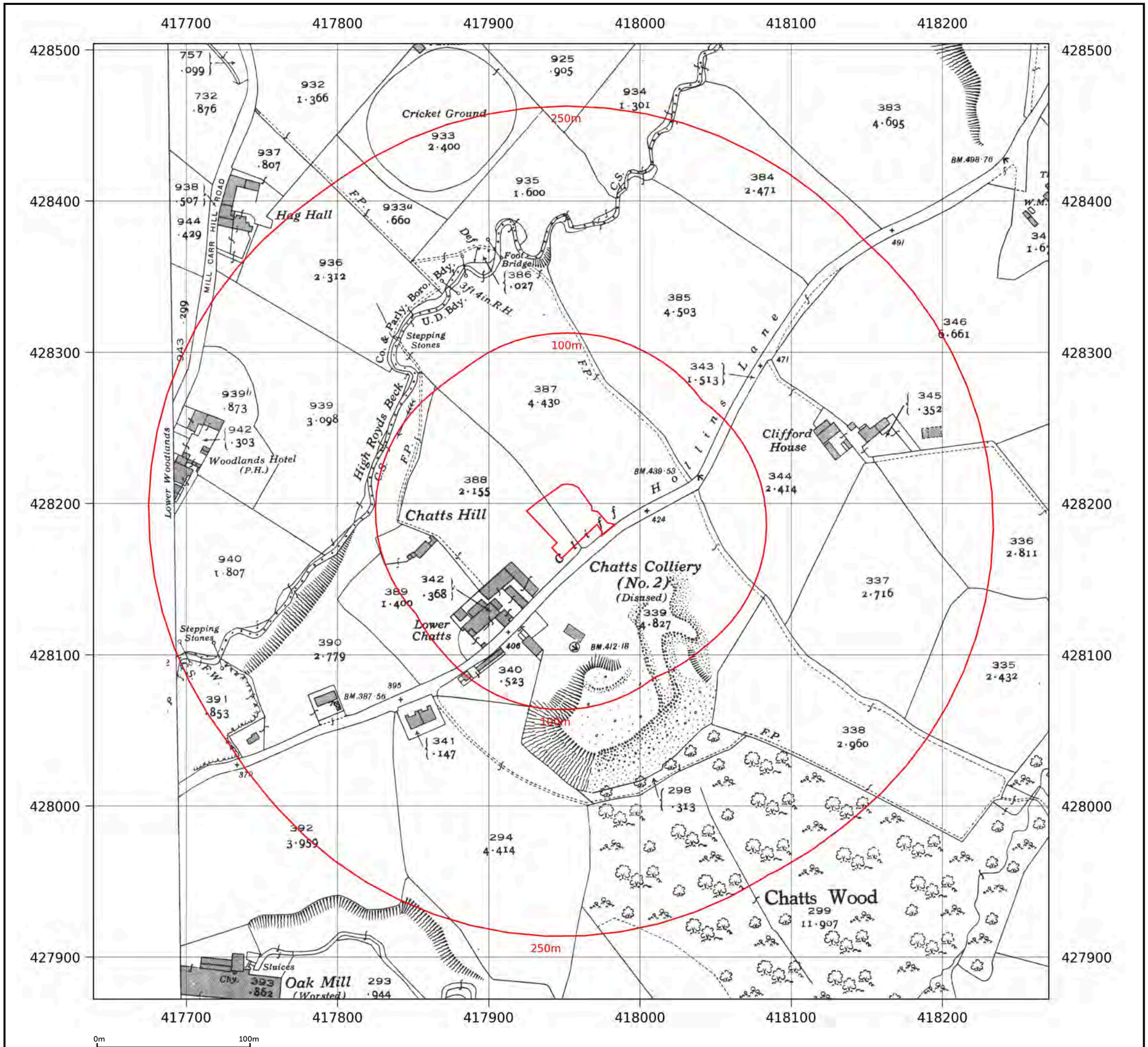
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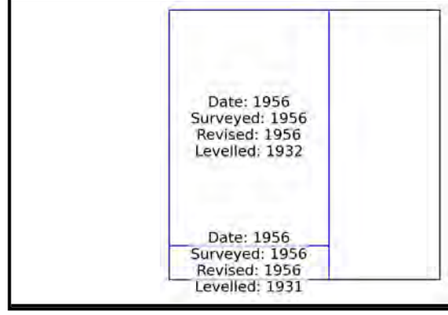
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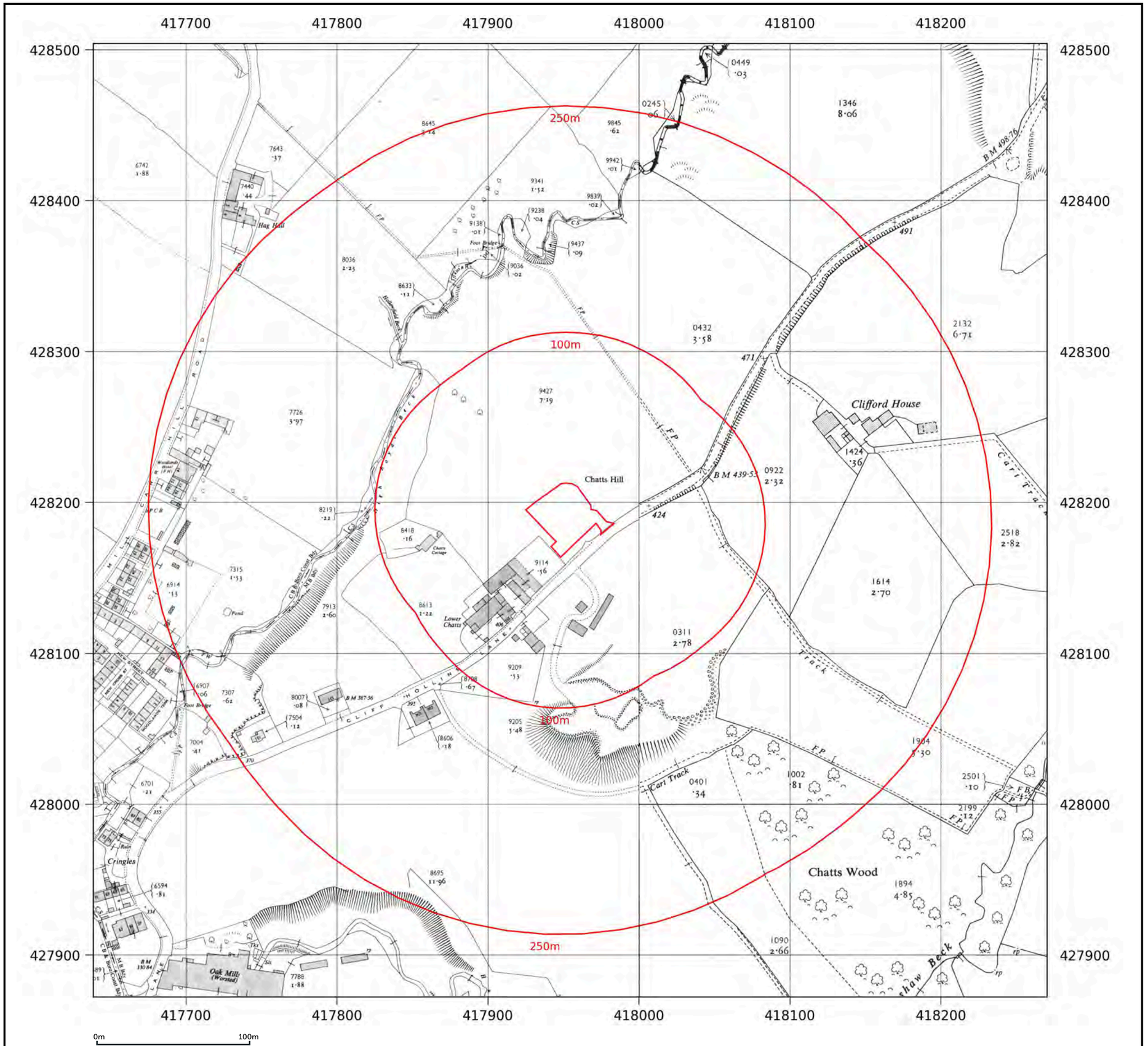

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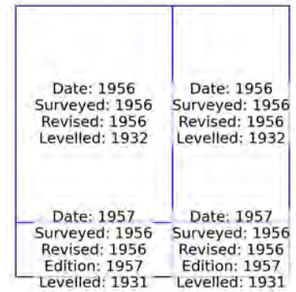
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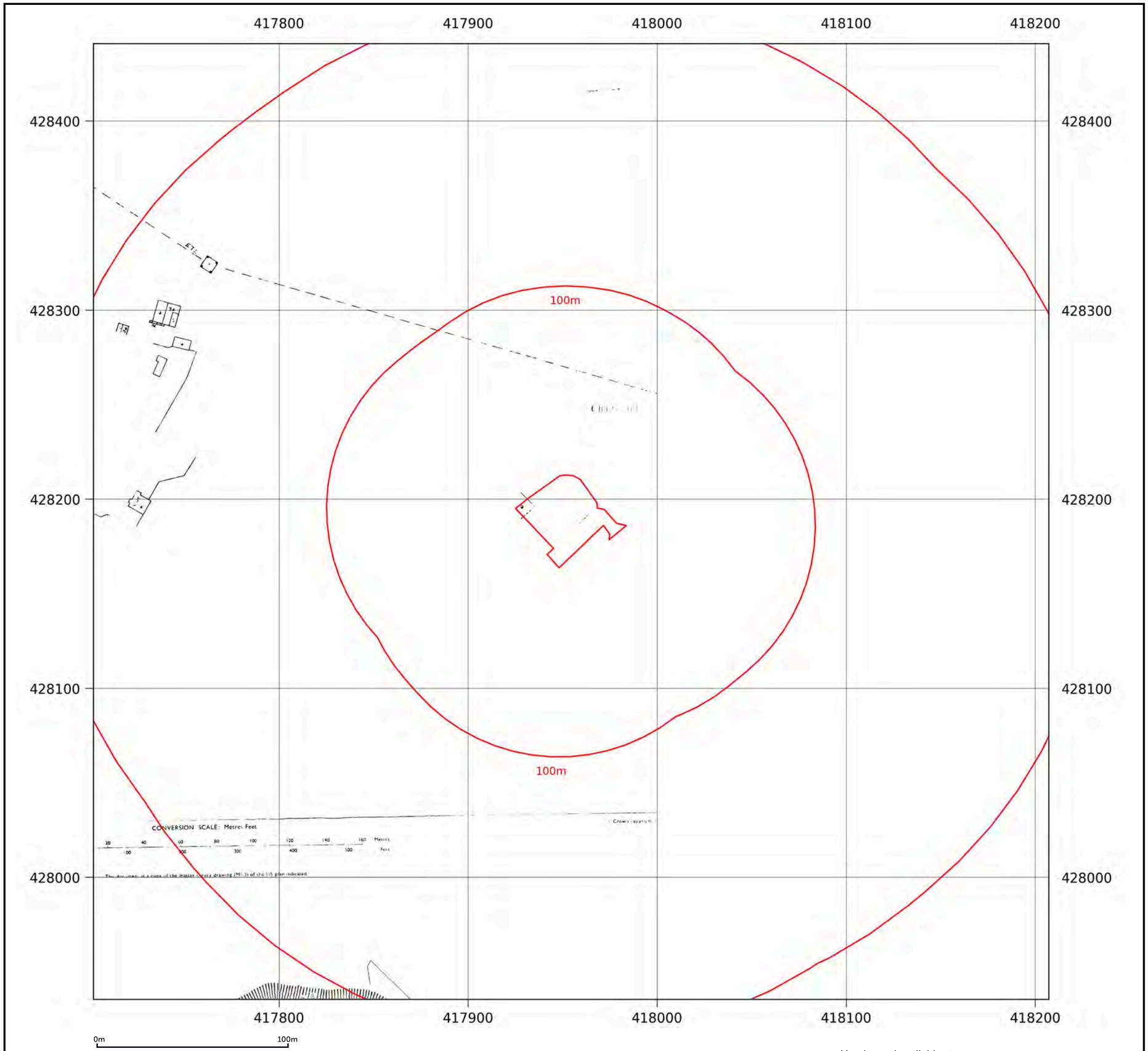
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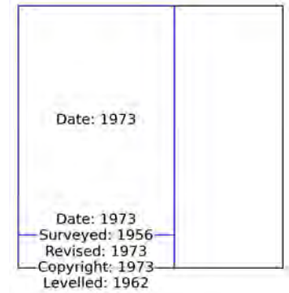
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# Map Insight

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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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| **Map name:** | National Grid |
| **Map date:** | 1973 |
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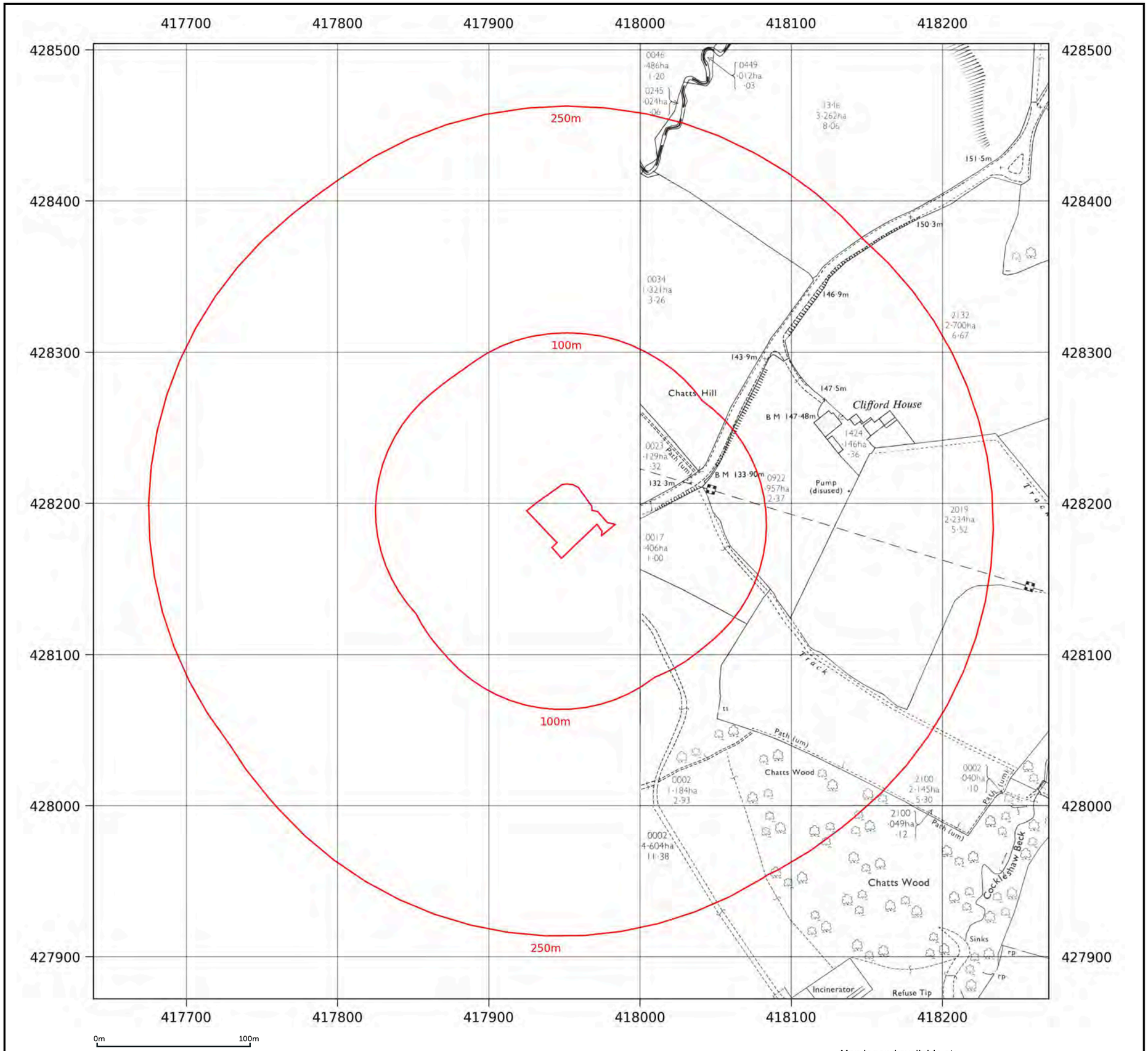
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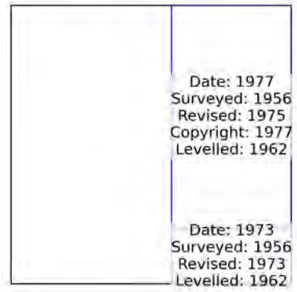
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# Map Insight

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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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| **Map name:** | National Grid |
| **Map date:** | 1973-1977 |
| **Scale:** | 1:2,500 |
| **Printed at:** | 1:2,500 |

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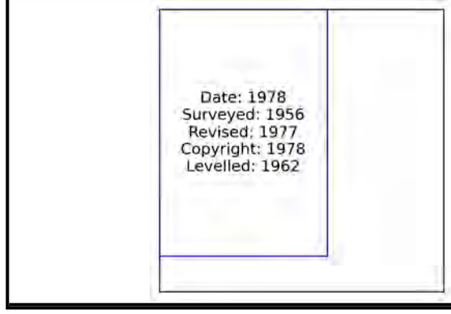
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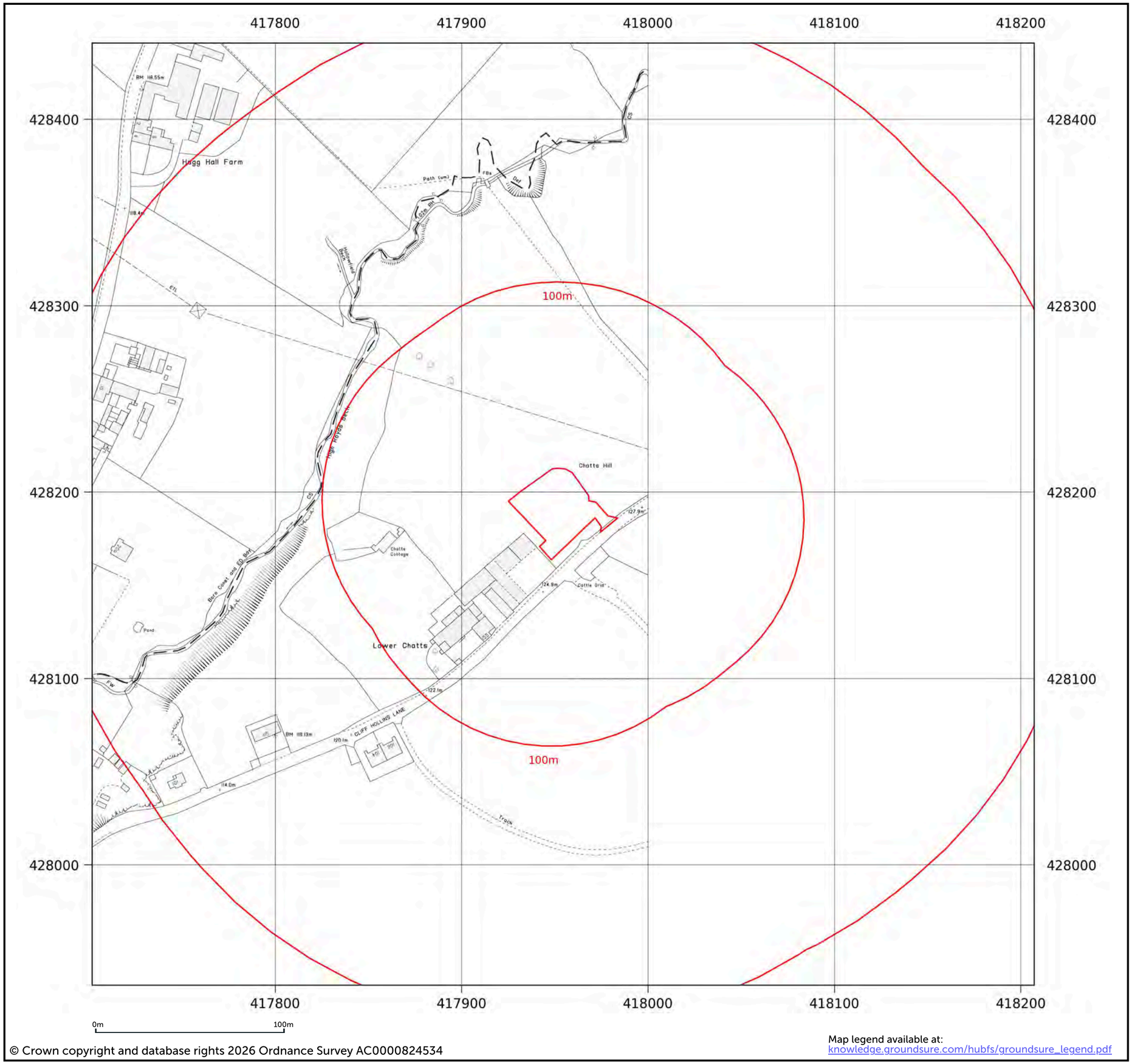
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| **Map name:** | National Grid |
| **Map date:** | 1978 |
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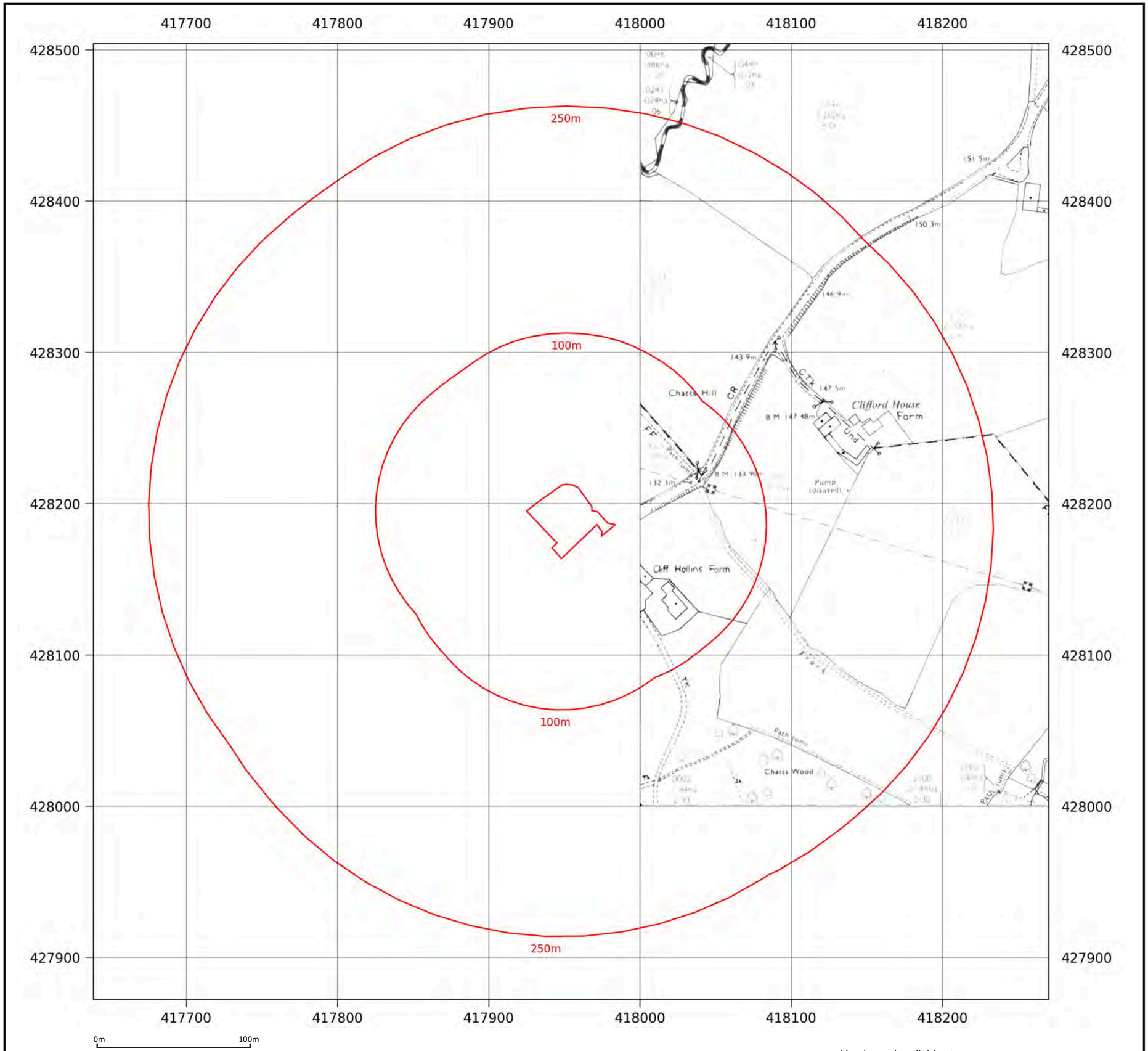



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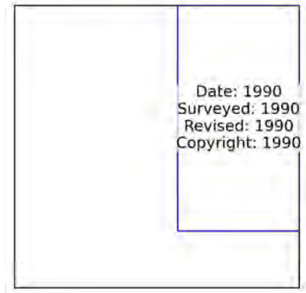
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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
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| **Scale:** | 1:2,500 |
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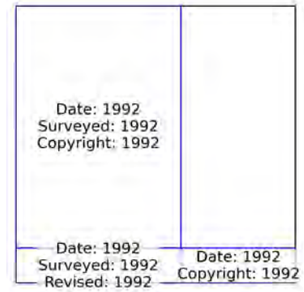
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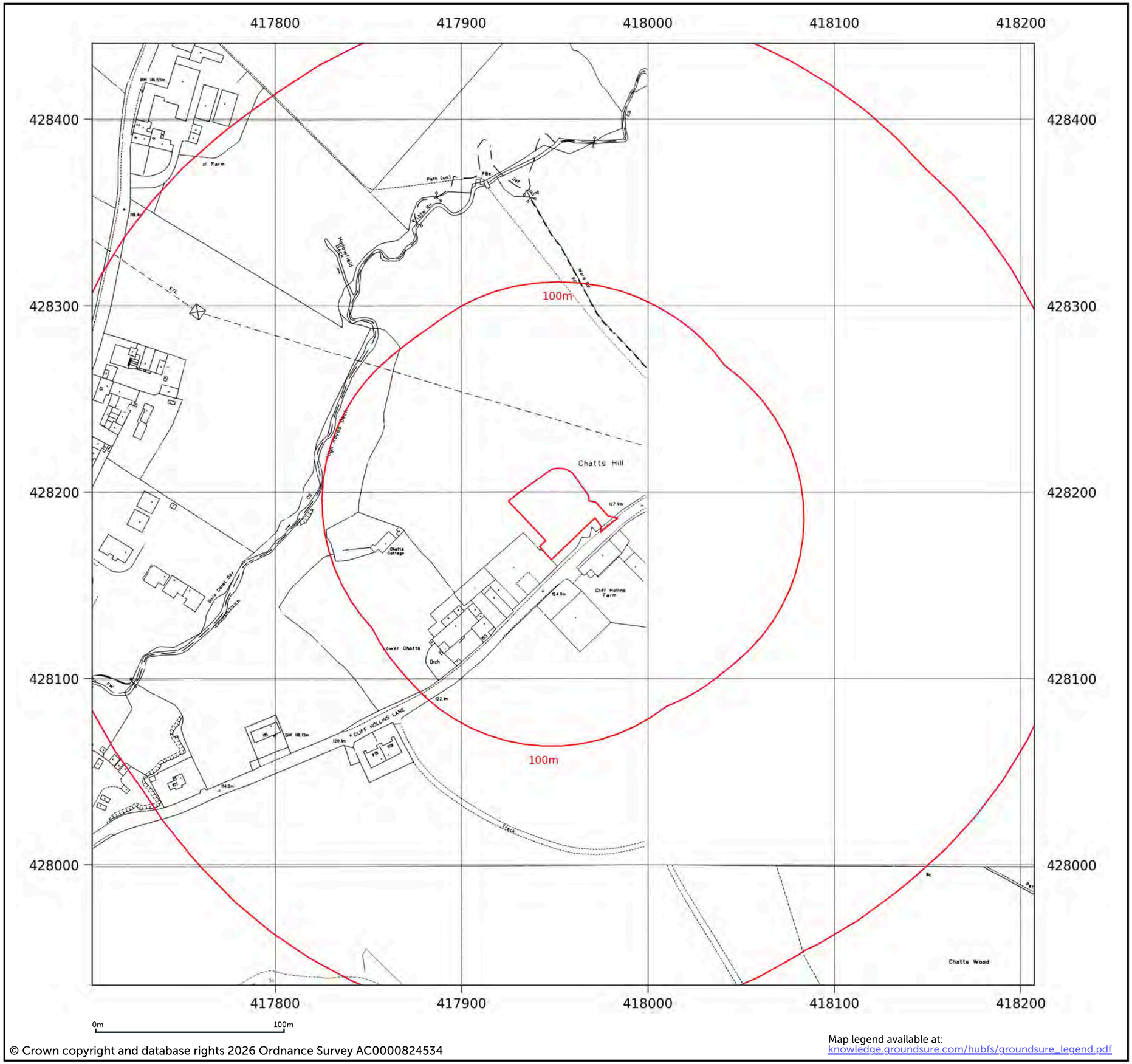
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| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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| **Map name:** | National Grid |
| **Map date:** | 1992 |
| **Scale:** | 1:1,250 |
| **Printed at:** | 1:2,000 |

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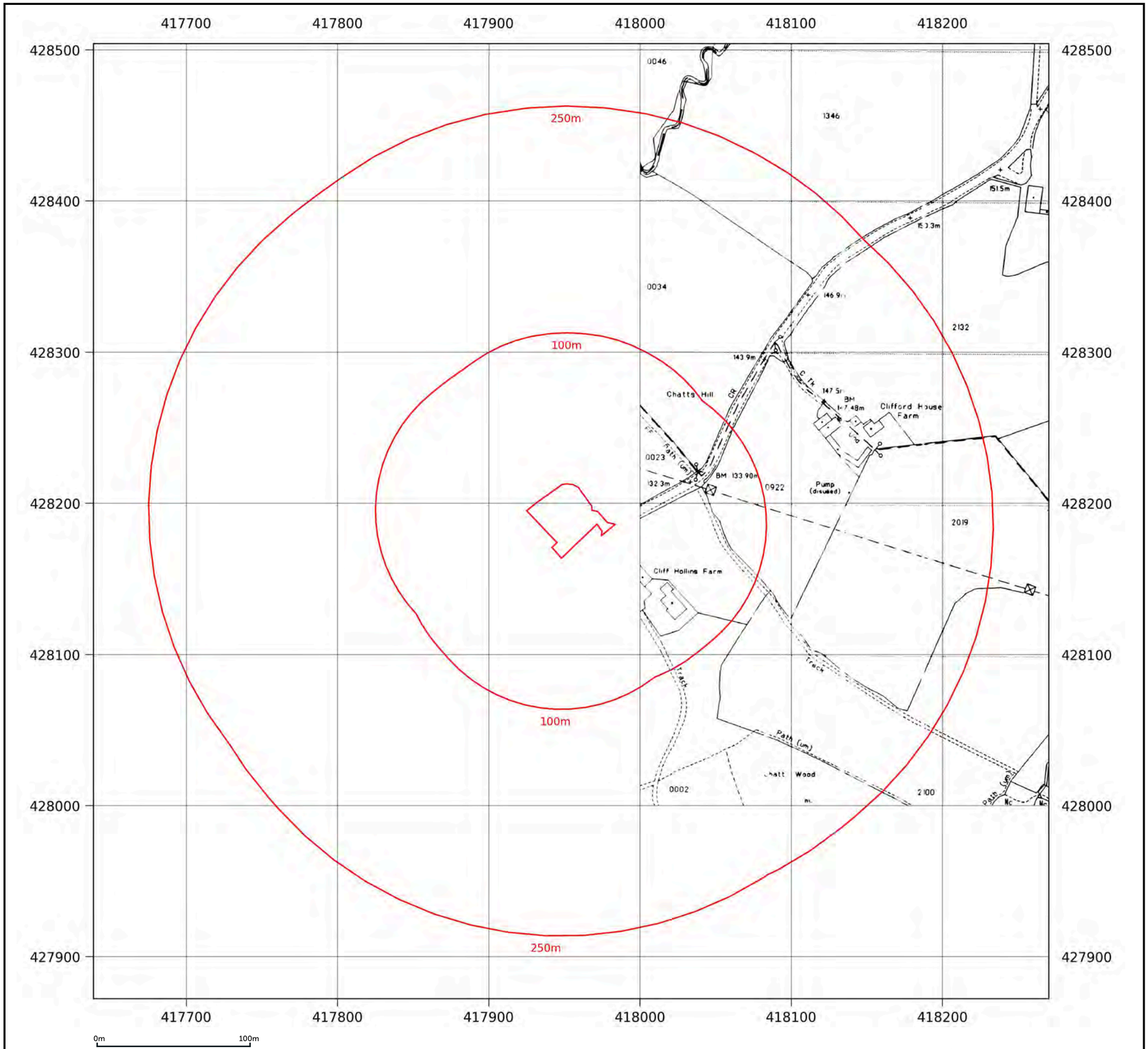



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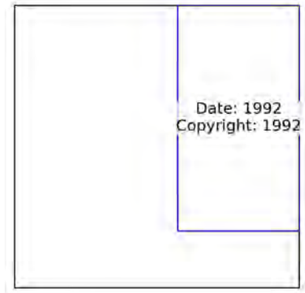
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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
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|---|---|
| **Map name:** | National Grid |
| **Map date:** | 1992 |
| **Scale:** | 1:2,500 |
| **Printed at:** | 1:2,500 |

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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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| **Map name:** | LandLine |
| **Map date:** | 2003 |
| **Scale:** | 1:1,250 |
| **Printed at:** | 1:1,250 |

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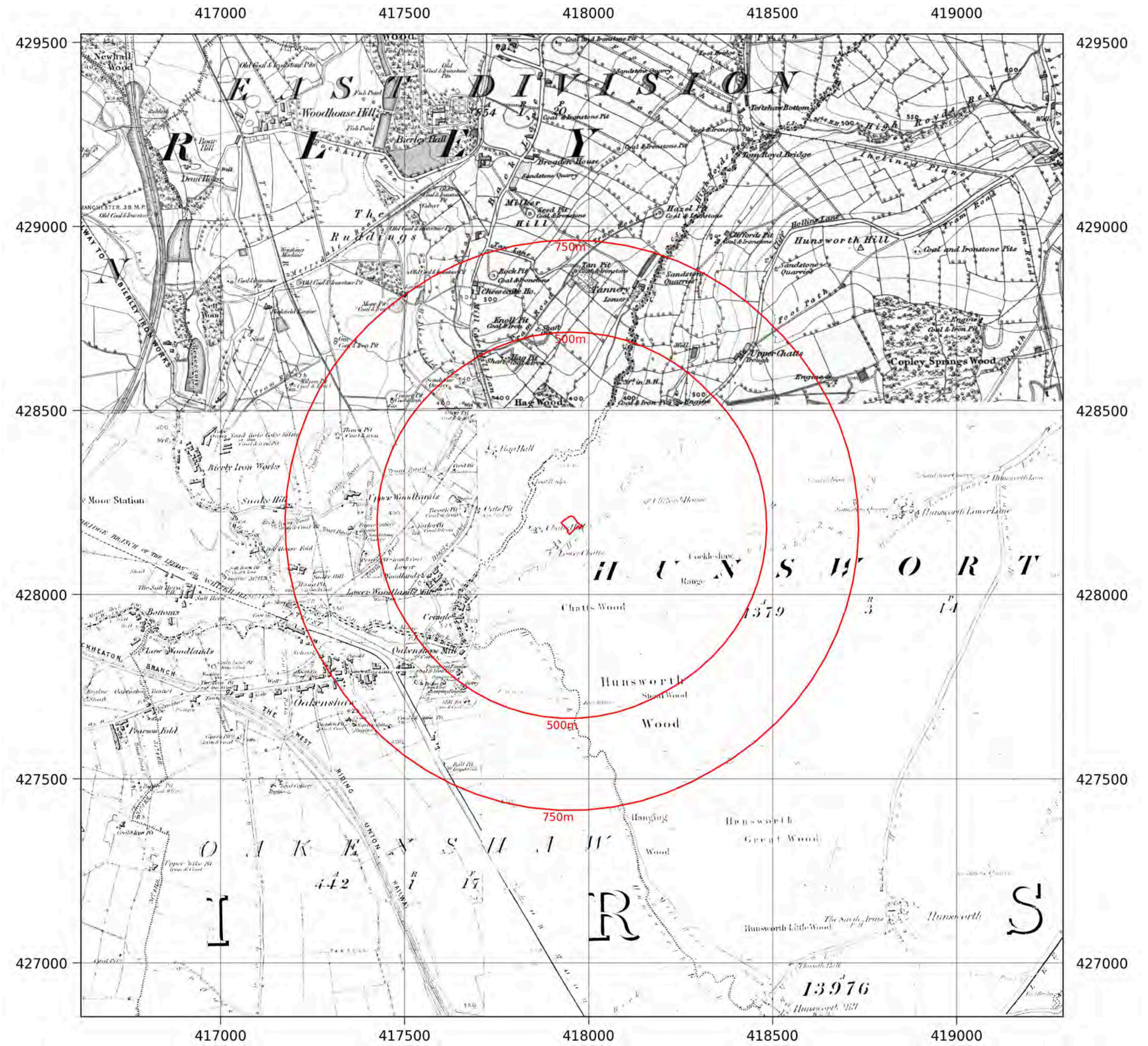



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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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|---|---|
| **Map name:** | County Series |
| **Map date:** | 1852-1854 |
| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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|---|---|
| Date: 1852<br>Surveyed: 1850<br>Edition: 1852 | Date: 1852<br>Surveyed: 1847<br>Edition: 1852 |
| Date: 1854<br>Surveyed: 1849<br>Edition: 1854 | Date: 1854<br>Surveyed: 1847<br>Edition: 1854 |

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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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|---|---|
| **Map name:** | County Series |
| **Map date:** | 1890-1892 |
| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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|---|---|
| Date: 1890<br>Surveyed: 1890<br>Revised: 1890 | Date: 1892<br>Surveyed: 1892<br>Revised: 1892 |
| Date: 1892<br>Surveyed: 1892<br>Revised: 1892 | Date: 1892<br>Surveyed: 1892<br>Revised: 1892 |

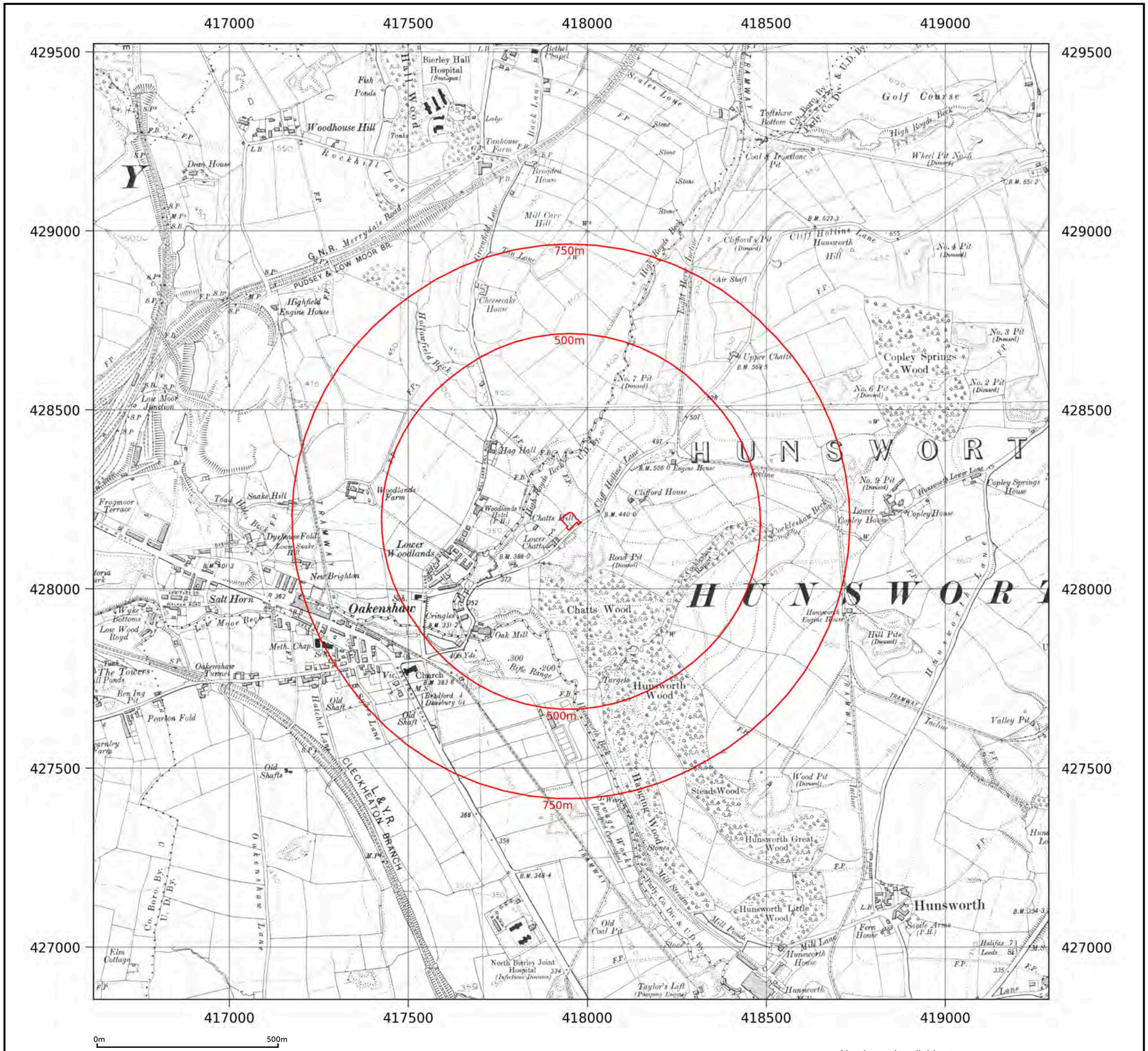
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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
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|---|---|
| **Map name:** | County Series |
| **Map date:** | 1905 |
| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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| Date: 1905<br>Surveyed: 1850<br>Revised: 1905 | Date: 1905<br>Surveyed: 1892<br>Revised: 1905 |
| Date: 1905<br>Surveyed: 1892<br>Revised: 1905 | Date: 1905<br>Surveyed: 1889<br>Revised: 1905 |


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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
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| **Production date:** | 12 May 2026 |

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| **Map name:** | County Series |
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| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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Date: 1932
Surveyed: 1850
Revised: 1932

Date: 1932
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Revised: 1932

Date: 1932
Surveyed: 1850
Revised: 1932

Date: 1932
Surveyed: 1850
Revised: 1932

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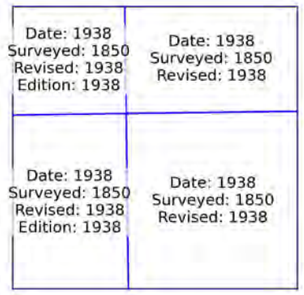
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| **Map name:** | County Series |
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| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
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| **Map name:** | County Series |
| **Map date:** | 1948 |
| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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| Date: 1948<br>Surveyed: 1850<br>Revised: 1948 | Date: 1948<br>Surveyed: 1850<br>Revised: 1948<br>Edition: 1948 |
| Date: 1948<br>Surveyed: 1850<br>Revised: 1948 | Date: 1948<br>Surveyed: 1850<br>Revised: 1948<br>Levelled: 1931 |


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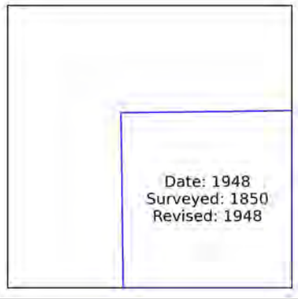
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| **Scale:** | 1:10,560 |
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417000 417500 418000 418500 419000

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750m
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0m 500m

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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
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| **Map name:** | Provisional |
| **Map date:** | 1955 |
| **Scale:** | 1:10,560 |
| **Printed at:** | 1:10,560 |

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| **Map name:** | Provisional |
| **Map date:** | 1967 |
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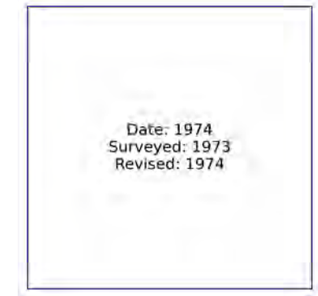
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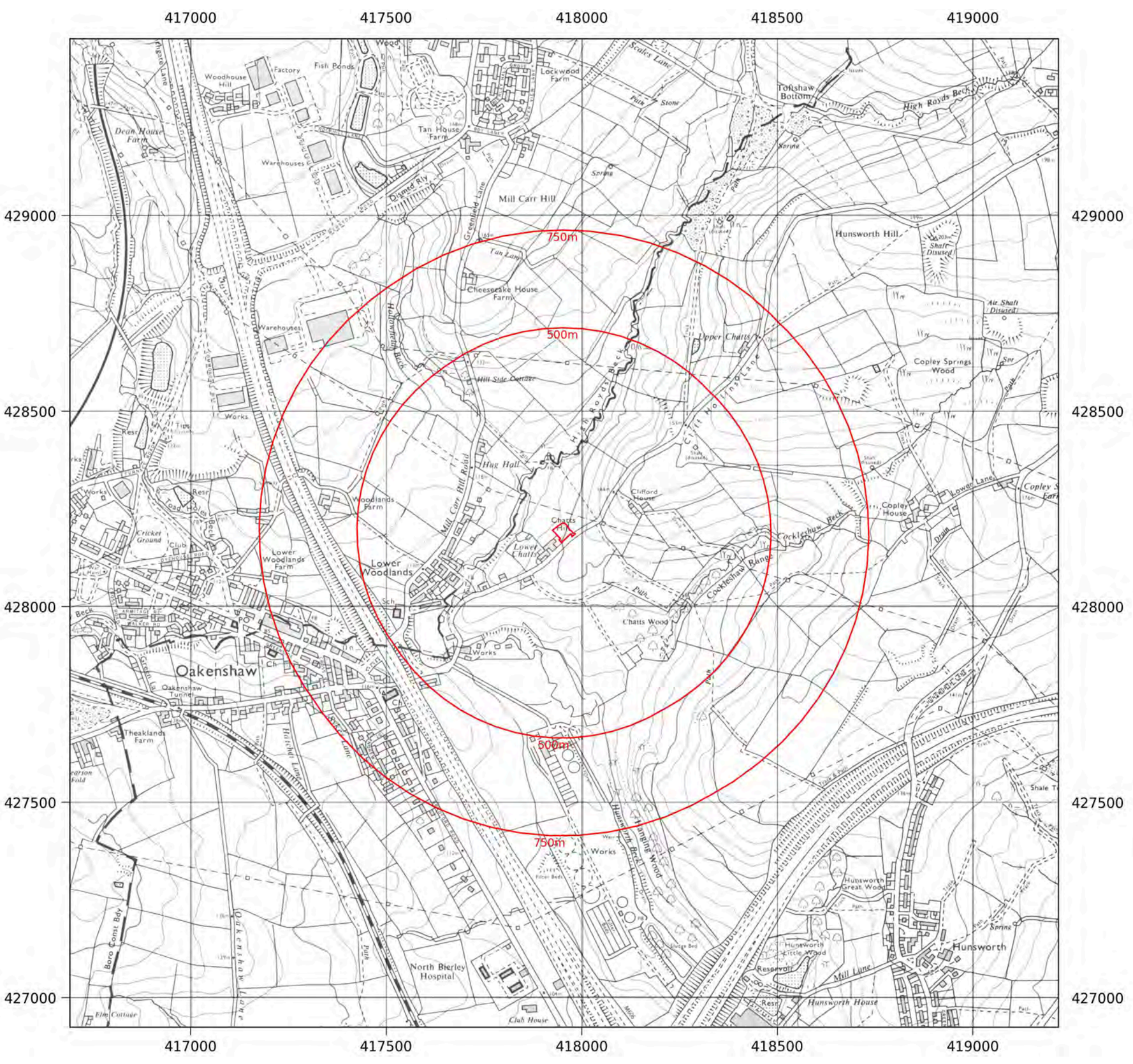
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| **Map name:** | National Grid |
| **Map date:** | 1974 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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|---|---|
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| **Map date:** | 1983 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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Date: 1983
Surveyed: 1982
Revised: 1983

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# Map Insight

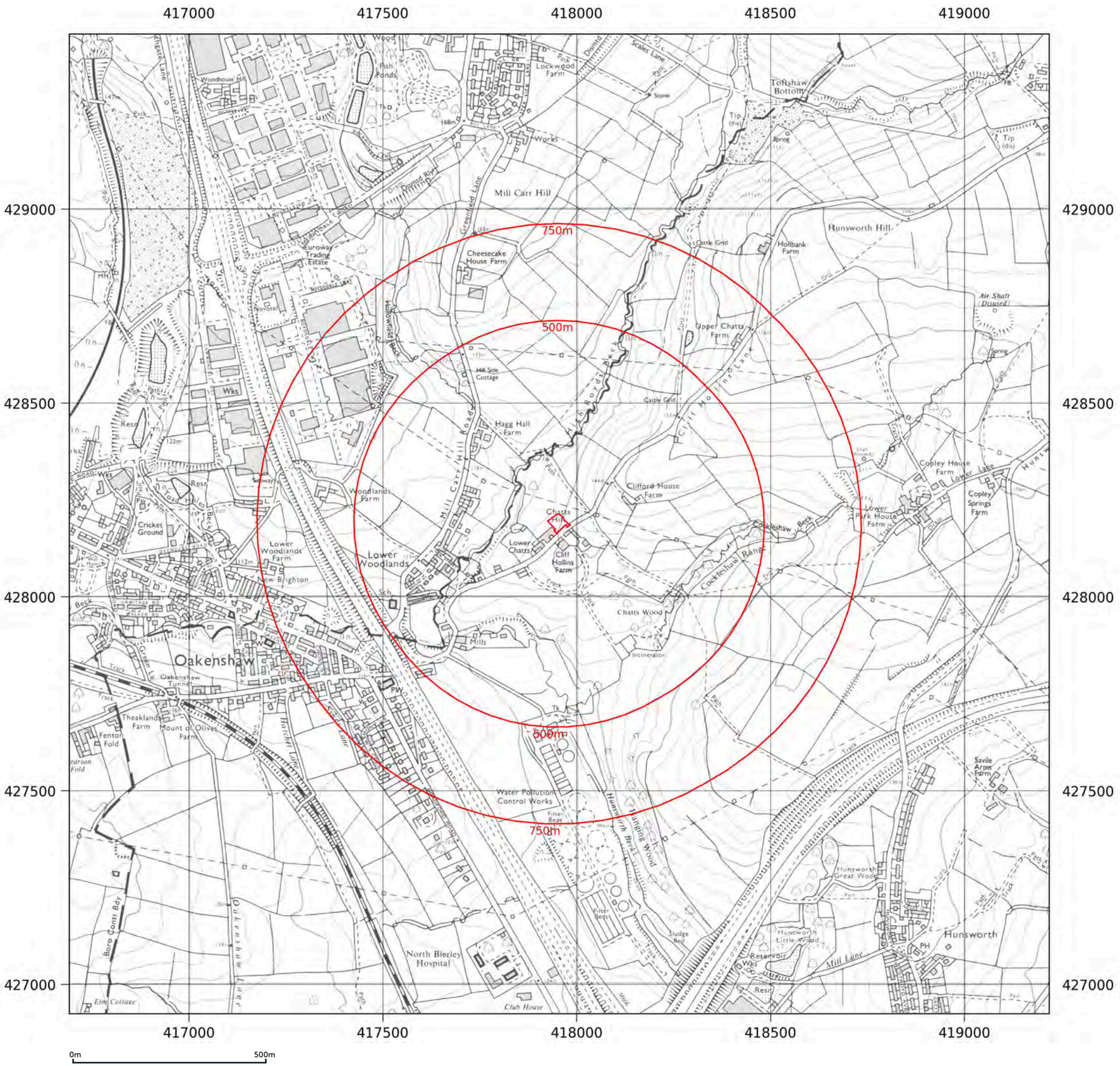
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| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

| | |
|---|---|
| **Map name:** | National Grid |
| **Map date:** | 1990 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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|---|---|
| **Map name:** | National Grid |
| **Map date:** | 2001 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

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|---|---|
| **Map name:** | National Grid |
| **Map date:** | 2010 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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|---|---|
| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

| | |
|---|---|
| **Map name:** | National Grid |
| **Map date:** | 2015 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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# Map Insight

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|---|---|
| **Site details:** | LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET |
| **Client ref:** | C/5994/26/E/9289 - PO-3828 |
| **Report ref:** | GS-OAO-3KN-DRH-TKT |
| **Grid ref:** | 417951.92, 428190.75 |
| **Production date:** | 12 May 2026 |

| | |
|---|---|
| **Map name:** | National Grid |
| **Map date:** | 2025 |
| **Scale:** | 1:10,000 |
| **Printed at:** | 1:10,000 |

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# Appendix 3

## Groundsure Reports

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# Enviro+Geo Insight

LOWER CHATTS FARM, CLIFF HOLLINS LANE, EAST BIERLEY, BRADFORD, KIRKLEES, BD12 7ET

## Order Details

**Date:** 12/05/2026

**Your ref:** C/5994/26/E/9289 - PO-3828

**Our Ref:** GS-VND-9FM-284-DMM

## Site Details

**Location:** 417951 428190

**Area:** 0.14 ha

**Authority:** Kirklees Council ↗

## Site plan




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## Quick Links

**Summary of findings** p. 2 >

**OS MasterMap site plan** p.14 >

**Aerial image** p. 9 >

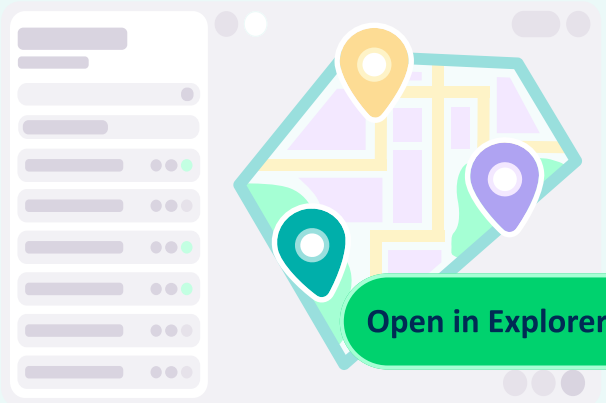
Insight User Guide ↗

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- Map and interpret 130+ datasets across 170 years
- Generate insights and visuals quickly
- Revisit and collaborate with your team

Access to Groundsure Explorer requires an Insights account.
12 months access begins at purchase.




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# 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 > | 0 | 6 | 15 | 69 | - |
| 19 > | 1.2 > | Historical tanks > | 0 | 0 | 0 | 10 | - |
| 20 > | 1.3 > | Historical energy features > | 0 | 0 | 0 | 1 | - |
| 20 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 20 | 1.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| 21 | 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 |
| 22 > | 2.1 > | Historical industrial land uses > | 0 | 8 | 19 | 86 | - |
| 27 > | 2.2 > | Historical tanks > | 0 | 0 | 0 | 18 | - |
| 28 > | 2.3 > | Historical energy features > | 0 | 0 | 0 | 2 | - |
| 28 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 28 | 2.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| Page | Section | Waste and landfill > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 29 | 3.1 | Active or recent landfill | 0 | 0 | 0 | 0 | - |
| 29 > | 3.2 > | Historical landfill (BGS records) > | 0 | 0 | 0 | 1 | - |
| 30 > | 3.3 > | Historical landfill (LA/mapping records) > | 0 | 0 | 0 | 1 | - |
| 30 > | 3.4 > | Historical landfill (EA/NRW records) > | 0 | 0 | 0 | 1 | - |
| 31 > | 3.5 > | Historical waste sites > | 0 | 0 | 0 | 3 | - |
| 31 | 3.6 | Licensed waste sites | 0 | 0 | 0 | 0 | - |
| 31 > | 3.7 > | Waste exemptions > | 0 | 0 | 15 | 16 | - |
| Page | Section | Current industrial land use > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 35 > | 4.1 > | Recent industrial land uses > | 0 | 0 | 1 | - | - |
| 36 | 4.2 | National Geographic Database (NGD) - Current or recent tanks | 0 | 0 | 0 | - | - |
| 36 | 4.3 | Current or recent petrol stations | 0 | 0 | 0 | 0 | - |
| 36 | 4.4 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 36 | 4.5 | Gas pipelines | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 | 4.6 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |
| 36 | 4.7 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
| 37 | 4.8 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 37 | 4.9 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| 37 | 4.10 | Historical licensed industrial activities (IPC) | 0 | 0 | 0 | 0 | - |
| 37 | 4.11 | Licensed industrial activities (Part A(1)) | 0 | 0 | 0 | 0 | - |
| 37 | 4.12 | Licensed pollutant release (Part A(2)/B) | 0 | 0 | 0 | 0 | - |
| 38 | 4.13 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| **38 >** | **4.14 >** | **Licensed Discharges to controlled waters >** | 0 | 0 | 3 | 1 | - |
| 39 | 4.15 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 39 | 4.16 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 39 | 4.17 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| **39 >** | **4.18 >** | **List 2 Dangerous Substances >** | 0 | 0 | 1 | 0 | - |
| **39 >** | **4.19 >** | **Pollution Incidents (EA/NRW) >** | 0 | 0 | 5 | 10 | - |
| 41 | 4.20 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 41 | 4.21 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 42 | 4.22 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |

| Page | Section | **Hydrogeology >** | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **43 >** | **5.1 >** | **Superficial aquifer >** | Identified (within 500m) | | | | |
| **45 >** | **5.2 >** | **Bedrock aquifer >** | Identified (within 500m) | | | | |
| **46 >** | **5.3 >** | **Groundwater vulnerability >** | Identified (within 50m) | | | | |
| 47 | 5.4 | Groundwater vulnerability- soluble rock risk | None (within 0m) | | | | |
| 47 | 5.5 | Groundwater vulnerability- local information | None (within 0m) | | | | |
| **48 >** | **5.6 >** | **Groundwater abstractions >** | 0 | 0 | 0 | 0 | 23 |
| 54 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 54 | 5.8 | Potable abstractions | 0 | 0 | 0 | 0 | 0 |
| 54 | 5.9 | Source Protection Zones | 0 | 0 | 0 | 0 | - |
| 54 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |

| Page | Section | **Hydrology >** | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 > | 6.1 > | Water Network (OS NGD) > | 0 | 0 | 4 | - | - |
| 56 > | 6.2 > | Surface water features > | 0 | 0 | 2 | - | - |
| 56 > | 6.3 > | WFD Surface water body catchments > | 1 | - | - | - | - |
| 57 > | 6.4 > | WFD Surface water bodies > | 0 | 0 | 1 | - | - |
| 57 > | 6.5 > | WFD Groundwater bodies > | 1 | - | - | - | - |
| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 58 | 7.1 | Risk of flooding from rivers and the sea | None (within 50m) | | | | |
| 58 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 58 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 59 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 59 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 60 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 60 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |
| Page | Section | Surface water flooding | | | | | |
| 61 | 8.1 | Surface water flooding | Negligible (within 50m) | | | | |
| Page | Section | Groundwater flooding > | | | | | |
| 62 > | 9.1 > | Groundwater flooding > | Negligible (within 50m) | | | | |
| Page | Section | Environmental designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 63 | 10.1 | Sites of Special Scientific Interest (SSSI) | 0 | 0 | 0 | 0 | 0 |
| 64 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 64 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 64 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 64 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 65 > | 10.6 > | Local Nature Reserves (LNR) > | 0 | 0 | 0 | 0 | 1 |
| 65 > | 10.7 > | Designated Ancient Woodland > | 0 | 0 | 1 | 2 | 9 |
| 66 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 66 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 66 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| 66 > | 10.11 > | Green Belt > | 1 | 0 | 1 | 1 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 67 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |
| 67 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
| 67 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 67 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| 68 > | 10.16 > | Nitrate Vulnerable Zones > | 1 | 0 | 0 | 0 | 0 |
| 69 > | 10.17 > | SSSI Impact Risk Zones > | 1 | - | - | - | - |
| 70 | 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 |
| 71 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 71 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 71 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| 71 | 11.4 | Listed Buildings | 0 | 0 | 0 | - | - |
| 72 | 11.5 | Conservation Areas | 0 | 0 | 0 | - | - |
| 72 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 72 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 73 > | 12.1 > | Agricultural Land Classification > | Grade 3 (within 250m) | | | | |
| 74 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 74 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 74 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| 75 | 12.5 | Countryside Stewardship Schemes | 0 | 0 | 0 | - | - |
| Page | Section | Habitat designations > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 76 > | 13.1 > | Priority Habitat Inventory > | 0 | 0 | 2 | - | - |
| 77 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 77 | 13.3 | Open Mosaic Habitat | 0 | 0 | 0 | - | - |
| 77 | 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 |
| 78 > | 14.1 > | 10k Availability > | Identified (within 500m) | | | | |
| 79 > | 14.2 > | Artificial and made ground (10k) > | 0 | 1 | 4 | 8 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 81 > | 14.3 > | Superficial geology (10k) > | 0 | 0 | 4 | 4 | - |
| 82 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
| 83 > | 14.5 > | Bedrock geology (10k) > | 2 | 2 | 5 | 25 | - |
| 85 > | 14.6 > | Bedrock faults and other linear features (10k) > | 1 | 0 | 2 | 17 | - |
| Page | Section | **Geology 1:50,000 scale >** | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 87 > | 15.1 > | 50k Availability > | Identified (within 500m) | | | | |
| 88 > | 15.2 > | Artificial and made ground (50k) > | 0 | 1 | 0 | 5 | - |
| 89 > | 15.3 > | Artificial ground permeability (50k) > | 0 | 1 | - | - | - |
| 90 > | 15.4 > | Superficial geology (50k) > | 0 | 0 | 4 | 2 | - |
| 91 | 15.5 | Superficial permeability (50k) | None (within 50m) | | | | |
| 91 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 91 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| 92 > | 15.8 > | Bedrock geology (50k) > | 2 | 2 | 5 | 21 | - |
| 94 > | 15.9 > | Bedrock permeability (50k) > | Identified (within 50m) | | | | |
| 94 > | 15.10 > | Bedrock faults and other linear features (50k) > | 1 | 0 | 1 | 14 | - |
| Page | Section | **Boreholes >** | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 96 > | 16.1 > | BGS Boreholes > | 0 | 0 | 5 | - | - |
| Page | Section | **Natural ground subsidence >** | | | | | |
| 98 > | 17.1 > | Shrink swell clays > | Very low (within 50m) | | | | |
| 100 > | 17.2 > | Running sands > | Very low (within 50m) | | | | |
| 102 > | 17.3 > | Compressible deposits > | Very low (within 50m) | | | | |
| 104 > | 17.4 > | Collapsible deposits > | Very low (within 50m) | | | | |
| 105 > | 17.5 > | Landslides > | Low (within 50m) | | | | |
| 107 > | 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 |
| 109 > | 18.1 > | BritPits > | 0 | 0 | 2 | 13 | - |
| 115 > | 18.2 > | Surface ground workings > | 0 | 7 | 13 | - | - |
| 116 > | 18.3 > | Underground workings > | 0 | 3 | 2 | 6 | 30 |
| 117 | 18.4 | Underground mining extents | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 118 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 0 | - |
| 118 > | 18.6 > | Non-coal mining > | 1 | 1 | 0 | 8 | 10 |
| 120 | 18.7 | JPB mining areas | None (within 0m) | | | | |
| 121 | 18.8 | The Coal Authority non-coal mining | 0 | 0 | 0 | 0 | - |
| 121 > | 18.9 > | Researched mining > | 0 | 0 | 1 | 3 | - |
| 121 | 18.10 | Mining record office plans | 0 | 0 | 0 | 0 | - |
| 122 > | 18.11 > | BGS mine plans > | 0 | 0 | 4 | 0 | - |
| 122 > | 18.12 > | Coal mining > | Identified (within 0m) | | | | |
| 122 | 18.13 | Brine areas | None (within 0m) | | | | |
| 123 | 18.14 | Gypsum areas | None (within 0m) | | | | |
| 123 | 18.15 | Tin mining | None (within 0m) | | | | |
| 123 | 18.16 | Clay mining | None (within 0m) | | | | |
| Page | Section | Ground cavities and sinkholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 124 | 19.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 124 | 19.2 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 124 | 19.3 | Reported recent incidents | 0 | 0 | 0 | 0 | - |
| 124 | 19.4 | Historical incidents | 0 | 0 | 0 | 0 | - |
| Page | Section | Radon > | | | | | |
| 126 > | 20.1 > | Radon > | Between 1% and 3% (within 0m) | | | | |
| Page | Section | Soil chemistry > | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 128 > | 21.1 > | BGS Estimated Background Soil Chemistry > | 2 | 3 | - | - | - |
| 128 | 21.2 | BGS Estimated Urban Soil Chemistry | 0 | 0 | - | - | - |
| 129 | 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 |
| 130 | 22.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 130 | 22.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 131 | 22.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 131 > | 22.4 > | Historical railway and tunnel features > | 0 | 2 | 2 | - | - |
| 131 | 22.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 132 | 22.6 | Historical railways | 0 | 0 | 0 | - | - |
| 132 | 22.7 | Railways | 0 | 0 | 0 | - | - |
| 132 | 22.8 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 132 | 22.9 | HS2 | 0 | 0 | 0 | 0 | - |

## Recent aerial photograph




Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2026. All Rights Reserved.

Capture Date: 30/05/2021

Site Area: 0.14ha

## Recent site history - 2018 aerial photograph




Capture Date: 02/07/2018

Site Area: 0.14ha

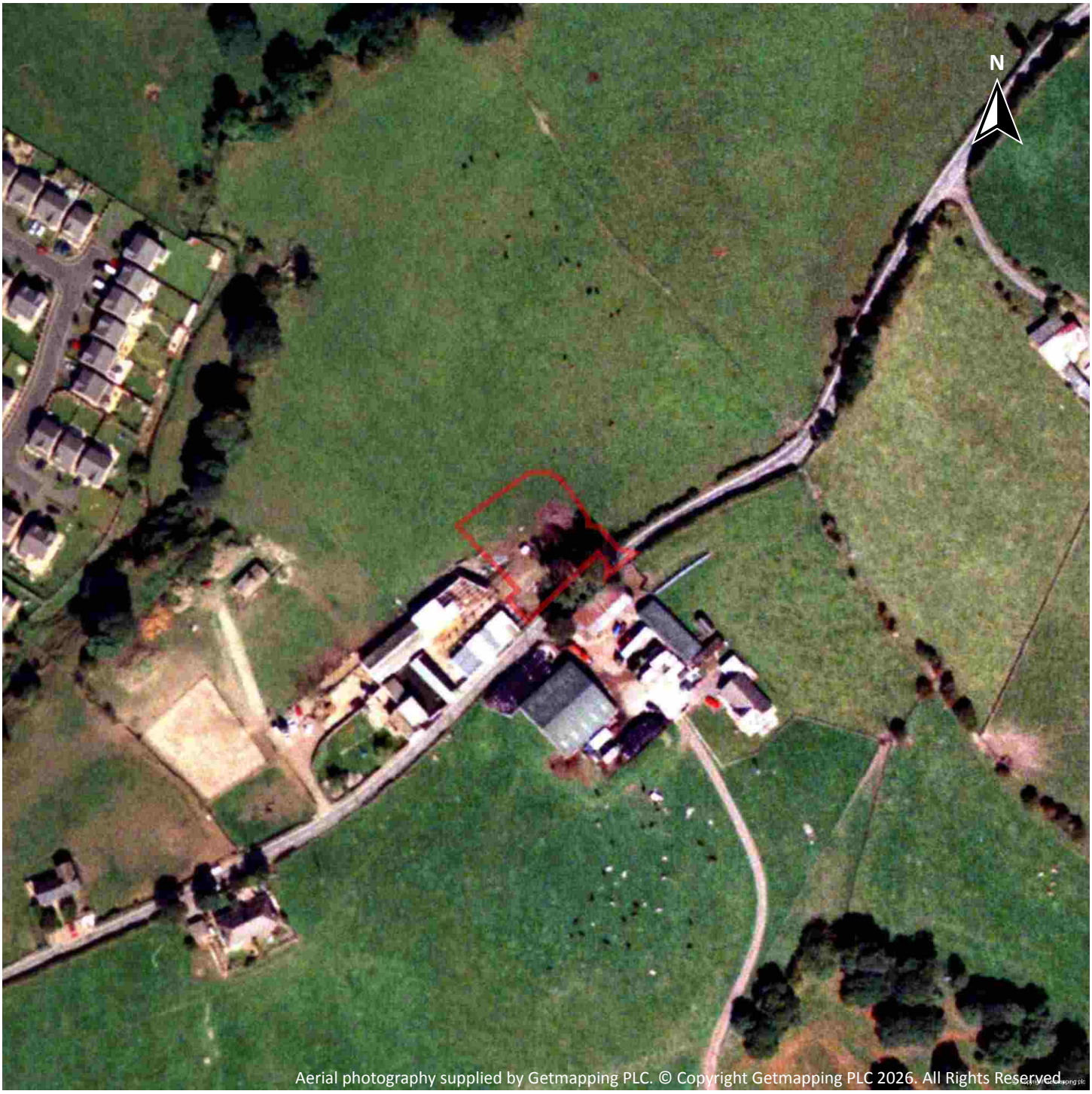
## Recent site history - 2012 aerial photograph




Capture Date: 26/03/2012

Site Area: 0.14ha

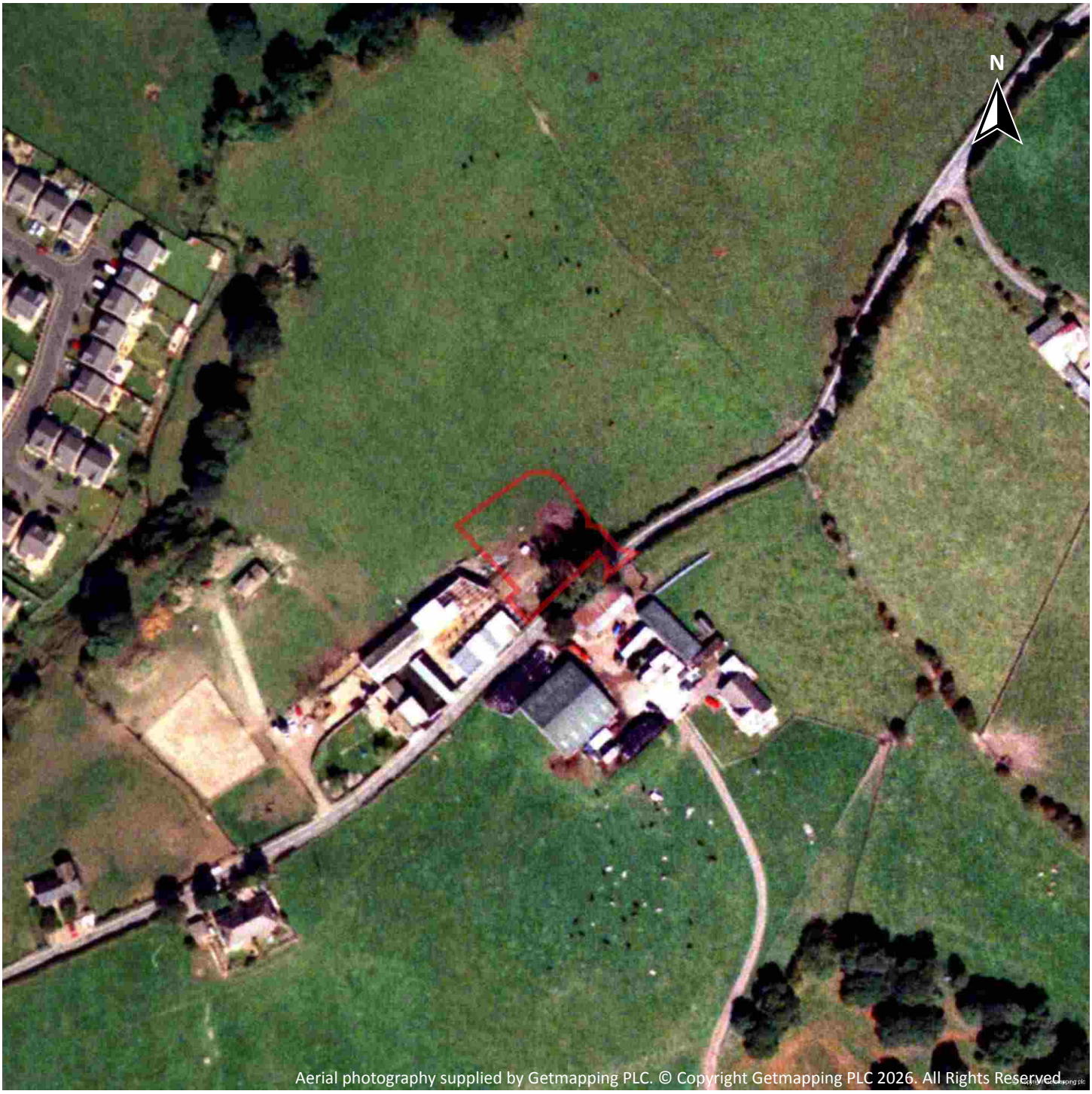
## Recent site history - 2000 aerial photograph




Capture Date: 05/08/2000

Site Area: 0.14ha

## Recent site history - 1999 aerial photograph




Capture Date: 04/09/1999

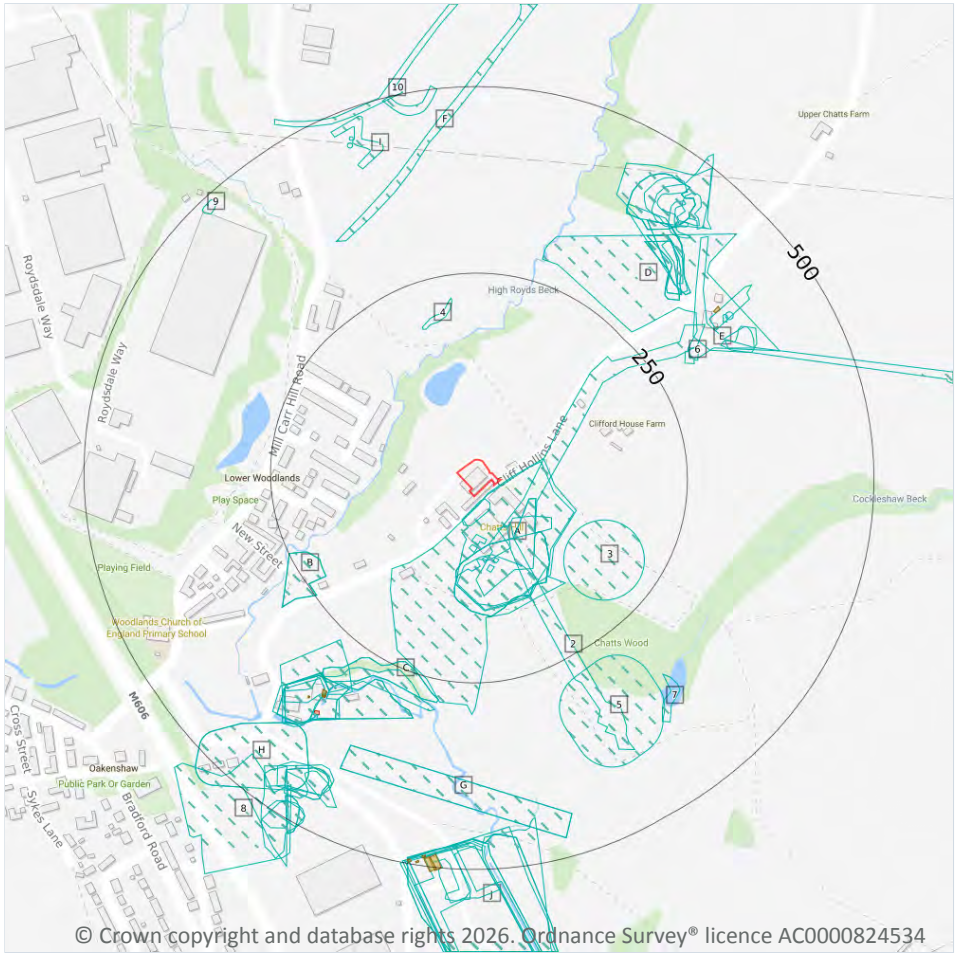
Site Area: 0.14ha

## OS MasterMap site plan




Site Area: 0.14ha

# 1 Past land use




Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

## 1.1 Historical industrial land uses

| Records within 500m | 90 |
|---|---|

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 | 4m SE | Colliery | 1955 | 1564024 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| A | 6m SE | Colliery | 1938 - 1948 | 1512043 |
| A | 10m SE | Unspecified Heap | 1905 | 1467886 |
| 1 | 39m SE | Railway Sidings | 1892 | 1479799 |
| A | 46m SE | Unspecified Disused Pit | 1905 | 1478216 |
| A | 46m SE | Refuse Heap | 1938 - 1948 | 1504854 |
| A | 51m SE | Unspecified Heap | 1955 | 1467884 |
| A | 51m S | Railway Building | 1892 | 1476272 |
| 2 | 54m SE | Tramway Sidings | 1938 | 1478941 |
| A | 65m S | Railway Building | 1892 | 1476273 |
| A | 67m S | Refuse Heap | 1892 | 1509418 |
| A | 81m S | Refuse Heap | 1967 | 1502439 |
| A | 82m S | Unspecified Old Shafts | 1938 | 1469877 |
| A | 87m S | Unspecified Old Shafts | 1938 | 1469878 |
| A | 94m S | Railway Building | 1892 | 1476271 |
| 3 | 122m SE | Unspecified Pit | 1892 | 1452433 |
| 4 | 187m N | Unspecified Ground Workings | 1892 - 1905 | 1526483 |
| B | 218m SW | Unspecified Quarry | 1938 - 1948 | 1526387 |
| B | 218m SW | Unspecified Quarry | 1905 | 1530291 |
| C | 240m SW | Unspecified Pit | 1967 | 1490519 |
| C | 240m SW | Unspecified Pit | 1974 - 1990 | 1523572 |
| C | 253m SW | Unspecified Pit | 1892 | 1578038 |
| D | 263m NE | Colliery | 1938 - 1948 | 1543048 |
| C | 263m SW | Unspecified Disused Mills | 1892 | 1432853 |
| 5 | 273m SE | Incinerator | 1983 - 1990 | 1484846 |
| C | 277m SW | Unspecified Works | 1974 | 1460599 |
| C | 277m SW | Unspecified Mills | 1983 - 1990 | 1484088 |
| 6 | 292m NE | Engine House | 1892 - 1905 | 1525882 |
| C | 308m SW | Worsted Mill | 1948 | 1541999 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| C | 308m SW | Unspecified Mill | 1938 | 1554510 |
| C | 314m SW | Worsted Mill | 1955 - 1967 | 1524378 |
| C | 320m SW | Unspecified Mill | 1905 | 1491126 |
| E | 321m NE | Tramway Sidings | 1892 - 1905 | 1491391 |
| D | 330m NE | Sand Pit | 1892 | 1449324 |
| D | 330m NE | Refuse Heap | 1905 | 1536224 |
| D | 335m NE | Unspecified Heap | 1948 | 1499606 |
| D | 335m NE | Refuse Heap | 1938 | 1552577 |
| 7 | 339m SE | Refuse Heap | 1974 - 1990 | 1503436 |
| F | 341m NW | Railway Sidings | 1847 | 1479824 |
| E | 345m NE | Refuse Heap | 1948 | 1435049 |
| D | 347m NE | Unspecified Ground Workings | 1983 | 1534229 |
| D | 350m NE | Unspecified Ground Workings | 1974 | 1509170 |
| D | 350m NE | Unspecified Heap | 1967 | 1580414 |
| E | 352m NE | Unspecified Heap | 1905 | 1467883 |
| E | 352m NE | Sand Pit | 1955 | 1449325 |
| D | 353m NE | Unspecified Ground Workings | 1955 | 1484714 |
| E | 365m NE | Unspecified Shaft | 1938 - 1948 | 1522505 |
| G | 368m S | Rifle Range | 1905 | 1507837 |
| G | 368m S | Rifle Range | 1938 - 1948 | 1510659 |
| E | 372m NE | Unspecified Disused Shaft | 1967 - 1974 | 1579709 |
| D | 382m NE | Unspecified Disused Pit | 1905 | 1478276 |
| D | 382m NE | Refuse Heap | 1892 | 1497998 |
| D | 382m NE | Refuse Heap | 1938 | 1535810 |
| D | 387m NE | Refuse Heap | 1967 | 1563603 |
| H | 387m SW | Rifle Range | 1905 | 1507632 |
| H | 387m SW | Rifle Range | 1938 - 1948 | 1531328 |
| D | 397m NE | Unspecified Ground Workings | 1847 | 1518825 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| D | 398m NE | Unspecified Ground Workings | 1955 | 1568543 |
| D | 402m NE | Refuse Heap | 1948 | 1577547 |
| D | 409m NE | Coal and Iron Pit | 1847 | 1453621 |
| H | 414m SW | Unspecified Heap | 1955 | 1498180 |
| D | 416m NE | Unspecified Pits | 1948 | 1486919 |
| I | 418m N | Unspecified Ground Workings | 1847 | 1440412 |
| H | 420m SW | Refuse Heap | 1905 | 1434014 |
| H | 420m SW | Unspecified Heap | 1938 - 1948 | 1535943 |
| H | 422m SW | Unspecified Heap | 1967 | 1512201 |
| H | 425m SW | Unspecified Pit | 1892 | 1452434 |
| J | 438m S | Sewage Works | 1892 | 1509526 |
| H | 441m SW | Sand Pit | 1905 | 1449150 |
| H | 444m SW | Unspecified Pit | 1892 | 1452432 |
| J | 445m S | Sewage Works | 1938 | 1502485 |
| I | 450m N | Coal and Iron Pit | 1847 | 1453619 |
| J | 453m S | Sewage Works | 1955 | 1513627 |
| J | 453m S | Sewage Works | 1967 | 1580942 |
| 8 | 456m SW | Unspecified Commercial/Industrial | 1892 | 1431516 |
| I | 459m N | Unspecified Shaft | 1847 | 1447711 |
| J | 460m S | Unspecified Works | 1974 | 1460500 |
| J | 460m S | Water Pollution Control Works | 1983 - 1990 | 1527868 |
| J | 463m S | Sewage Works | 1948 | 1517285 |
| J | 465m S | Sewage Works | 1905 | 1508067 |
| J | 468m S | Filter Beds | 1948 - 1955 | 1547264 |
| J | 469m S | Tramway Sidings | 1955 | 1509393 |
| F | 469m N | Unspecified Ground Workings | 1847 | 1440413 |
| H | 471m SW | Refuse Heap | 1905 | 1434015 |
| H | 471m SW | Unspecified Heap | 1938 - 1948 | 1551676 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| J | 475m S | Tramway Sidings | 1948 | 1555256 |
| H | 476m SW | Unspecified Heap | 1955 | 1541435 |
| 9 | 479m NW | Sandstone Quarry | 1850 | 1444829 |
| H | 479m SW | Unspecified Heaps | 1967 | 1462403 |
| 10 | 488m N | Tramway Sidings | 1847 | 1478924 |

*This data is sourced from Ordnance Survey® / Groundsure.*

## 1.2 Historical tanks

| **Records within 500m** | **10** |
|---|---|

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 |
|---|---|---|---|---|
| C | 328m SW | Tanks | 1956 - 1957 | 255971 |
| C | 334m SW | Unspecified Tank | 1973 - 1992 | 245273 |
| C | 347m SW | Unspecified Tank | 1992 | 251368 |
| C | 347m SW | Unspecified Tank | 1973 | 245064 |
| E | 363m NE | Unspecified Tank | 1938 | 239654 |
| J | 482m S | Detritus Tanks | 1956 - 1957 | 249727 |
| J | 485m S | Unspecified Tank | 1956 - 1992 | 246042 |
| J | 486m S | Tanks | 1938 | 233987 |
| J | 493m S | Unspecified Tank | 1973 - 1992 | 260290 |
| J | 493m S | Unspecified Tank | 1973 - 1992 | 254280 |

*This data is sourced from Ordnance Survey® / Groundsure.*

## 1.3 Historical energy features

| Records within 500m | 1 |
|---|---|

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 |
|---|---|---|---|---|
| C | 355m SW | Electricity Substation | 1956 - 1957 | 155388 |

*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 | 0 |
|---|---|

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'.

*This data is sourced from Ordnance Survey® / Groundsure.*

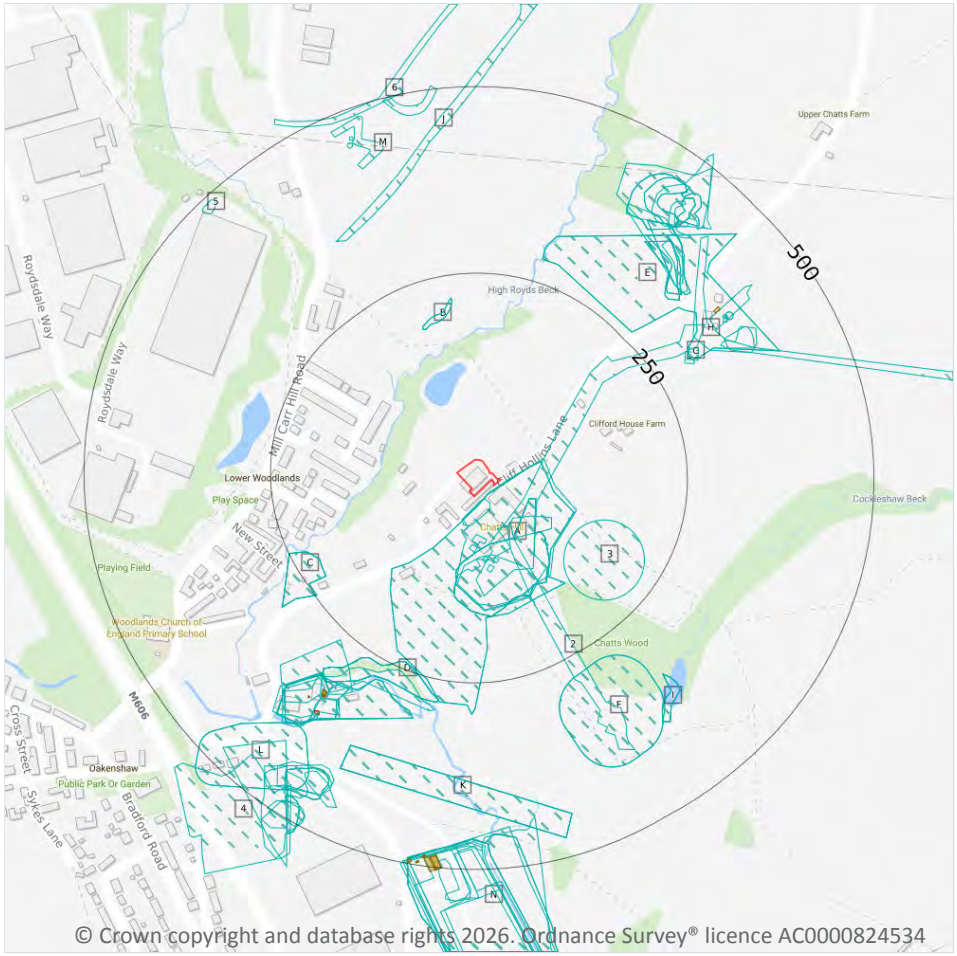
## 1.6 Historical military land

| 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




Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

Historical energy features

## 2.1 Historical industrial land uses

| Records within 500m | 113 |
|---|---|

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 22 >**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| A | 4m SE | Colliery | 1955 | 1564024 |
| A | 6m SE | Colliery | 1948 | 1512043 |
| A | 6m SE | Colliery | 1938 | 1512043 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| A | 10m SE | Unspecified Heap | 1905 | 1467886 |
| 1 | 39m SE | Railway Sidings | 1892 | 1479799 |
| A | 46m SE | Refuse Heap | 1948 | 1504854 |
| A | 46m SE | Refuse Heap | 1938 | 1504854 |
| A | 46m SE | Unspecified Disused Pit | 1905 | 1478216 |
| A | 51m SE | Unspecified Heap | 1955 | 1467884 |
| A | 51m S | Railway Building | 1892 | 1476272 |
| 2 | 54m SE | Tramway Sidings | 1938 | 1478941 |
| A | 65m S | Railway Building | 1892 | 1476273 |
| A | 67m S | Refuse Heap | 1892 | 1509418 |
| A | 81m S | Refuse Heap | 1967 | 1502439 |
| A | 82m S | Unspecified Old Shafts | 1938 | 1469877 |
| A | 87m S | Unspecified Old Shafts | 1938 | 1469878 |
| A | 94m S | Railway Building | 1892 | 1476271 |
| 3 | 122m SE | Unspecified Pit | 1892 | 1452433 |
| B | 187m N | Unspecified Ground Workings | 1892 | 1526483 |
| B | 187m N | Unspecified Ground Workings | 1905 | 1526483 |
| C | 218m SW | Unspecified Quarry | 1948 | 1526387 |
| C | 218m SW | Unspecified Quarry | 1938 | 1526387 |
| C | 218m SW | Unspecified Quarry | 1905 | 1530291 |
| D | 240m SW | Unspecified Pit | 1990 | 1523572 |
| D | 240m SW | Unspecified Pit | 1983 | 1523572 |
| D | 240m SW | Unspecified Pit | 1974 | 1523572 |
| D | 240m SW | Unspecified Pit | 1967 | 1490519 |
| D | 253m SW | Unspecified Pit | 1892 | 1578038 |
| E | 263m NE | Colliery | 1948 | 1543048 |
| E | 263m NE | Colliery | 1938 | 1543048 |
| D | 263m SW | Unspecified Disused Mills | 1892 | 1432853 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| F | 273m SE | Incinerator | 1990 | 1484846 |
| F | 273m SE | Incinerator | 1983 | 1484846 |
| D | 277m SW | Unspecified Mills | 1990 | 1484088 |
| D | 277m SW | Unspecified Mills | 1983 | 1484088 |
| D | 277m SW | Unspecified Works | 1974 | 1460599 |
| G | 292m NE | Engine House | 1892 | 1525882 |
| G | 297m NE | Engine House | 1905 | 1525882 |
| D | 308m SW | Worsted Mill | 1948 | 1541999 |
| D | 308m SW | Unspecified Mill | 1938 | 1554510 |
| D | 314m SW | Worsted Mill | 1955 | 1524378 |
| D | 315m SW | Worsted Mill | 1967 | 1524378 |
| D | 320m SW | Unspecified Mill | 1905 | 1491126 |
| H | 321m NE | Tramway Sidings | 1905 | 1491391 |
| E | 330m NE | Sand Pit | 1892 | 1449324 |
| E | 330m NE | Refuse Heap | 1905 | 1536224 |
| E | 335m NE | Unspecified Heap | 1948 | 1499606 |
| E | 335m NE | Refuse Heap | 1938 | 1552577 |
| I | 339m SE | Refuse Heap | 1990 | 1503436 |
| I | 339m SE | Refuse Heap | 1983 | 1503436 |
| I | 339m SE | Refuse Heap | 1974 | 1503436 |
| J | 341m NW | Railway Sidings | 1847 | 1479824 |
| H | 345m NE | Refuse Heap | 1948 | 1435049 |
| E | 347m NE | Unspecified Ground Workings | 1983 | 1534229 |
| E | 350m NE | Unspecified Ground Workings | 1974 | 1509170 |
| E | 350m NE | Unspecified Heap | 1967 | 1580414 |
| H | 352m NE | Unspecified Heap | 1905 | 1467883 |
| H | 352m NE | Sand Pit | 1955 | 1449325 |
| E | 353m NE | Unspecified Ground Workings | 1955 | 1484714 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| H | 365m NE | Unspecified Shaft | 1948 | 1522505 |
| K | 368m S | Rifle Range | 1948 | 1510659 |
| K | 368m S | Rifle Range | 1938 | 1510659 |
| K | 368m S | Rifle Range | 1905 | 1507837 |
| H | 369m NE | Unspecified Shaft | 1938 | 1522505 |
| H | 372m NE | Unspecified Disused Shaft | 1974 | 1579709 |
| H | 372m NE | Unspecified Disused Shaft | 1967 | 1579709 |
| E | 382m NE | Refuse Heap | 1938 | 1535810 |
| E | 382m NE | Refuse Heap | 1892 | 1497998 |
| E | 382m NE | Unspecified Disused Pit | 1905 | 1478276 |
| E | 387m NE | Refuse Heap | 1967 | 1563603 |
| L | 387m SW | Rifle Range | 1948 | 1531328 |
| L | 387m SW | Rifle Range | 1905 | 1507632 |
| E | 397m NE | Unspecified Ground Workings | 1847 | 1518825 |
| E | 398m NE | Unspecified Ground Workings | 1955 | 1568543 |
| E | 402m NE | Refuse Heap | 1948 | 1577547 |
| E | 402m NE | Refuse Heap | 1948 | 1577547 |
| E | 409m NE | Coal and Iron Pit | 1847 | 1453621 |
| L | 413m SW | Rifle Range | 1938 | 1531328 |
| L | 414m SW | Unspecified Heap | 1955 | 1498180 |
| E | 416m NE | Unspecified Pits | 1948 | 1486919 |
| E | 416m NE | Unspecified Pits | 1948 | 1486919 |
| M | 418m N | Unspecified Ground Workings | 1847 | 1440412 |
| L | 420m SW | Unspecified Heap | 1948 | 1535943 |
| L | 420m SW | Unspecified Heap | 1938 | 1535943 |
| L | 420m SW | Refuse Heap | 1905 | 1434014 |
| L | 422m SW | Unspecified Heap | 1967 | 1512201 |
| L | 425m SW | Unspecified Pit | 1892 | 1452434 |

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| N | 438m S | Sewage Works | 1892 | 1509526 |
| L | 441m SW | Sand Pit | 1905 | 1449150 |
| L | 444m SW | Unspecified Pit | 1892 | 1452432 |
| N | 445m S | Sewage Works | 1938 | 1502485 |
| M | 450m N | Coal and Iron Pit | 1847 | 1453619 |
| N | 453m S | Sewage Works | 1955 | 1513627 |
| N | 453m S | Sewage Works | 1967 | 1580942 |
| 4 | 456m SW | Unspecified Commercial/Industrial | 1892 | 1431516 |
| M | 459m N | Unspecified Shaft | 1847 | 1447711 |
| N | 460m S | Water Pollution Control Works | 1990 | 1527868 |
| N | 460m S | Water Pollution Control Works | 1983 | 1527868 |
| N | 460m S | Unspecified Works | 1974 | 1460500 |
| N | 463m S | Sewage Works | 1948 | 1517285 |
| N | 465m S | Sewage Works | 1905 | 1508067 |
| N | 468m S | Filter Beds | 1955 | 1547264 |
| N | 469m S | Tramway Sidings | 1955 | 1509393 |
| J | 469m N | Unspecified Ground Workings | 1847 | 1440413 |
| L | 471m SW | Unspecified Heap | 1948 | 1551676 |
| L | 471m SW | Unspecified Heap | 1938 | 1551676 |
| L | 471m SW | Refuse Heap | 1905 | 1434015 |
| N | 473m S | Filter Beds | 1948 | 1547264 |
| N | 475m S | Tramway Sidings | 1948 | 1555256 |
| L | 476m SW | Unspecified Heap | 1955 | 1541435 |
| 5 | 479m NW | Sandstone Quarry | 1850 | 1444829 |
| L | 479m SW | Unspecified Heaps | 1967 | 1462403 |
| 6 | 488m N | Tramway Sidings | 1847 | 1478924 |

*This data is sourced from Ordnance Survey® / Groundsure.*

## 2.2 Historical tanks

| Records within 500m | 18 |
|---|---|

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 22 >**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| D | 328m SW | Tanks | 1957 | 255971 |
| D | 328m SW | Tanks | 1956 | 255971 |
| D | 334m SW | Unspecified Tank | 1973 | 245273 |
| D | 334m SW | Unspecified Tank | 1992 | 245273 |
| D | 347m SW | Unspecified Tank | 1992 | 251368 |
| D | 347m SW | Unspecified Tank | 1973 | 245064 |
| H | 363m NE | Unspecified Tank | 1938 | 239654 |
| N | 482m S | Detritus Tanks | 1957 | 249727 |
| N | 484m S | Detritus Tanks | 1956 | 249727 |
| N | 485m S | Unspecified Tank | 1973 | 246042 |
| N | 485m S | Unspecified Tank | 1956 | 246042 |
| N | 485m S | Unspecified Tank | 1992 | 246042 |
| N | 486m S | Unspecified Tank | 1957 | 246042 |
| N | 486m S | Tanks | 1938 | 233987 |
| N | 493m S | Unspecified Tank | 1992 | 260290 |
| N | 493m S | Unspecified Tank | 1992 | 254280 |
| N | 494m S | Unspecified Tank | 1973 | 260290 |
| N | 494m S | Unspecified Tank | 1973 | 254280 |

*This data is sourced from Ordnance Survey® / Groundsure.*

## 2.3 Historical energy features

| Records within 500m | 2 |
|---|---|

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 22 >**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| D | 355m SW | Electricity Substation | 1957 | 155388 |
| D | 355m SW | Electricity Substation | 1956 | 155388 |

*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.*

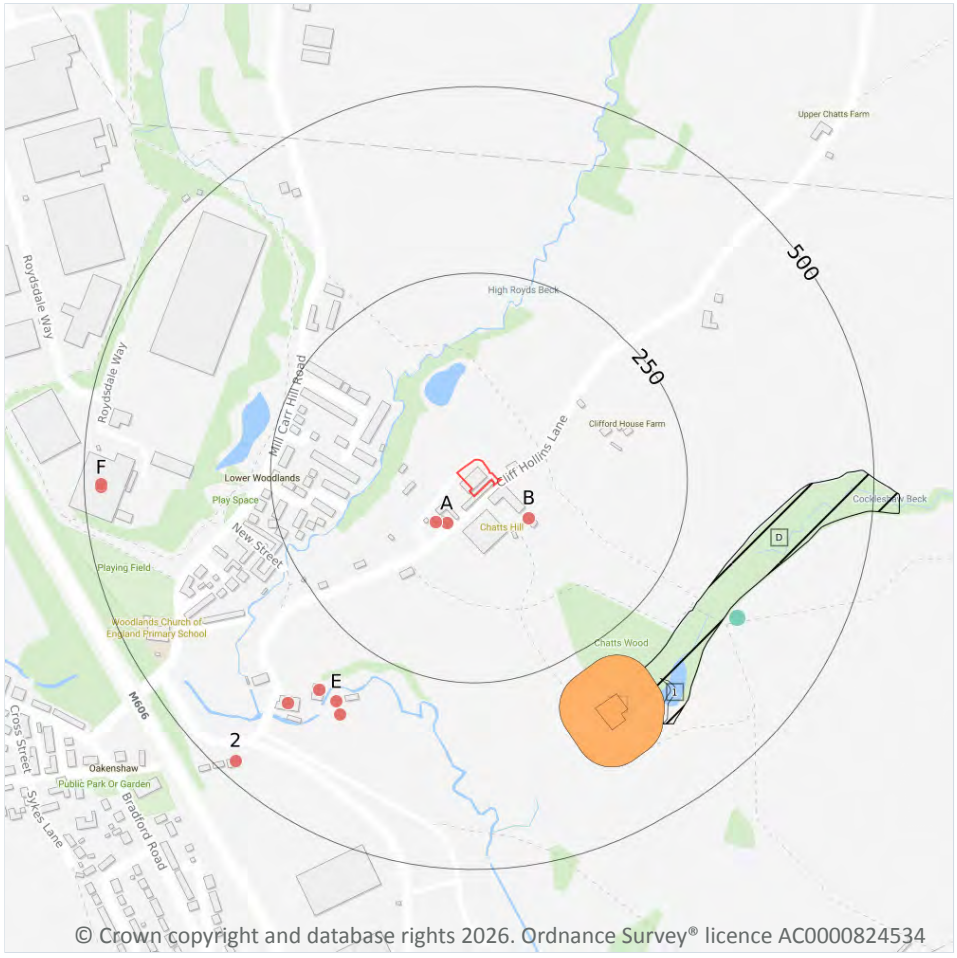
## 2.5 Historical garages

| Records within 500m | 0 |
|---|---|

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'.

*This data is sourced from Ordnance Survey® / Groundsure.*

# 3 Waste and landfill




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Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Historical landfill (BGS)

Historical landfill (LA/OS)

Historical waste sites

Waste exemptions

## 3.1 Active or recent landfill

| Records within 500m | 0 |
|---|---|

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

*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 29 >**

| ID | Location | Address | BGS Number | Risk | Waste Type |
|---|---|---|---|---|---|
| D | 367m SE | Chatts Wood, Cliffe Hollins Lane, Bradford, Yorks | 1097 | Risk to minor aquifer | N/A |

*This data is sourced from the British Geological Survey.*

## 3.3 Historical landfill (LA/mapping records)

| Records within 500m | 1 |
|---|---|

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

Features are displayed on the Waste and landfill map on **page 29 >**

| ID | Location | Site address | Source | Data type |
|---|---|---|---|---|
| 1 | 342m SE | Refuse Tip | 1973 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 | 1 |
|---|---|

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 29 >**

| ID | Location | Details | | |
|---|---|---|---|---|
| D | 308m SE | Site Address: Chatts Wood, Cliffe Hollins Lane, Bradford, Yorkshire<br>Licence Holder Address: - | Waste Licence: -<br>Site Reference: -<br>Waste Type: Inert, Industrial<br>Environmental Permitting Regulations (Waste) Reference: -<br>Licence Issue: -<br>Licence Surrender: - | Operator: Mintex Limited<br>Licence Holder: -<br>First Recorded 31/12/1960<br>Last Recorded: - |

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

## 3.5 Historical waste sites

| Records within 500m | 3 |
|---|---|

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

Features are displayed on the Waste and landfill map on **page 29 >**

| ID | Location | Address | Further Details | Date |
|---|---|---|---|---|
| C | 273m SE | Site Address: N/A | Type of Site: Incinerator (B)<br>Planning application reference: N/A<br>Description: N/A<br>Data source: Historic Mapping<br>Data Type: Polygon | 1990 |
| C | 273m SE | Site Address: N/A | Type of Site: Incinerator (B)<br>Planning application reference: N/A<br>Description: N/A<br>Data source: Historic Mapping<br>Data Type: Polygon | 1983 |
| C | 324m SE | Site Address: N/A | Type of Site: Incinerator<br>Planning application reference: N/A<br>Description: N/A<br>Data source: Historic Mapping<br>Data Type: Polygon | 1973 |

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

## 3.6 Licensed waste sites

| Records within 500m | 0 |
|---|---|

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

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

## 3.7 Waste exemptions

| Records within 500m | 31 |
|---|---|

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 29 >**

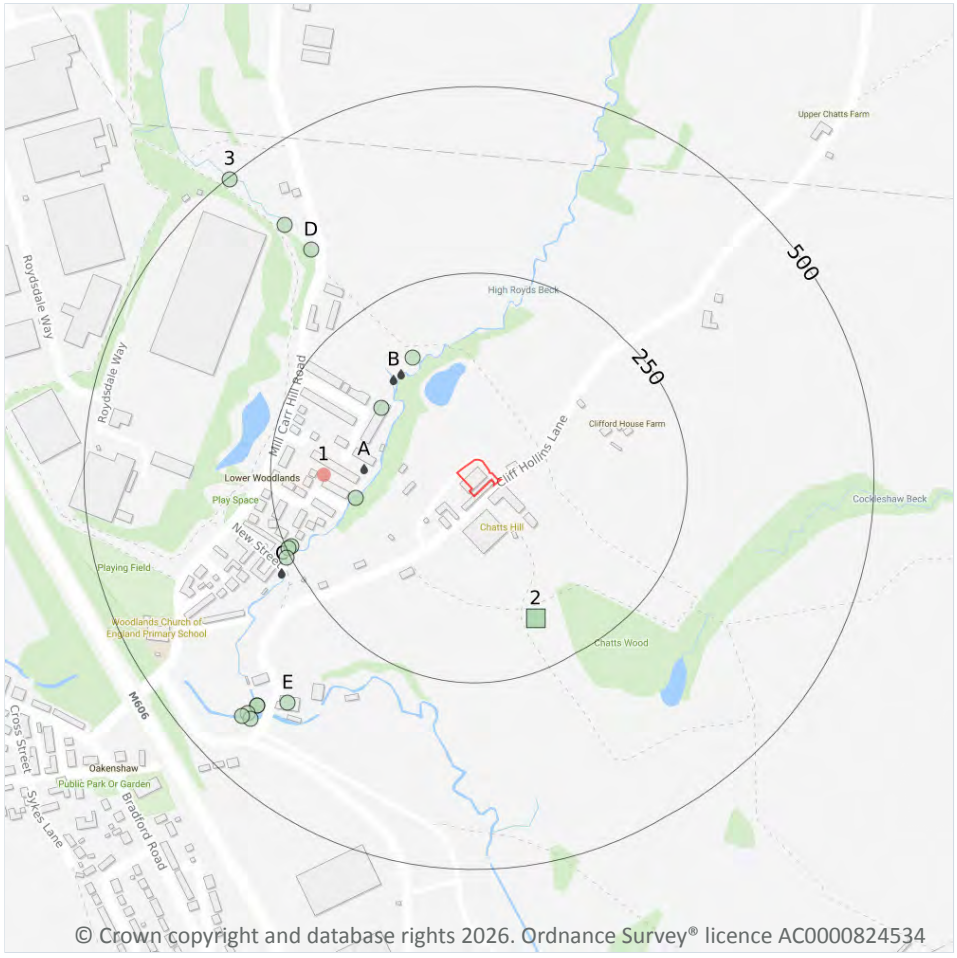
| ID | Location | Site | Reference | Category | Sub-Category | Description |
|---|---|---|---|---|---|---|
| A | 52m SW | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX423380 | Using waste exemption | On a farm | Use of waste for a specified purpose |
| A | 52m SW | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX423380 | Using waste exemption | On a farm | Spreading waste on agricultural land to confer benefit |
| A | 62m SW | Cliffe Hollins Farm Cliff Hollins Lane Bradford West Yorkshire Bd12 7et | EPR/UF0804SD/A001 | Storing waste exemption | Agricultural waste only | Storage of waste in secure containers |
| A | 62m SW | Cliffe Hollins Farm Cliff Hollins Lane Bradford West Yorkshire Bd12 7et | EPR/UF0804SD/A001 | Using waste exemption | Agricultural waste only | Use of waste in construction |
| A | 62m SW | Cliffe Hollins Farm Cliff Hollins Lane Bradford West Yorkshire Bd12 7et | EPR/UF0804SD/A001 | Using waste exemption | Agricultural waste only | Use of waste for a specified purpose |
| A | 62m SW | Cliffe Hollins Farm Cliff Hollins Lane Bradford West Yorkshire Bd12 7et | EPR/UF0804SD/A001 | Using waste exemption | Agricultural waste only | Spreading waste on agricultural land to confer benefit |
| A | 62m SW | Cliffe Hollins Farm Cliff Hollins Lane Bradford West Yorkshire Bd12 7et | EPR/NH0118AA/A001 | Using waste exemption | Non-agricultural waste only | Use of waste for a specified purpose |
| A | 62m SW | - | WEX110146 | Using waste exemption | On a farm | Spreading waste on agricultural land to confer benefit |
| A | 62m SW | - | WEX110146 | Storing waste exemption | On a farm | Storage of waste in secure containers |
| A | 62m SW | - | WEX110146 | Using waste exemption | On a farm | Use of waste in construction |
| A | 62m SW | - | WEX110146 | Using waste exemption | On a farm | Use of waste for a specified purpose |
| B | 64m SE | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX155461 | Using waste exemption | On a farm | Spreading waste on agricultural land to confer benefit |
| B | 64m SE | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX155461 | Using waste exemption | On a farm | Use of waste for a specified purpose |
| B | 64m SE | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX292425 | Using waste exemption | On a farm | Spreading waste on agricultural land to confer benefit |

| ID | Location | Site | Reference | Category | Sub-Category | Description |
|---|---|---|---|---|---|---|
| B | 64m SE | Cliffe Hollins Farm, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7et | WEX292425 | Using waste exemption | On a farm | Use of waste for a specified purpose |
| E | 332m SW | - | WEX371109 | Using waste exemption | Not on a farm | Use of depolluted end-of-life vehicles for vehicle parts |
| E | 333m SW | - | WEX452639 | Storing waste exemption | Not on a farm | Storage of waste in a secure place |
| E | 333m SW | - | WEX452639 | Treating waste exemption | Not on a farm | Cleaning, washing, spraying or coating relevant waste |
| E | 333m SW | - | WEX452639 | Storing waste exemption | Not on a farm | Storage of waste in secure containers |
| E | 333m SW | - | WEX452639 | Treating waste exemption | Not on a farm | Recovery of textiles |
| E | 333m SW | - | WEX452639 | Disposing of waste exemption | Not on a farm | Disposal by incineration |
| E | 344m SW | - | WEX358209 | Disposing of waste exemption | Not on a farm | Burning waste in the open |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Storing waste exemption | Not on a farm | Storage of waste in a secure place |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Treating waste exemption | Not on a farm | Manual treatment of waste |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Treating waste exemption | Not on a farm | Sorting mixed waste |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Treating waste exemption | Not on a farm | Recovery of scrap metal |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Treating waste exemption | Not on a farm | Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising |
| E | 374m SW | Oak Mills, Cliff Hollins Lane, Oakenshaw, Bradford, Bd12 7er | WEX372216 | Treating waste exemption | Not on a farm | Preparatory treatments (baling, sorting, shredding etc) |

| ID | Location | Site | Reference | Category | Sub-Category | Description |
|---|---|---|---|---|---|---|
| F | 478m W | Roydsdale Way, Euroway Industrial Estate, Bradford, Bd4 6se | WEX103261 | Treating waste exemption | Not on a farm | Preparatory treatments (baling, sorting, shredding etc) |
| 2 | 478m SW | - | WEX379588 | Treating waste exemption | Not on a farm | Recovery of scrap metal |
| F | 478m W | Swithernbank Foods Euroway Industrial Estate West Yorkshire Bd4 6sa | EPR/WE5481JH/A001 | Treating waste exemption | Non-agricultural waste only | Preparatory treatments (baling, sorting, shredding etc) |

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

# 4 Current industrial land use




## 4.1 Recent industrial land uses

| Records within 250m | 1 |
|---|---|

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 35 >**

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 1 | 179m W | Electricity Sub Station | West Yorkshire, BD12 | Electrical Features | Infrastructure and Facilities |

*This data is sourced from Ordnance Survey®.*

## 4.2 National Geographic Database (NGD) - Current or recent tanks

| Records within 250m | 0 |
|---|---|

Current or recent tanks identified from the Ordnance Survey® NGD.

*This data is sourced from Ordnance Survey®.*

## 4.3 Current or recent petrol stations

| Records within 500m | 0 |
|---|---|

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.4 Electricity cables

| Records within 500m | 0 |
|---|---|

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.5 Gas pipelines

| Records within 500m | 0 |
|---|---|

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.6 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.*

## 4.7 Control of Major Accident Hazards (COMAH)

| Records within 500m | 0 |
|---|---|

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.

*This data is sourced from the Health and Safety Executive.*

## 4.8 Regulated explosive sites

| Records within 500m | 0 |
|---|---|

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.

*This data is sourced from the Health and Safety Executive.*

## 4.9 Hazardous substance storage/usage

| Records within 500m | 0 |
|---|---|

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.

*This data is sourced from Local Authority records.*

## 4.10 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.*

## 4.11 Licensed industrial activities (Part A(1))

| Records within 500m | 0 |
|---|---|

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

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

## 4.12 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.*

## 4.13 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.*

## 4.14 Licensed Discharges to controlled waters

| Records within 500m | 4 |
|---|---|

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

Features are displayed on the Current industrial land use map on **page 35 >**

| ID | Location | Address | Details | |
|---|---|---|---|---|
| A | 125m W | LOWER CHATTS COTTAGE, CLIFF HOLLINS LANE, OAKENSHAW, BRADFORD, WEST YORKSHIRE | Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY<br>Permit Number: WRA7109<br>Permit Version: 1<br>Receiving Water: HIGH ROYDS BECK | Status: LAPSED UNDER SCHEDULE 23 ENVIRONMENT ACT 1995<br>Issue date: 28/11/1994<br>Effective Date: 28/11/1994<br>Revocation Date: 01/10/1996 |
| B | 151m NW | CARR HILL ROAD CSO, MILL CARR HILL ROAD, REAR OF HAGG HALL FARM, BRADFORD, WEST YORKSHIRE, BD12 7HX | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: WRA8243<br>Permit Version: 1<br>Receiving Water: HIGH ROYDS BECK | Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995)<br>Issue date: 11/03/2004<br>Effective Date: 31/03/2004<br>Revocation Date: 30/03/2022 |
| B | 151m NW | CARR HILL ROAD CSO, MILL CARR HILL ROAD, REAR OF HAGG HALL FARM, BRADFORD, WEST YORKSHIRE, BD12 7HX | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: WRA8243<br>Permit Version: 2<br>Receiving Water: HIGH ROYDS BECK | Status: VARIED UNDER EPR 2010<br>Issue date: 31/03/2022<br>Effective Date: 31/03/2022<br>Revocation Date: - |
| C | 271m SW | NEW STREET CSO, ADJ TO NO 13, OAKENSHAW, BRADFORD, WEST YORKSHIRE | Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY<br>Permit Number: WRA8244<br>Permit Version: 1<br>Receiving Water: HIGH ROYDS BECK | Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995)<br>Issue date: 11/02/2004<br>Effective Date: 31/03/2004<br>Revocation Date: - |

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

## 4.15 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.*

## 4.16 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.*

## 4.17 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.*

## 4.18 List 2 Dangerous Substances

| Records within 500m | 1 |
|---|---|

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.

Features are displayed on the Current industrial land use map on **page 35 >**

| ID | Location | Name | Status | Receiving Water | Authorised Substances |
|---|---|---|---|---|---|
| 2 | 183m SE | Speciality Processors (bradford) Ltd,bd3 9tp | Not Active | Unknown | Cyfluthrin, Cypermethrin |

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

## 4.19 Pollution Incidents (EA/NRW)

| Records within 500m | 15 |
|---|---|

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 35 >**

| ID | Location | Details | |
|---|---|---|---|
| B | 133m NW | Incident Date: 06/04/2003<br>Incident Identification: 148939<br>Pollutant: General Biodegradable Materials and Wastes<br>Pollutant Description: Food and Drink | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| A | 140m W | Incident Date: 25/08/2001<br>Incident Identification: 26783<br>Pollutant: General Biodegradable Materials and Wastes<br>Pollutant Description: Other General Biodegradable Material or Waste | Water Impact: Category 2 (Significant)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 3 (Minor) |
| B | 161m NW | Incident Date: 07/10/2002<br>Incident Identification: 113050<br>Pollutant: Contaminated Water<br>Pollutant Description: Other Contaminated Water | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| C | 243m SW | Incident Date: 29/04/2002<br>Incident Identification: 75556<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 2 (Significant)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| C | 248m SW | Incident Date: 21/06/2002<br>Incident Identification: 86356<br>Pollutant: Oils and Fuel<br>Pollutant Description: Cutting Oils | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| C | 255m SW | Incident Date: 17/03/2002<br>Incident Identification: 64593<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| D | 357m NW | Incident Date: 03/02/2003<br>Incident Identification: 134631<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| E | 373m SW | Incident Date: 03/11/2003<br>Incident Identification: 199541<br>Pollutant: Oils and Fuel<br>Pollutant Description: Mixed/Waste Oils | Water Impact: Category 3 (Minor)<br>Land Impact: Category 3 (Minor)<br>Air Impact: Category 4 (No Impact) |
| D | 404m NW | Incident Date: 12/09/2001<br>Incident Identification: 30438<br>Pollutant: Organic Chemicals/Products<br>Pollutant Description: Hydrocarbons | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| E | 404m SW | Incident Date: 07/02/2003<br>Incident Identification: 135587<br>Pollutant: General Biodegradable Materials and Wastes<br>Pollutant Description: Food and Drink | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |

| ID | Location | Details | |
|---|---|---|---|
| E | 404m SW | Incident Date: 07/02/2003<br>Incident Identification: 135587<br>Pollutant: General Biodegradable Materials and Wastes<br>Pollutant Description: Food and Drink | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| E | 420m SW | Incident Date: 17/10/2002<br>Incident Identification: 115411<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| E | 423m SW | Incident Date: 27/05/2002<br>Incident Identification: 81381<br>Pollutant: Sewage Materials<br>Pollutant Description: Crude Sewage | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| E | 429m SW | Incident Date: 30/07/2001<br>Incident Identification: 20162<br>Pollutant: Pollutant Not Identified<br>Pollutant Description: Not Identified | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |
| 3 | 498m NW | Incident Date: 10/01/2008<br>Incident Identification: 554704<br>Pollutant: Organic Chemicals/Products<br>Pollutant Description: Surfactants and Detergents | Water Impact: Category 2 (Significant)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |

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

## 4.20 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.*

## 4.21 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.*

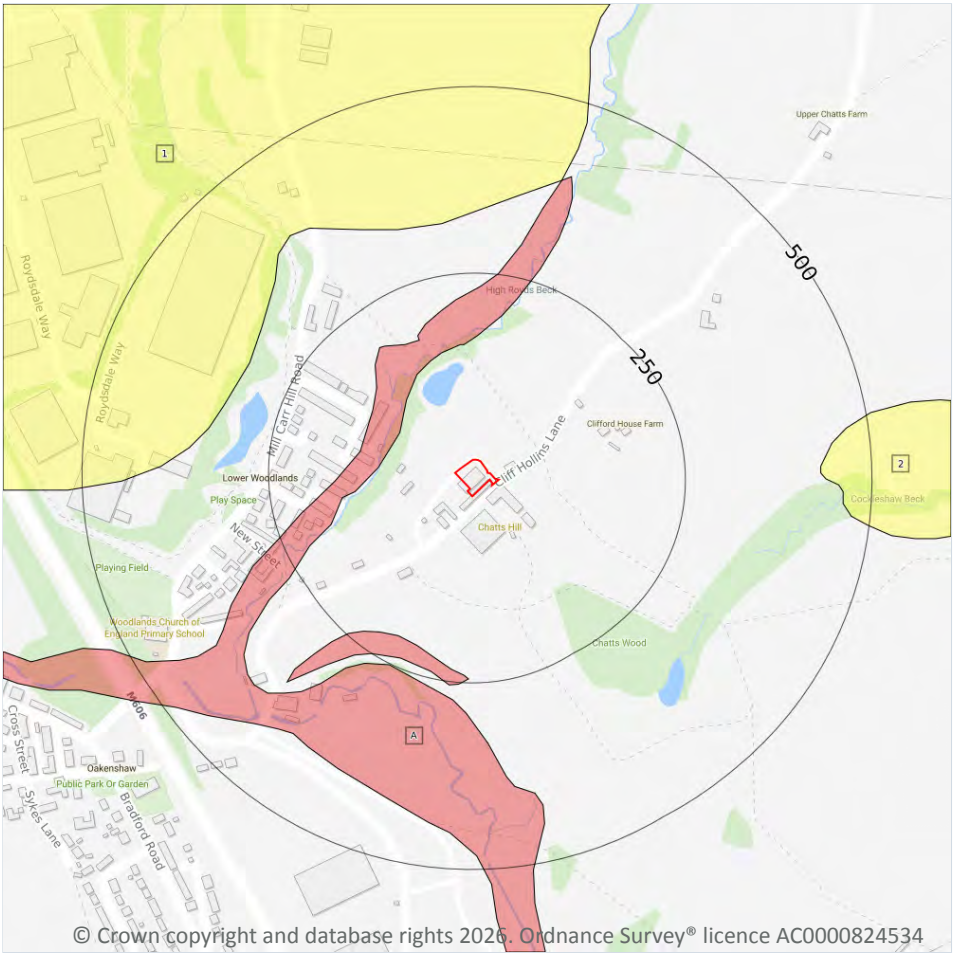
## 4.22 Pollution inventory radioactive waste

| 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




Site Outline

Search buffers in metres (m)

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

## 5.1 Superficial aquifer

| Records within 500m | 4 |
|---|---|

Aquifer status of groundwater held within superficial geology.

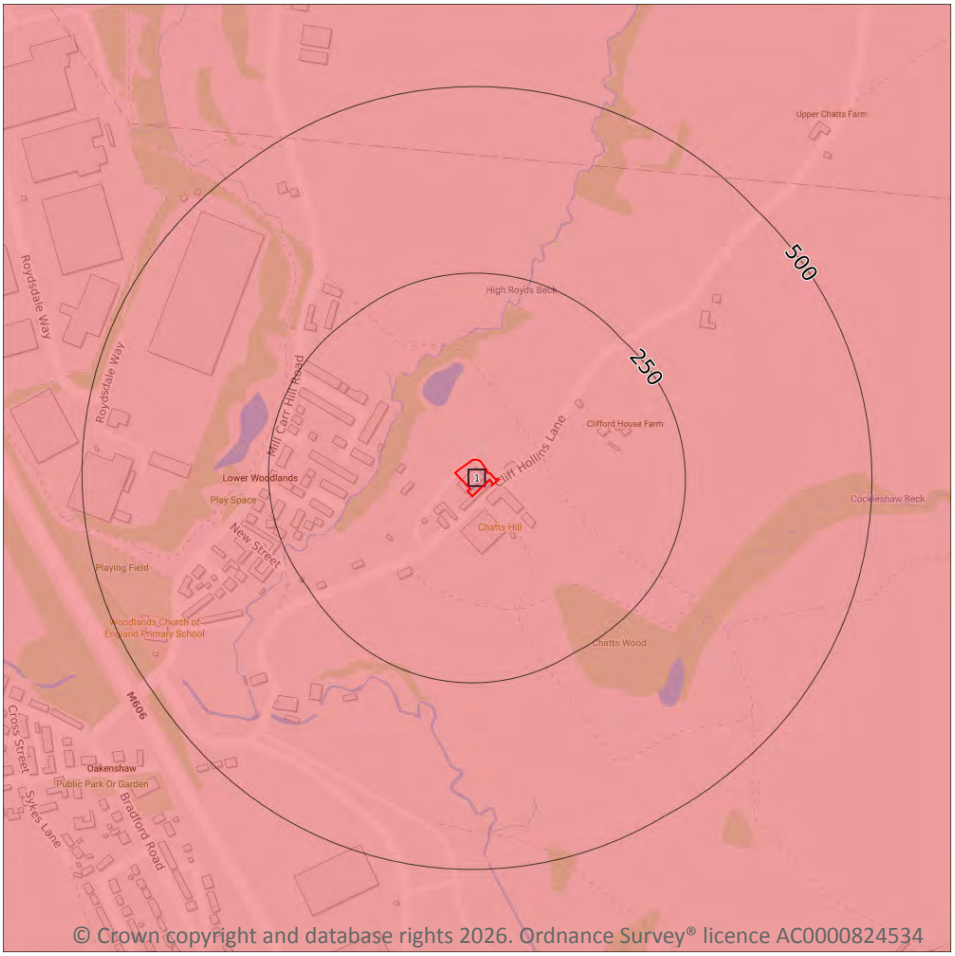
Features are displayed on the Hydrogeology map on **page 43 >**

| ID | Location | Designation | Description |
|---|---|---|---|
| A | 91m NW | 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 |
| A | 211m SW | 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 |

| ID | Location | Designation | Description |
|---|---|---|---|
| 1 | 312m NW | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |
| 2 | 431m E | Secondary Undifferentiated | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type |

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

# Bedrock aquifer




Site Outline

Search buffers in metres (m)

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

## 5.2 Bedrock aquifer

| Records within 500m | 1 |
|---|---|

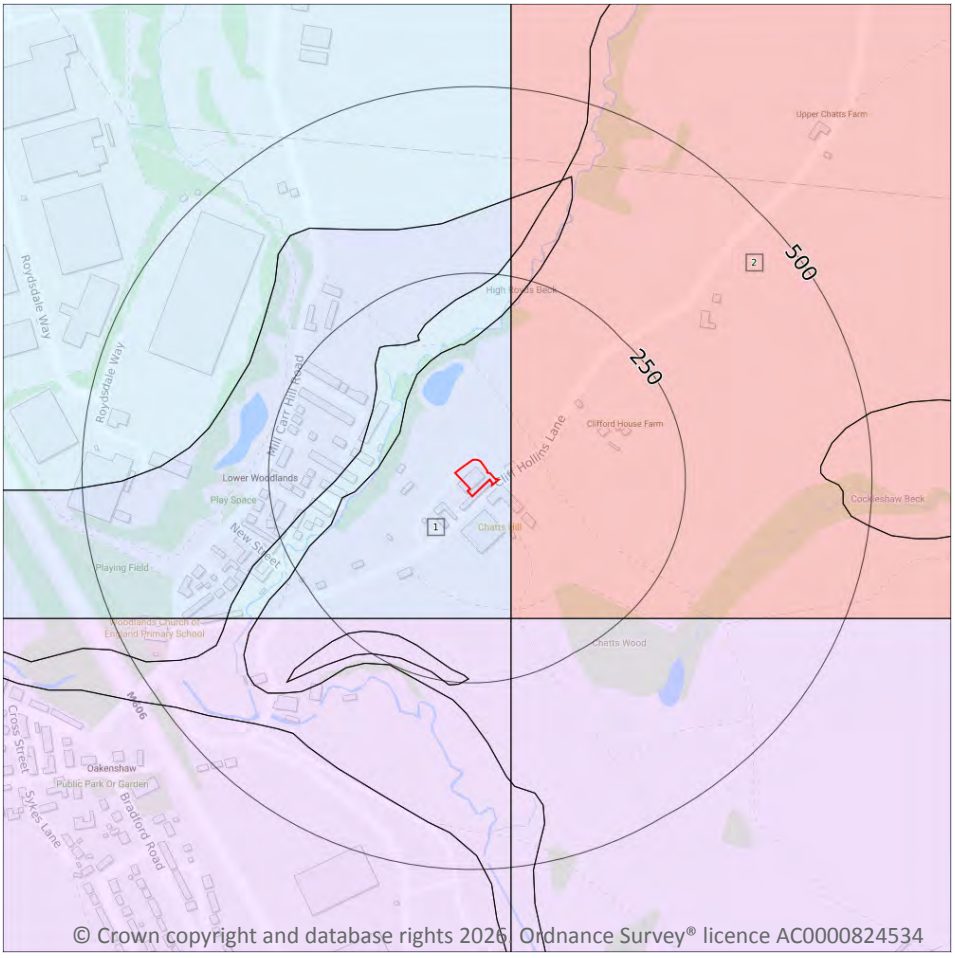
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 45 >**

| 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** |

*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 | 2 |
|---|---|

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 46 >**

| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|---|---|---|---|---|---|
| **1** | **On site** | **Summary Classification: Secondary bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer** | **Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year** | **Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: Low** | **Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures** |
| 2 | 16m E | Summary Classification: Secondary bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer | Leaching class: High Infiltration value: <40% Dilution value: 300-550mm/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




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 | 23 |
|---|---|

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 48 >**

| ID | Location | Details | |
|---|---|---|---|
| - | 1324m W | Status: Active<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: Solenis UK Industries Ltd<br>Easting: 416610<br>Northing: 428350 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: NPS/WR/030284<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 31/01/2019<br>Version End Date: - |
| - | 1324m W | Status: Active<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: Solenis UK Industries Ltd<br>Easting: 416610<br>Northing: 428350 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: NPS/WR/030284<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 31/01/2019<br>Version End Date: - |
| - | 1465m S | Status: Historical<br>Licence No: 2/27/13/187<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CLECKHEATON & DISTRICT GOLF CLUB<br>Easting: 417900<br>Northing: 426700 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 10/03/1997<br>Expiry Date: 31/12/2006<br>Issue No: 100<br>Version Start Date: 10/03/1997<br>Version End Date: - |
| - | 1465m S | Status: Historical<br>Licence No: 2/27/13/187<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - CLECKHEATON<br>Data Type: Point<br>Name: CLECKHEATON & DISTRICT GOLF CLUB<br>Easting: 417900<br>Northing: 426700 | Annual Volume ($m^3$): 13500<br>Max Daily Volume ($m^3$): 168<br>Original Application No: -<br>Original Start Date: 10/03/1997<br>Expiry Date: 31/12/2006<br>Issue No: 100<br>Version Start Date: 10/03/1997<br>Version End Date: - |
| - | 1465m S | Status: Historical<br>Licence No: 2/27/13/221<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - CLECKHEATON<br>Data Type: Point<br>Name: CLECKHEATON & DISTRICT GOLF CLUB<br>Easting: 417900<br>Northing: 426700 | Annual Volume ($m^3$): 6750<br>Max Daily Volume ($m^3$): 168<br>Original Application No: -<br>Original Start Date: 01/01/2007<br>Expiry Date: 31/03/2015<br>Issue No: 1<br>Version Start Date: 01/01/2007<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1465m S | Status: Active<br>Licence No: 2/27/13/221/R01<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - CLECKHEATON<br>Data Type: Point<br>Name: CLECKHEATON & DISTRICT GOLF CLUB<br>Easting: 417901<br>Northing: 426699 | Annual Volume ($m^3$): 6750<br>Max Daily Volume ($m^3$): 168<br>Original Application No: NPS/WR/016684<br>Original Start Date: 01/04/2015<br>Expiry Date: 31/03/2027<br>Issue No: 1<br>Version Start Date: 01/04/2015<br>Version End Date: - |
| - | 1465m S | Status: Historical<br>Licence No: 2/27/13/221<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - CLECKHEATON<br>Data Type: Point<br>Name: CLECKHEATON & DISTRICT GOLF CLUB<br>Easting: 417901<br>Northing: 426699 | Annual Volume ($m^3$): 6750<br>Max Daily Volume ($m^3$): 168<br>Original Application No: -<br>Original Start Date: 01/01/2007<br>Expiry Date: 31/03/2015<br>Issue No: 1<br>Version Start Date: 01/01/2007<br>Version End Date: - |
| - | 1728m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 416200<br>Northing: 428300 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1728m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 416200<br>Northing: 428300 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1728m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LTD<br>Easting: 416200<br>Northing: 428300 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1728m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LTD<br>Easting: 416200<br>Northing: 428300 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1828m W | Status: Historical<br>Licence No: 2/27/13/060A<br>Details: General Use Relating To Secondary Category (Medium Loss)<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: COLD DRAWN PRODUCTS LTD<br>Easting: 416200<br>Northing: 428800 | Annual Volume ($m^3$): 65450<br>Max Daily Volume ($m^3$): 272<br>Original Application No: 1255(2)<br>Original Start Date: 03/11/1981<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1981<br>Version End Date: - |
| - | 1828m W | Status: Historical<br>Licence No: 2/27/13/060A<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: COLD DRAWN PRODUCTS LTD<br>Easting: 416200<br>Northing: 428800 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 03/11/1981<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1981<br>Version End Date: - |
| - | 1933m W | Status: Active<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: Solenis UK Industries Ltd<br>Easting: 416020<br>Northing: 428520 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: NPS/WR/030284<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 31/01/2019<br>Version End Date: - |
| - | 1933m W | Status: Active<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: Solenis UK Industries Ltd<br>Easting: 416020<br>Northing: 428520 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: NPS/WR/030284<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 104<br>Version Start Date: 31/01/2019<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1933m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 416020<br>Northing: 428520 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1933m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 416020<br>Northing: 428520 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1978m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 415950<br>Northing: 428300 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1978m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LIMITED<br>Easting: 415950<br>Northing: 428300 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |

| ID | Location | Details | |
|---|---|---|---|
| - | 1978m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Non-Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LTD<br>Easting: 415950<br>Northing: 428300 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1978m W | Status: Historical<br>Licence No: 2/27/13/121<br>Details: Evaporative Cooling<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - LOW MOOR<br>Data Type: Point<br>Name: CIBA SPECIALITY CHEMICALS WATER TREATMENT WORKS LTD<br>Easting: 415950<br>Northing: 428300 | Annual Volume ($m^3$): 280000<br>Max Daily Volume ($m^3$): 1360<br>Original Application No: -<br>Original Start Date: 25/10/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 03/11/1998<br>Version End Date: - |
| - | 1995m S | Status: Historical<br>Licence No: 2/27/13/022<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE<br>Data Type: Point<br>Name: METROTECT LIMITED<br>Easting: 418300<br>Northing: 426200 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 14/12/1965<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 21/10/1996<br>Version End Date: - |
| - | 1995m S | Status: Historical<br>Licence No: 2/27/13/022<br>Details: General use relating to Secondary Category (Medium Loss)<br>Direct Source: GROUNDWATERS<br>Point: BOREHOLE - COAL MEASURES - CLECKHEATON<br>Data Type: Point<br>Name: METROTECT LTD<br>Easting: 418300<br>Northing: 426200 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 14/12/1965<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 21/10/1996<br>Version End Date: - |

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

## 5.7 Surface water abstractions

| Records within 2000m | 0 |
|---|---|

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.

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

## 5.8 Potable abstractions

| Records within 2000m | 0 |
|---|---|

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.

*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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## 6.1 Water Network (OS NGD)

| Records within 250m | 4 |
|---|---|

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

Features are displayed on the Hydrology map on **page 55 >**

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| 3 | 101m W | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | High Royds Beck |

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| 5 | 138m NW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | High Royds Beck |
| 6 | 138m NW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Hollowfield Beck |
| 7 | 171m NW | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | Hollowfield Beck |

*This data is sourced from the Ordnance Survey®.*

## 6.2 Surface water features

| Records within 250m | 2 |
|---|---|

Covering rivers, streams and lakes (some overlap with OS NGD 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.

Features are displayed on the Hydrology map on **page 55 >**

*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 55 >**

| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|---|---|---|---|---|---|---|
| **A** | **On site** | **River** | **Spen Beck from Source to River Calder** | **GB104027062710** | **Calder Lower** | **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 55 >**

| ID | Location | Type | Name | Water body ID | Overall rating | Chemical rating | Ecological rating | Year |
|---|---|---|---|---|---|---|---|---|
| 4 | 105m NW | River | Spen Beck from Source to River Calder | GB104027062710 ↗ | No longer applicable | Does not require assessment | Moderate | 2022 |

*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 55 >**

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|---|---|---|---|---|---|---|---|
| **A** | **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

## 8.1 Surface water flooding

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

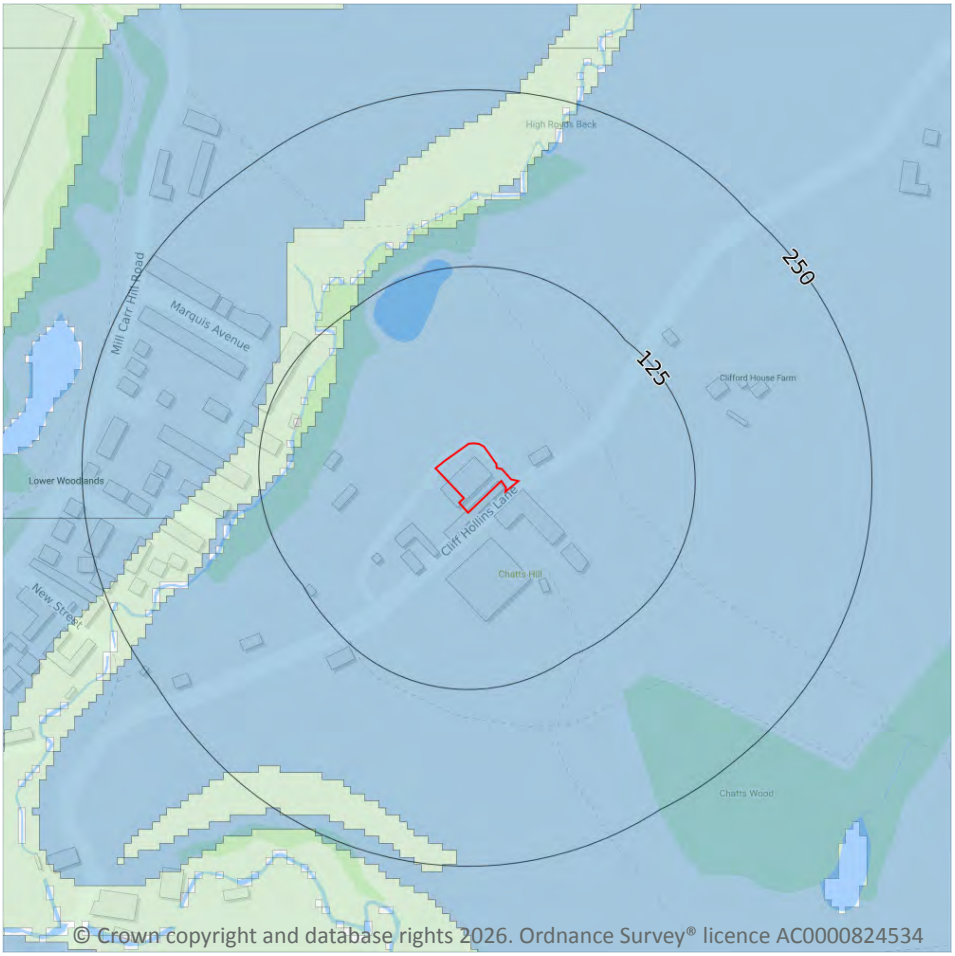
Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year 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.

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 | Negligible |
| 1 in 250 year | Negligible |
| 1 in 100 year | Negligible |
| 1 in 30 year | Negligible |

*This data is sourced from Ambiental Risk Analytics.*

# 9 Groundwater flooding




Site Outline

Search buffers in metres (m)

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

## 9.1 Groundwater flooding

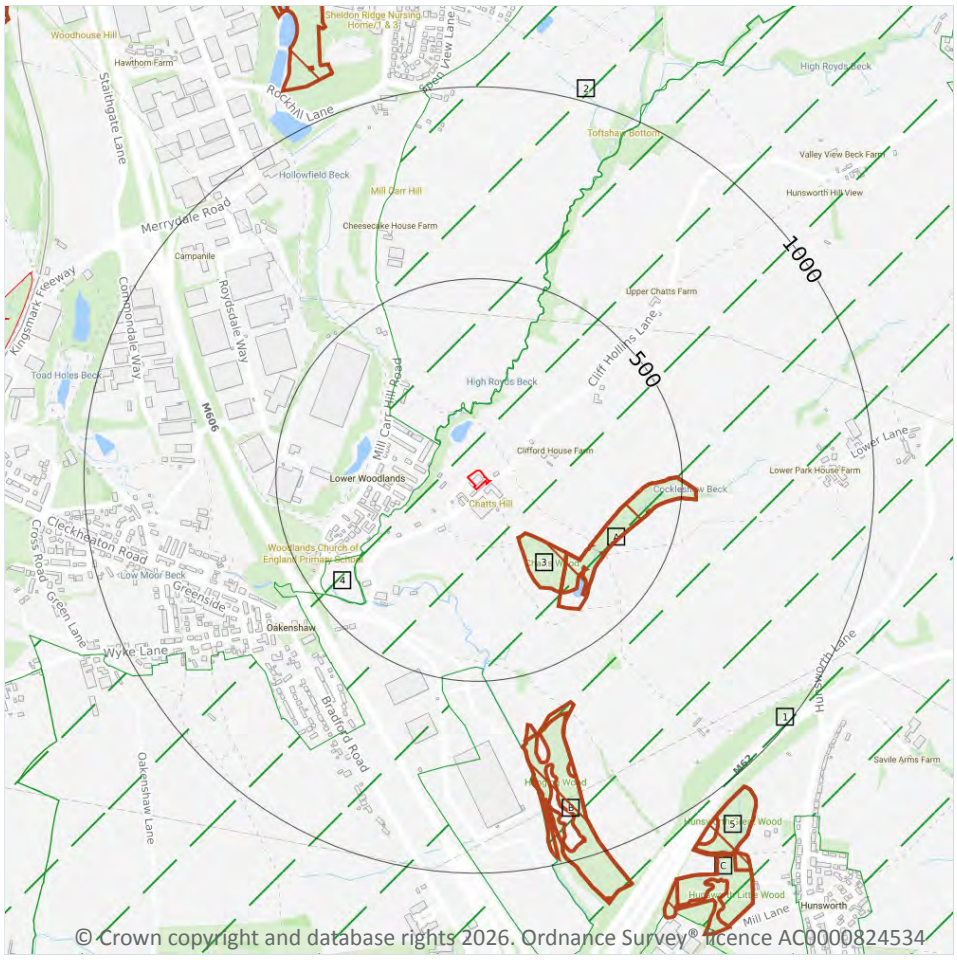
| | |
|---|---|
| **Highest risk on site** | **Negligible** |
| **Highest risk within 50m** | **Negligible** |

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 62 >**

*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 63 >**

| ID | Location | Name | Data source |
|---|---|---|---|
| 8 | 1238m W | Railway Terrace | Natural England |

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

## 10.7 Designated Ancient Woodland

| Records within 2000m | 12 |
|---|---|

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 63 >**

| ID | Location | Name | Woodland Type |
|---|---|---|---|
| 3 | 163m SE | Chats Wood | Ancient Replanted Woodland |
| A | 273m SE | Chatts Wood | Ancient & Semi-Natural Woodland |
| A | 273m SE | Cockleshaw Rrnge Wood | Ancient & Semi-Natural Woodland |
| B | 606m SE | Hanging Wood | Ancient & Semi-Natural Woodland |
| B | 627m S | Unknown | Ancient & Semi-Natural Woodland |
| 5 | 1035m SE | Hunsworth Great Wood | Ancient & Semi-Natural Woodland |
| C | 1035m SE | Great And Little Hunsworth Woods | Ancient & Semi-Natural Woodland |
| 6 | 1095m NW | Bierley Hall Wood | Ancient Replanted Woodland |
| C | 1140m SE | Hunsworth Little Wood | Ancient & Semi-Natural Woodland |
| D | 1651m NW | Odsal Wood | Ancient & Semi-Natural Woodland |
| - | 1657m NW | Odsal Wood | Ancient & Semi-Natural Woodland |
| D | 1690m NW | Odsal Wood | Ancient & Semi-Natural 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 | 4 |
|---|---|

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

Features are displayed on the Environmental designations map on **page 63 >**

| ID | Location | Name | Local Authority name |
|---|---|---|---|
| **1** | **On site** | **South and West Yorkshire Green Belt** | **Kirklees** |
| 2 | 112m NW | South and West Yorkshire Green Belt | Bradford |
| 4 | 337m SW | South and West Yorkshire Green Belt | Bradford |
| 7 | 1218m SW | South and West Yorkshire Green Belt | Bradford |

*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

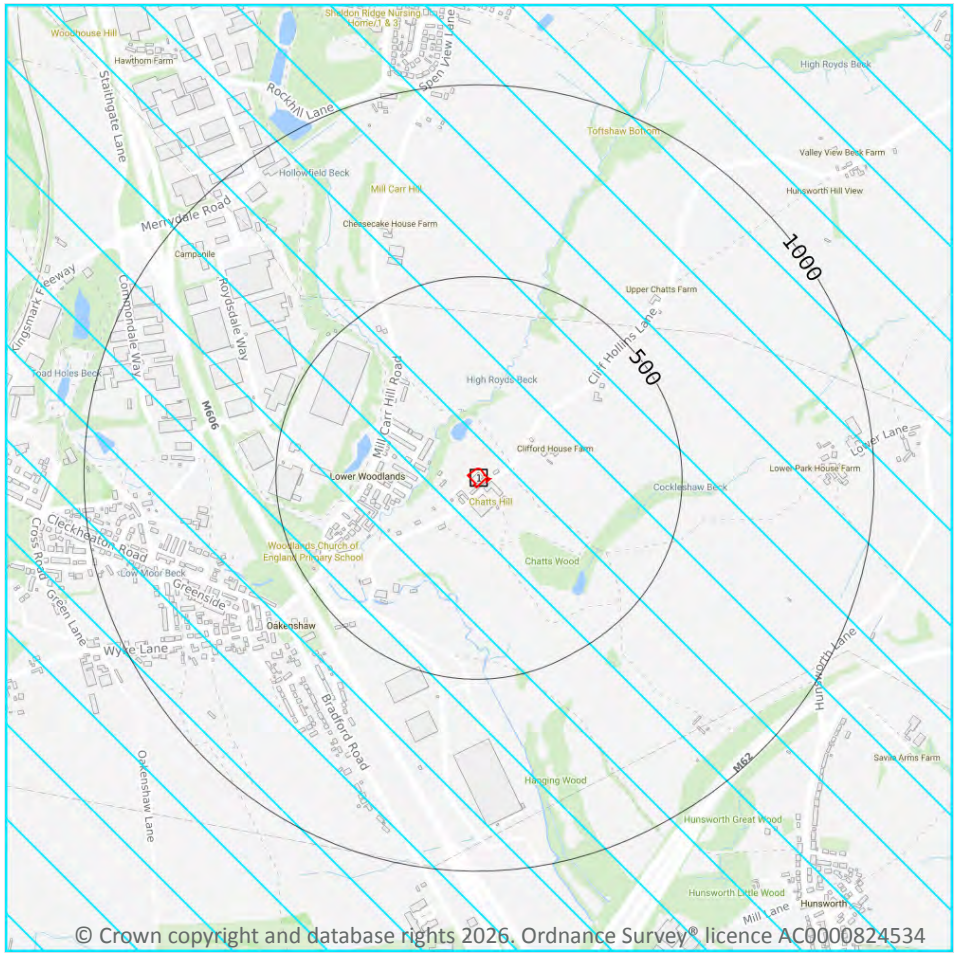
| Records within 2000m | 1 |
|---|---|

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.

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| **On site** | **Spen Beck from Source to River Calder NVZ** | **Surface Water** | **271** | **Existing** |

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

# SSSI Impact Zones and Units




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- 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 69 >**

| ID | Location | Type of developments requiring consultation |
|---|---|---|
| **1** | **On site** | **https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0000000000000&notes=&location=417554,424273%20(IRZ%20polygon%20centre)** |

*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

## 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 | 0 |
|---|---|

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.

*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.*

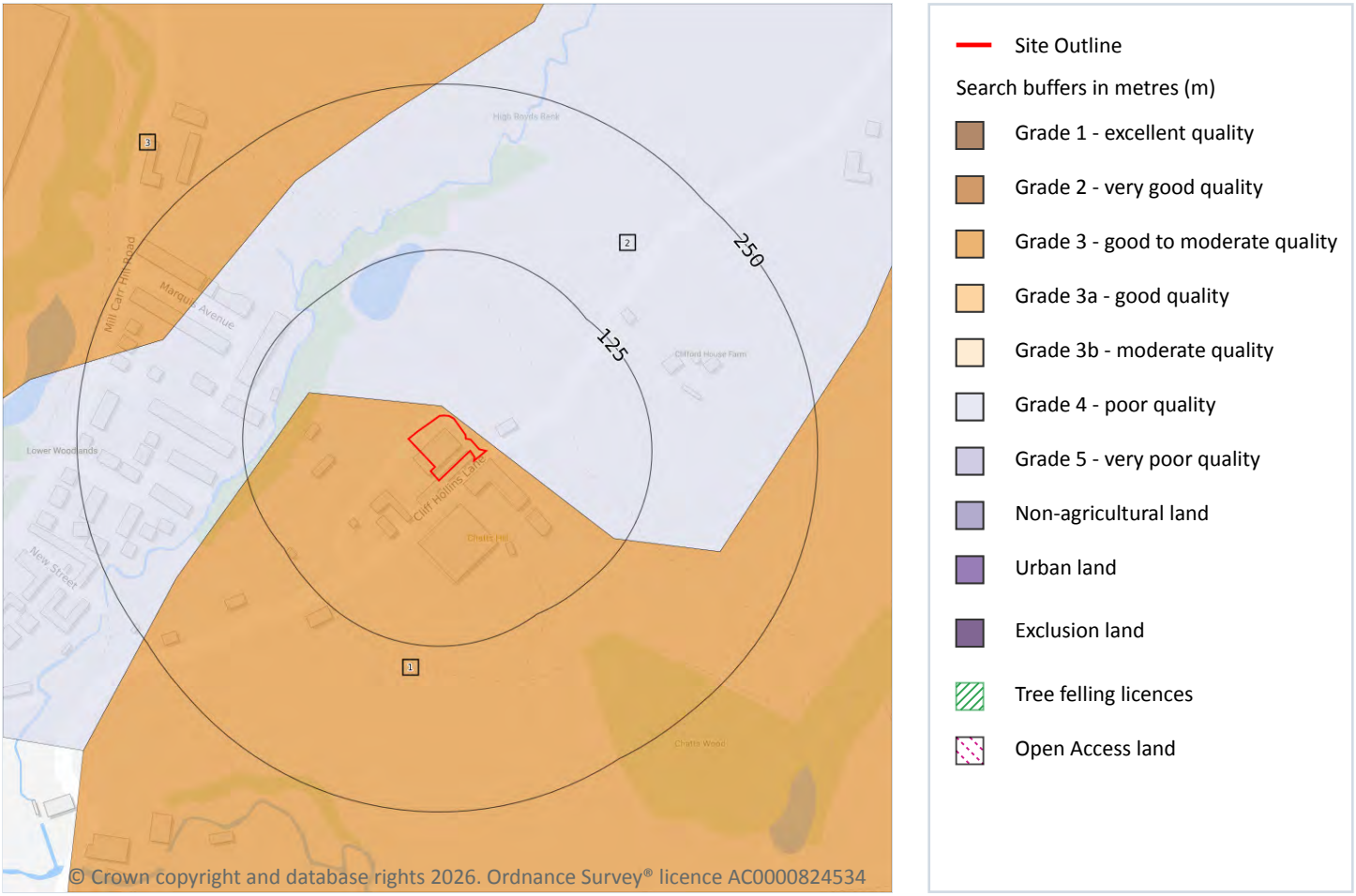
## 11.7 Registered Parks and Gardens

| 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




## 12.1 Agricultural Land Classification

| Records within 250m | 3 |
|---|---|

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 73 >**

| ID | Location | Classification | Description |
|---|---|---|---|
| 1 | On site | Grade 3 | Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2. |

| ID | Location | Classification | Description |
|---|---|---|---|
| 2 | 2m NE | 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. |
| 3 | 190m NW | Grade 3 | Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2. |

*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.*

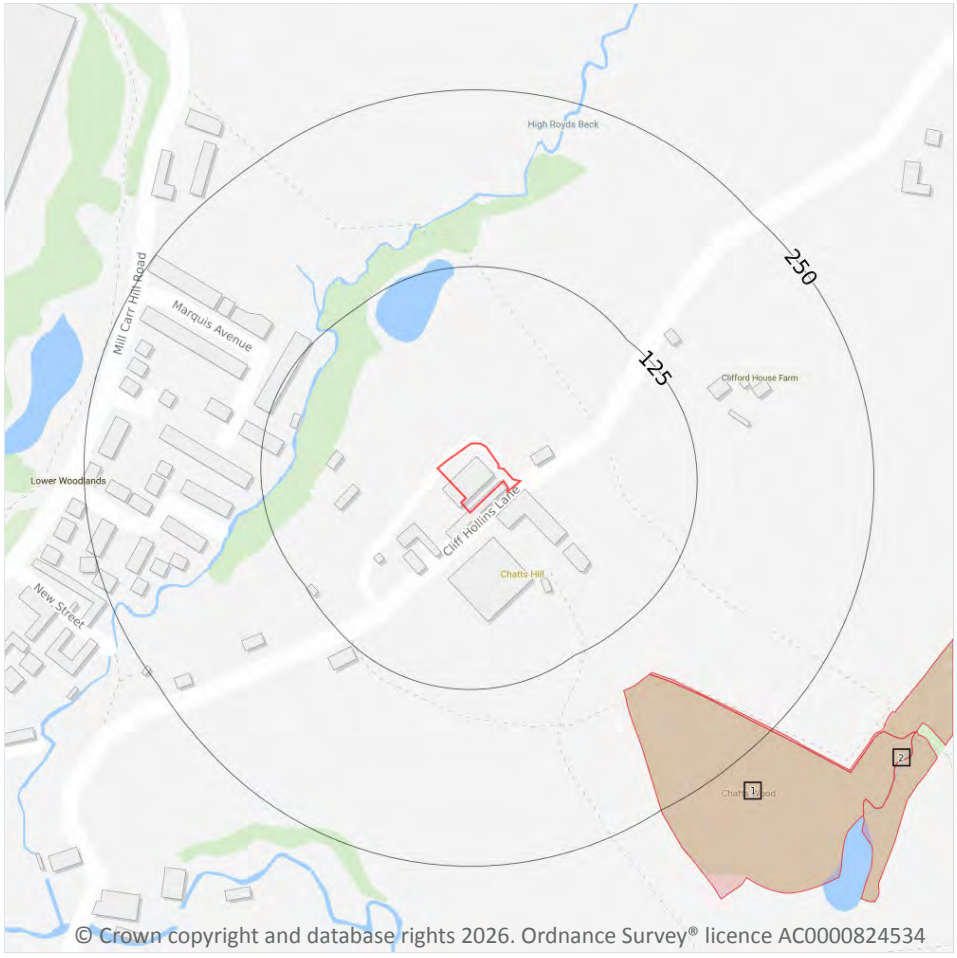
## 12.5 Countryside Stewardship Schemes

| 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




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 76 >**

| ID | Location | Main Habitat | Other habitats |
|---|---|---|---|
| 1 | 163m SE | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |
| 2 | 164m SE | Deciduous woodland | Main habitat: DWOOD (INV > 50%) |

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

| Records within 250m | 0 |
|---|---|

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.

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

| Records within 250m | 0 |
|---|---|

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.

*This data is sourced from Natural England.*

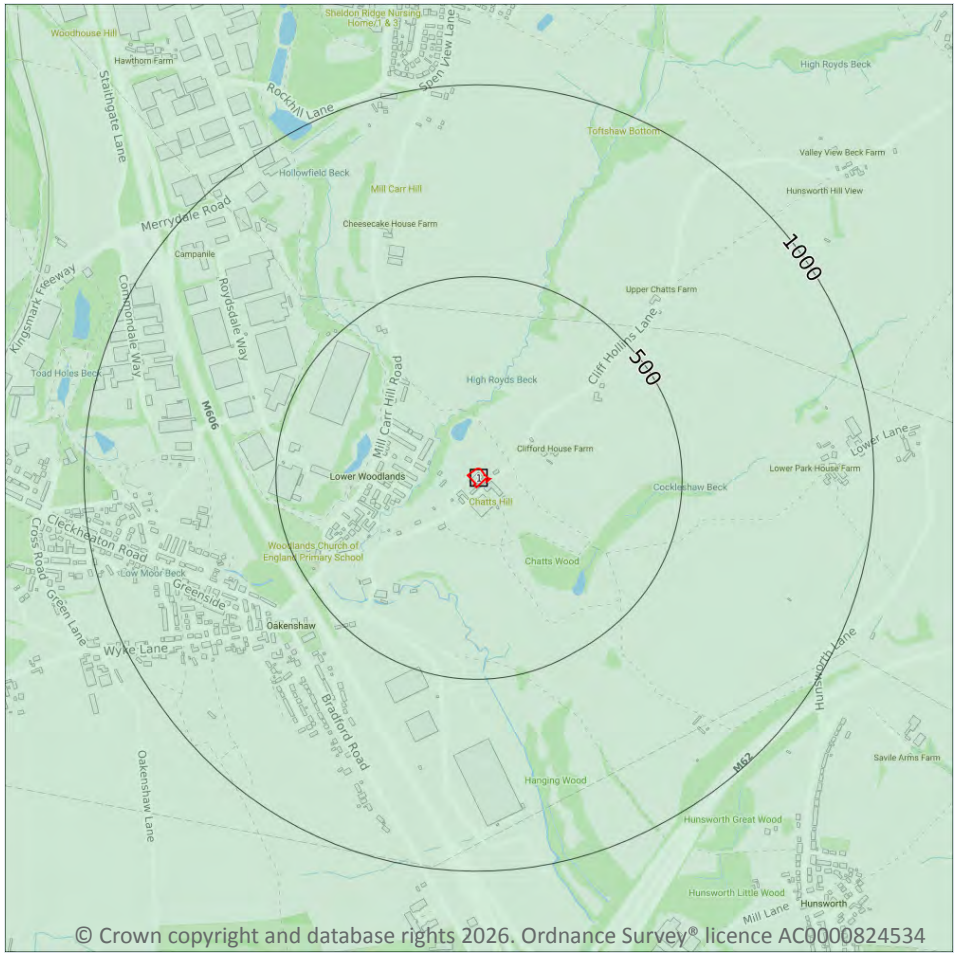
## 13.4 Limestone Pavement Orders

| 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 | 1 |
|---|---|

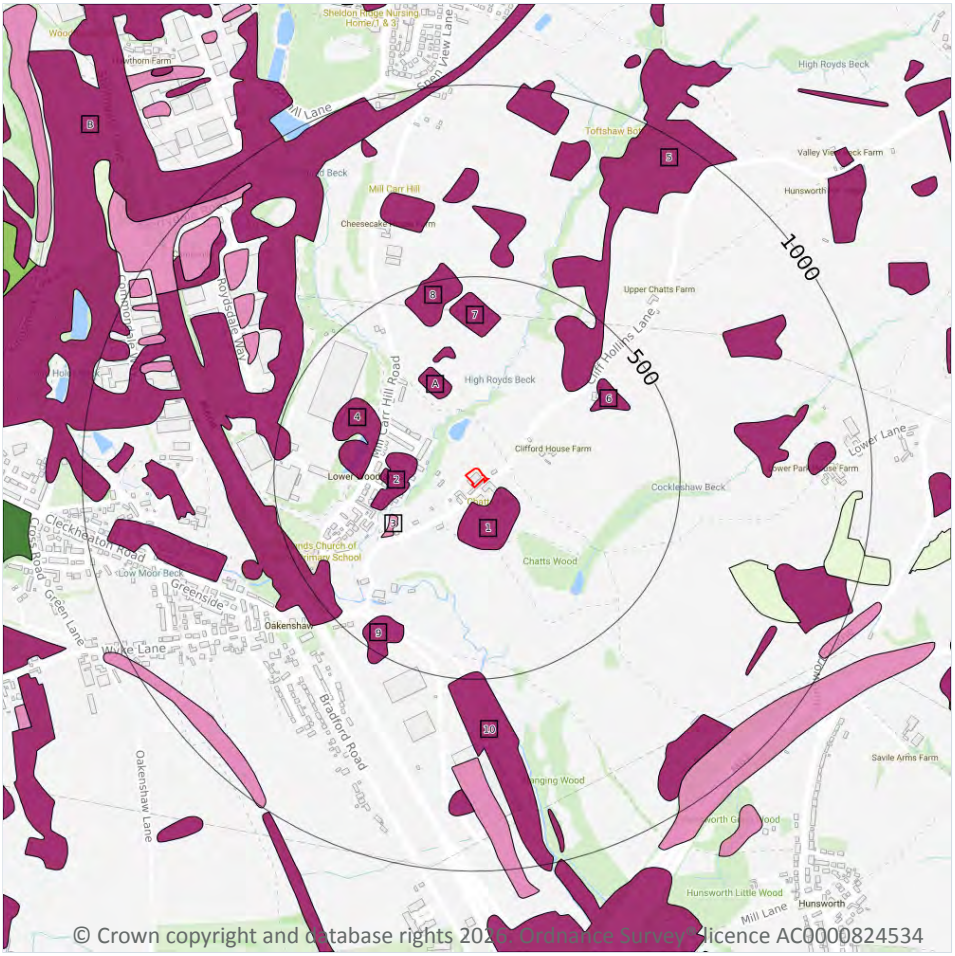
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 78 >**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| **1** | **On site** | **Full** | **Full** | **Full** | **Full** | **SE12NE** |

*This data is sourced from the British Geological Survey.*

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




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 | 13 |
|---|---|

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 79 >**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 36m SE | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 2 | 129m W | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| A | 202m NW | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 3 | 208m SW | WGR-VOID | Worked Ground (Undivided) | Void |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 4 | 246m W | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| A | 292m N | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 5 | 309m NE | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 6 | 321m NE | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 7 | 343m N | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 8 | 388m N | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 9 | 403m SW | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| B | 423m SW | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |
| 10 | 480m S | MGR-ARTDP | Made Ground (Undivided) | Artificial deposit |

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Superficial




Site Outline

Search buffers in metres (m)

Landslip (10k)

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

## 14.3 Superficial geology (10k)

**Records within 500m** **8**

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.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 81 >**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 83m W | GFDUD-XSV | Glaciofluvial Deposits, Devensian-Sand And Gravel | Sand and gravel |
| 2 | 135m W | ALV-XCZSV | Alluvium-Clay, Silt, Sand And Gravel | Clay, silt, sand and gravel |
| 3 | 152m N | ALV-XCZSV | Alluvium-Clay, Silt, Sand And Gravel | Clay, silt, sand and gravel |
| 4 | 229m SW | GFDUD-XSV | Glaciofluvial Deposits, Devensian-Sand And Gravel | Sand and gravel |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 5 | 265m S | GFDUD-XSV | Glaciofluvial Deposits, Devensian-Sand And Gravel | Sand and gravel |
| 6 | 312m NW | TILLD-DMTN | Till, Devensian-Diamicton | Diamicton |
| 7 | 356m S | GFDUD-XSV | Glaciofluvial Deposits, Devensian-Sand And Gravel | Sand and gravel |
| 8 | 431m E | TILLD-DMTN | Till, Devensian-Diamicton | Diamicton |

*This data is sourced from the British Geological Survey.*

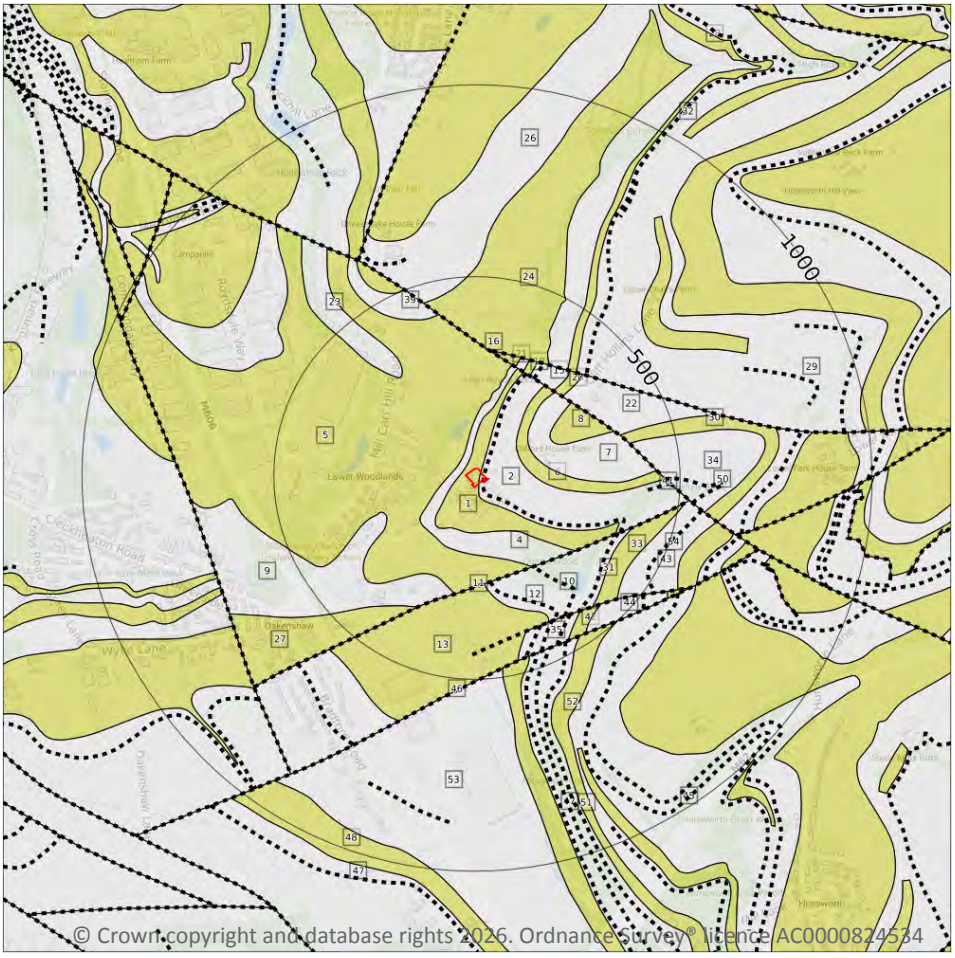
## 14.4 Landslip (10k)

| **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




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** **34**

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 83 >**

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **CLRK-SDST** | **Clifton Rock-Sandstone** | **Westphalian** |
| **2** | **On site** | **PLCM-MDSS** | **Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone** | **Westphalian** |
| 4 | 12m NW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 5 | 32m NW | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 6 | 97m NE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 7 | 133m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 8 | 193m NE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 9 | 232m SW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 10 | 246m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 13 | 253m S | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 15 | 277m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 18 | 278m NE | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 19 | 280m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 20 | 282m NE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 21 | 283m N | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 22 | 289m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 23 | 306m NW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 24 | 308m N | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 26 | 328m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 27 | 345m SW | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 28 | 347m NE | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 29 | 358m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 30 | 362m E | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 33 | 378m SE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 34 | 380m E | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 35 | 398m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 39 | 410m N | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 42 | 419m SE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 43 | 432m SE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 44 | 439m SE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 45 | 461m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |
| 48 | 461m S | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 52 | 472m SE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 53 | 476m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, Siltstone And Sandstone | Westphalian |

*This data is sourced from the British Geological Survey.*

## 14.6 Bedrock faults and other linear features (10k)

**Records within 500m** **20**

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.

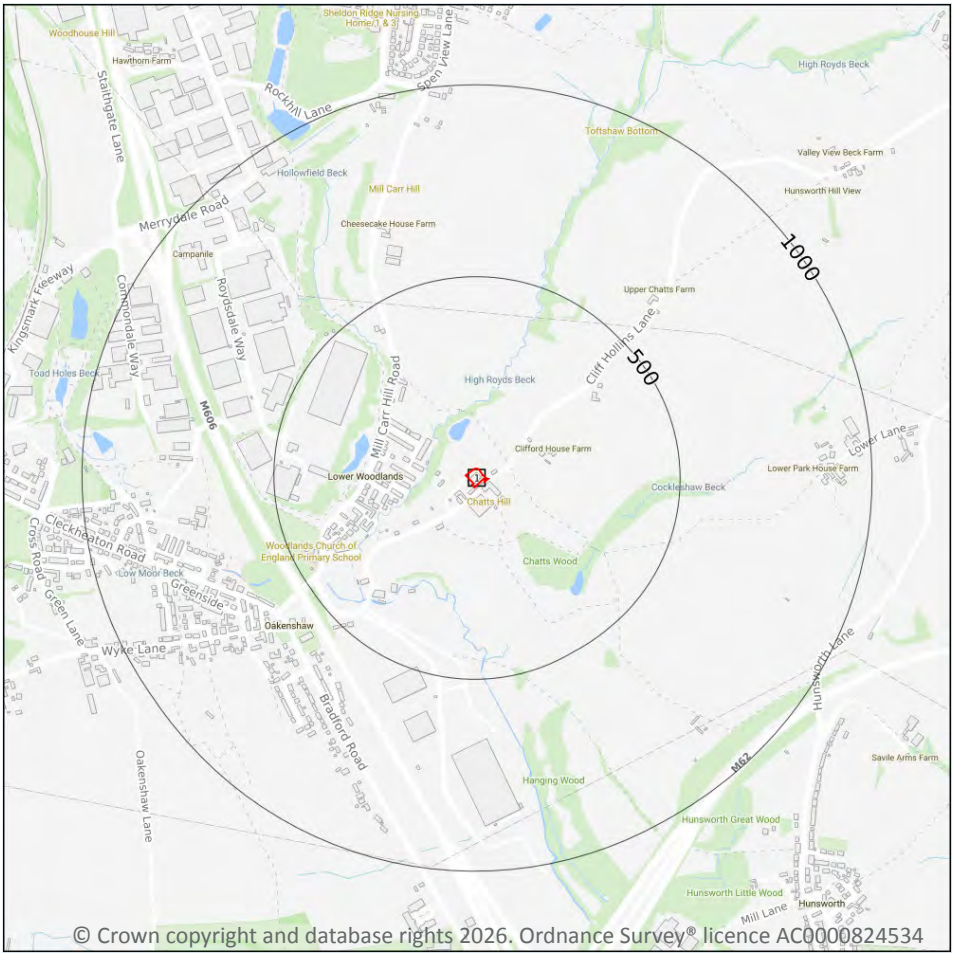
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 83 >**

| ID | Location | Category | Description |
|---|---|---|---|
| **3** | **On site** | **ROCK** | **Coal seam, inferred** |
| 11 | 246m S | FAULT | Fault, inferred, displacement unknown |
| 12 | 249m S | ROCK | Coal seam, inferred |
| 14 | 255m SE | ROCK | Coal seam, inferred |
| 16 | 277m NE | FAULT | Fault, inferred, displacement unknown |
| 17 | 277m NE | ROCK | Coal seam, inferred |
| 25 | 308m N | FAULT | Fault, inferred, displacement unknown |

| ID | Location | Category | Description |
|---|---|---|---|
| 31 | 362m SE | ROCK | Coal seam, inferred |
| 32 | 372m NE | ROCK | Coal seam, inferred |
| 36 | 398m S | FAULT | Fault, inferred, displacement unknown |
| 37 | 399m SE | ROCK | Coal seam, inferred |
| 38 | 402m SE | ROCK | Coal seam, inferred |
| 40 | 411m SE | ROCK | Coal seam, inferred |
| 41 | 417m E | ROCK | Coal seam, inferred |
| 46 | 461m S | FAULT | Fault, inferred, displacement unknown |
| 47 | 461m S | ROCK | Coal seam, inferred |
| 49 | 462m SE | ROCK | Coal seam, inferred |
| 50 | 462m E | ROCK | Coal seam, inferred |
| 51 | 466m SE | ROCK | Coal seam, inferred |
| 54 | 478m SE | ROCK | Coal seam, inferred |

*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 |
|---|---|

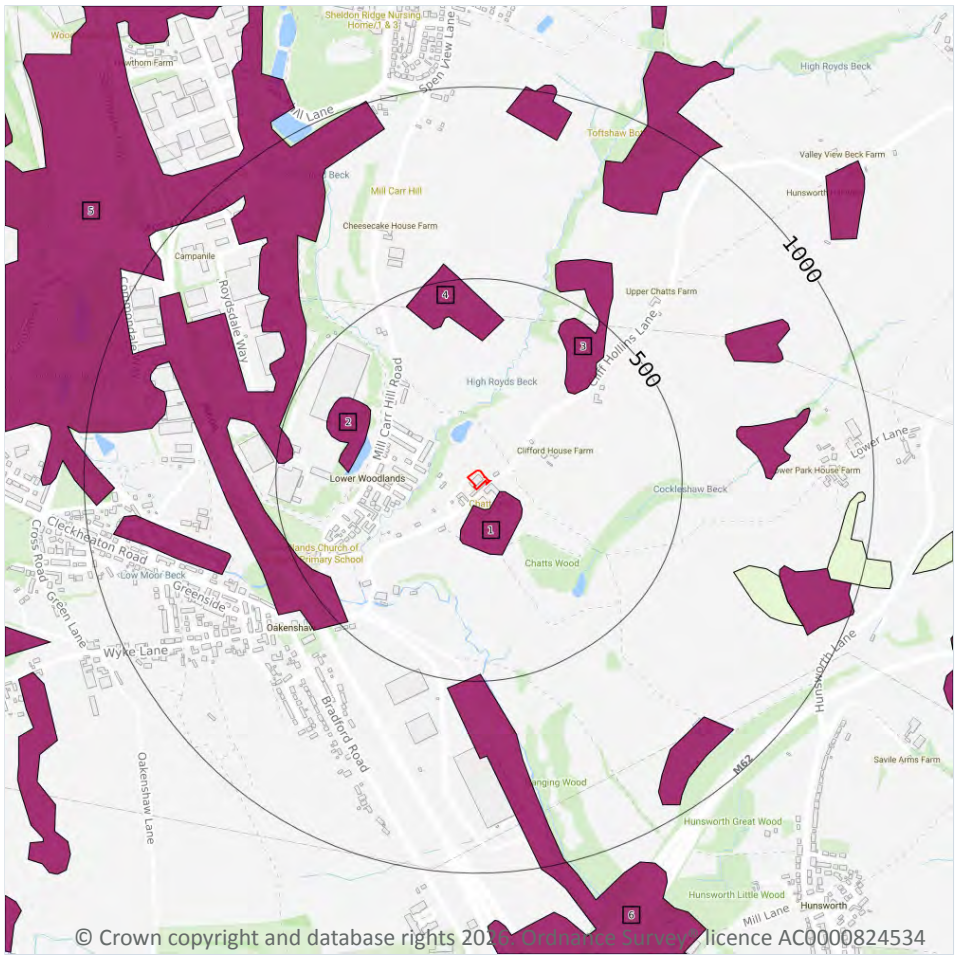
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 87 >**

| 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




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 | 6 |
|---|---|

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 88 >**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 37m SE | MGR-ARTDP | Made Ground | Artificial deposit |
| 2 | 284m W | MGR-ARTDP | Made Ground | Artificial deposit |
| 3 | 307m NE | MGR-ARTDP | Made Ground | Artificial deposit |
| 4 | 338m N | MGR-ARTDP | Made Ground | Artificial deposit |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 5 | 443m SW | MGR-ARTDP | Made Ground | Artificial deposit |
| 6 | 482m S | MGR-ARTDP | Made Ground | Artificial deposit |

*This data is sourced from the British Geological Survey.*

## 15.3 Artificial ground permeability (50k)

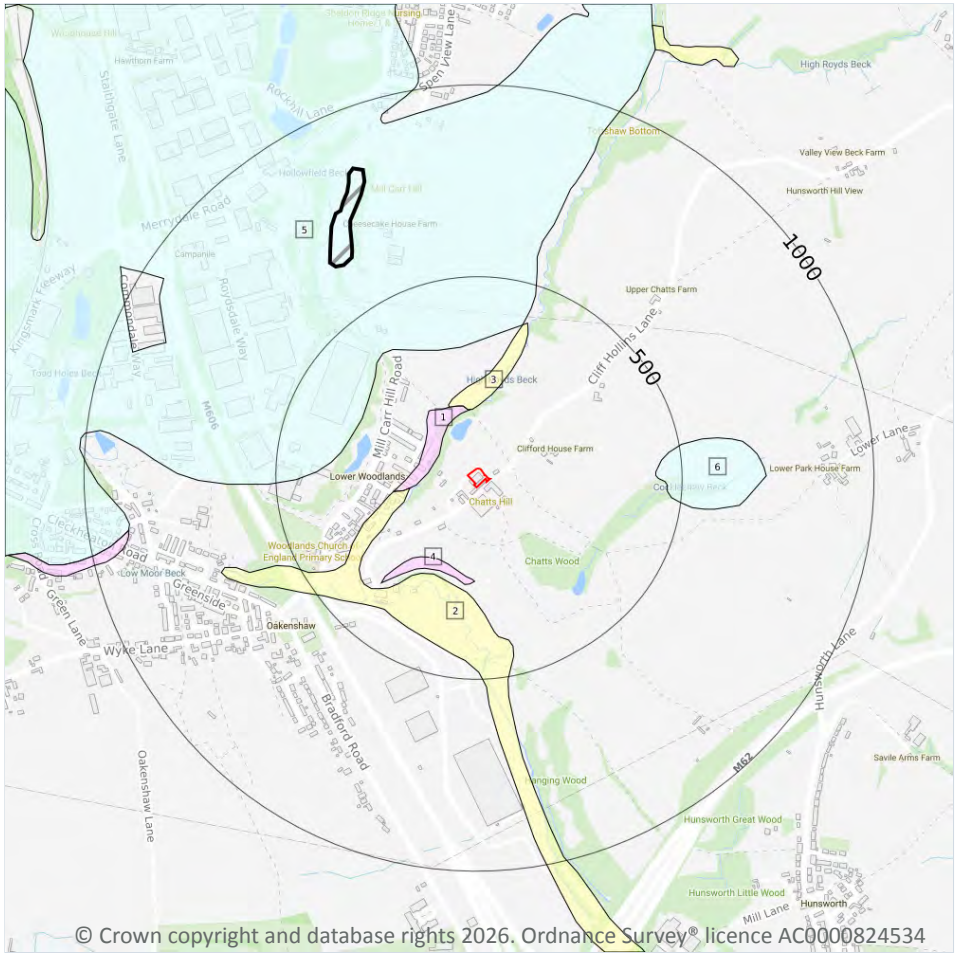
| **Records within 50m** | **1** |
|---|---|

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

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| 37m SE | Mixed | Very High | Low |

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Superficial




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Site Outline

Search buffers in metres (m)

Landslip (50k)

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

## 15.4 Superficial geology (50k)

**Records within 500m** **6**

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.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 90 >**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 1 | 91m NW | GFDUD-XSV | Glaciofluvial deposits, Devensian | Sand and gravel |
| 2 | 155m W | ALV-XCZSV | Alluvium | Clay, silt, sand and gravel |
| 3 | 155m N | ALV-XCZSV | Alluvium | Clay, silt, sand and gravel |
| 4 | 211m SW | GFDUD-XSV | Glaciofluvial deposits, Devensian | Sand and gravel |

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| 5 | 312m NW | TILLD-DMTN | Till, Devensian | Diamicton |
| 6 | 431m E | TILLD-DMTN | Till, Devensian | Diamicton |

*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.*

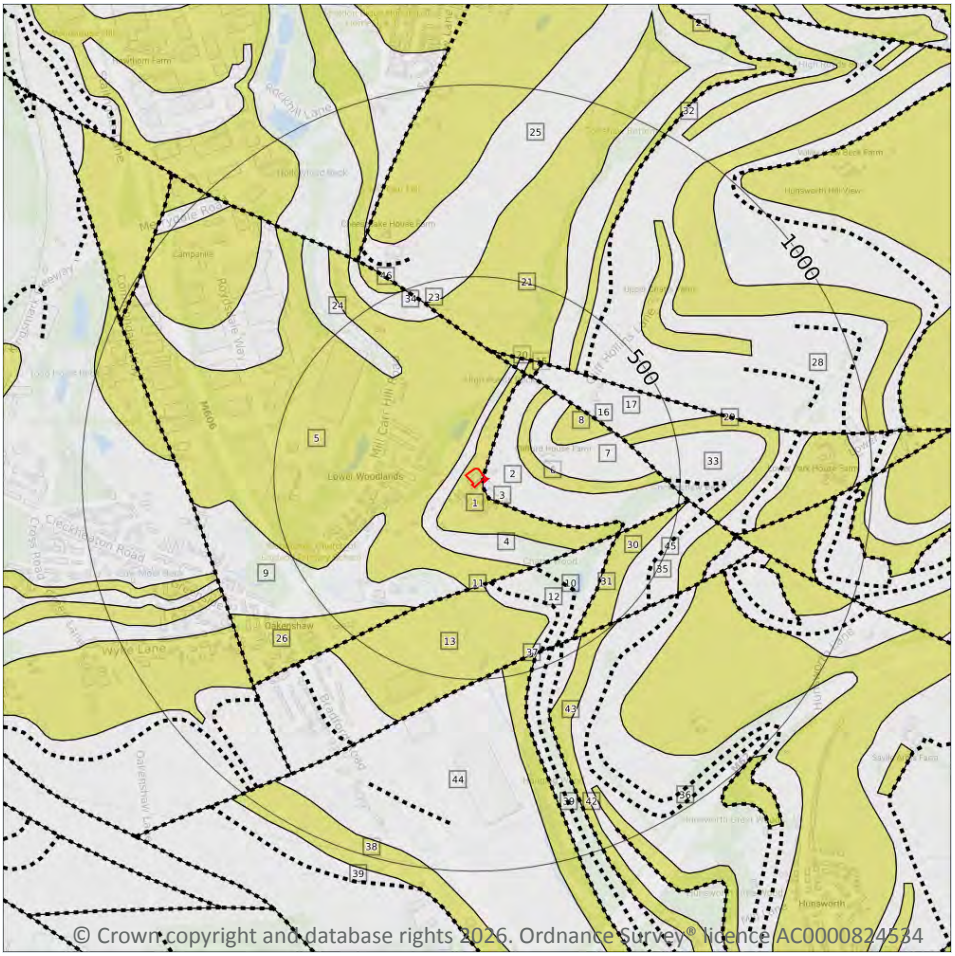
## 15.7 Landslip permeability (50k)

| 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




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 | 30 |
|---|---|

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 92 >**

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **CLRK-SDST** | **Clifton Rock-Sandstone** | **Westphalian** |
| **2** | **On site** | **PLCM-MDSS** | **Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone** | **Westphalian** |
| 4 | 10m NW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 5 | 38m NW | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 6 | 98m NE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 7 | 135m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 8 | 193m NE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 9 | 235m SW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 10 | 247m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 13 | 255m S | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 15 | 277m NE | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 17 | 278m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 19 | 278m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 20 | 282m N | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 21 | 306m N | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 24 | 314m NW | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 25 | 328m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 26 | 349m SW | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 27 | 349m NE | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 28 | 358m NE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 29 | 362m E | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 30 | 367m SE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 33 | 380m E | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 34 | 407m N | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 35 | 432m SE | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| 36 | 461m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 38 | 462m S | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |
| 43 | 475m SE | PLCM-SDST | Pennine Lower Coal Measures Formation-Sandstone | Westphalian |
| 44 | 477m S | PLCM-MDSS | Pennine Lower Coal Measures Formation-Mudstone, siltstone and sandstone | Westphalian |
| 46 | 498m N | CLRK-SDST | Clifton Rock-Sandstone | Westphalian |

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

**Records within 50m** **2**

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** |
| **On site** | **Fracture** | **Moderate** | **Low** |

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

**Records within 500m** **16**

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.

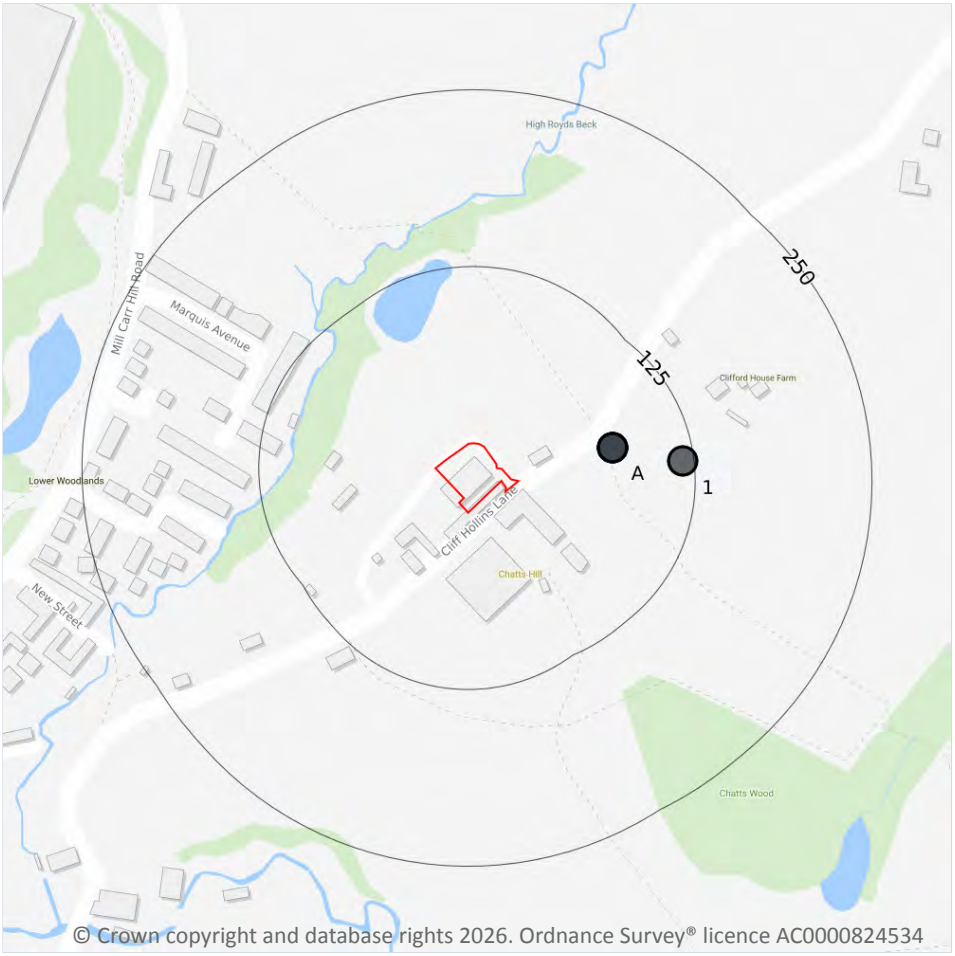
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 92 >**

| ID | Location | Category | Description |
|---|---|---|---|
| **3** | **On site** | **ROCK** | **Coal seam, inferred** |
| 11 | 247m S | FAULT | Fault, inferred, crossmark on downthrow side, throw in metres |
| 12 | 250m S | ROCK | Coal seam, inferred |
| 14 | 257m SE | ROCK | Coal seam, inferred |

| ID | Location | Category | Description |
|---|---|---|---|
| 16 | 277m NE | FAULT | Fault, inferred, crossmark on downthrow side, throw in metres |
| 18 | 278m NE | ROCK | Coal seam, inferred |
| 22 | 306m N | FAULT | Fault, inferred, crossmark on downthrow side, throw in metres |
| 23 | 309m N | FAULT | Fault, inferred, crossmark on downthrow side, throw in metres |
| 31 | 367m SE | ROCK | Coal seam, inferred |
| 32 | 370m NE | ROCK | Coal seam, inferred |
| 37 | 461m S | FAULT | Fault, inferred, crossmark on downthrow side, throw in metres |
| 39 | 462m S | ROCK | Coal seam, inferred |
| 40 | 463m SE | ROCK | Coal seam, inferred |
| 41 | 464m E | ROCK | Coal seam, inferred |
| 42 | 465m SE | ROCK | Coal seam, inferred |
| 45 | 481m SE | ROCK | Coal seam, inferred |

*This data is sourced from the British Geological Survey.*

# 16 Boreholes




Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

## 16.1 BGS Boreholes

| Records within 250m | 5 |
|---|---|

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.

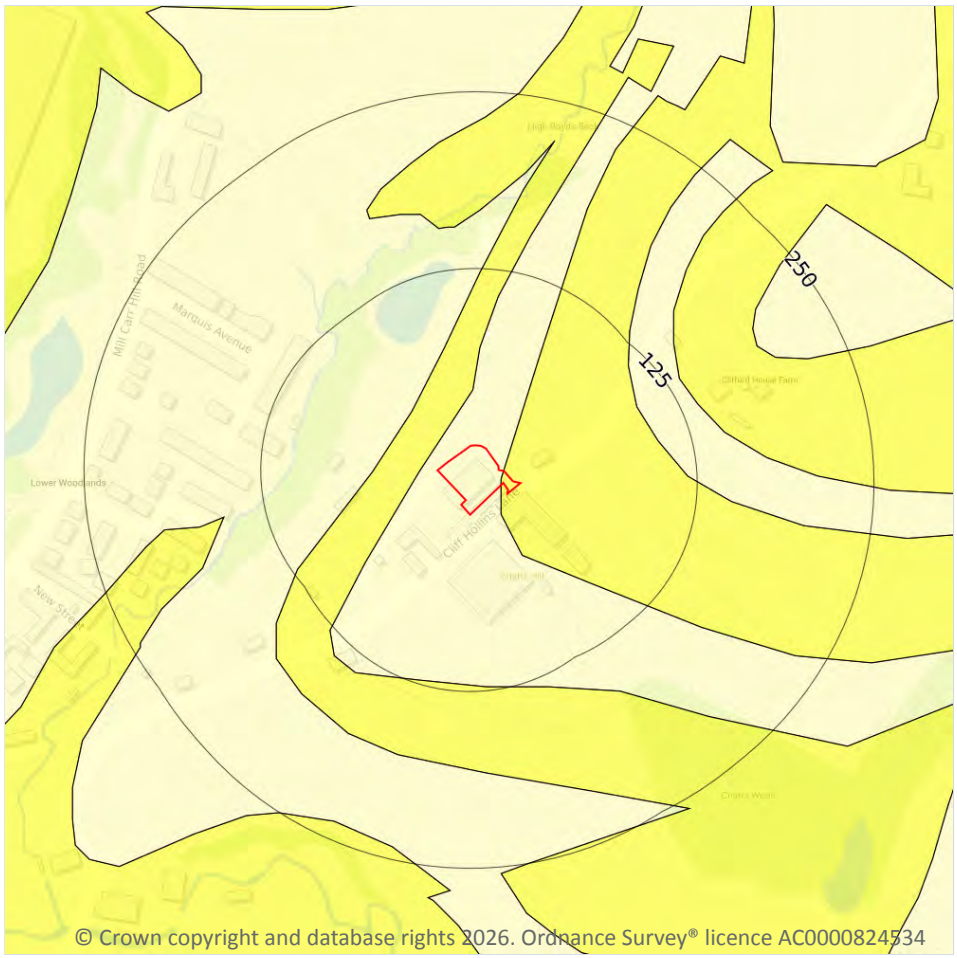
Features are displayed on the Boreholes map on **page 96 >**

| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|---|---|---|---|---|---|---|
| A | 71m E | 418050 428210 | TOWER 104 NATIONAL GRID PH A | - | Y | N/A |
| A | 71m E | 418050 428210 | TOWER 104 NATIONAL GRID PH B | - | Y | N/A |
| A | 71m E | 418050 428210 | TOWER 104 NATIONAL GRID PH C | - | Y | N/A |

| ID | Location | Grid reference | Name | Length | Confidential | Web link |
|---|---|---|---|---|---|---|
| A | 71m E | 418050 428210 | TOWER 104 NATIONAL GRID PH D | - | Y | N/A |
| 1 | 117m E | 418100 428200 | IND ESTATE BRADFORD PBW104A | - | Y | N/A |

*This data is sourced from the British Geological Survey.*

# 17 Natural ground subsidence - Shrink swell clays




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## 17.1 Shrink swell clays

| Records within 50m | 4 |
|---|---|

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).

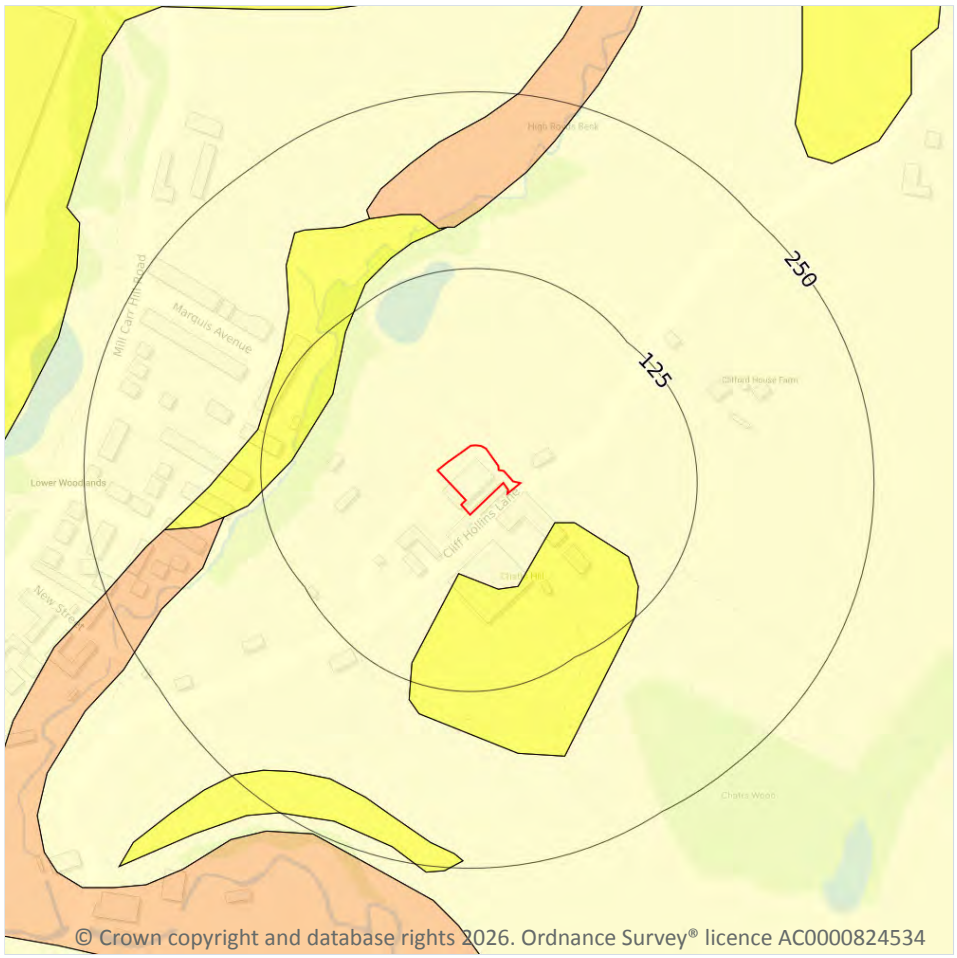
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 98 >**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Ground conditions predominantly non-plastic.** |
| **On site** | **Very low** | **Ground conditions predominantly low plasticity.** |
| 10m NW | Very low | Ground conditions predominantly low plasticity. |

| Location | Hazard rating | Details |
|---|---|---|
| 38m NW | Negligible | Ground conditions predominantly non-plastic. |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Running sands




Site Outline

Search buffers in metres (m)

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

## 17.2 Running sands

| Records within 50m | 2 |
|---|---|

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.

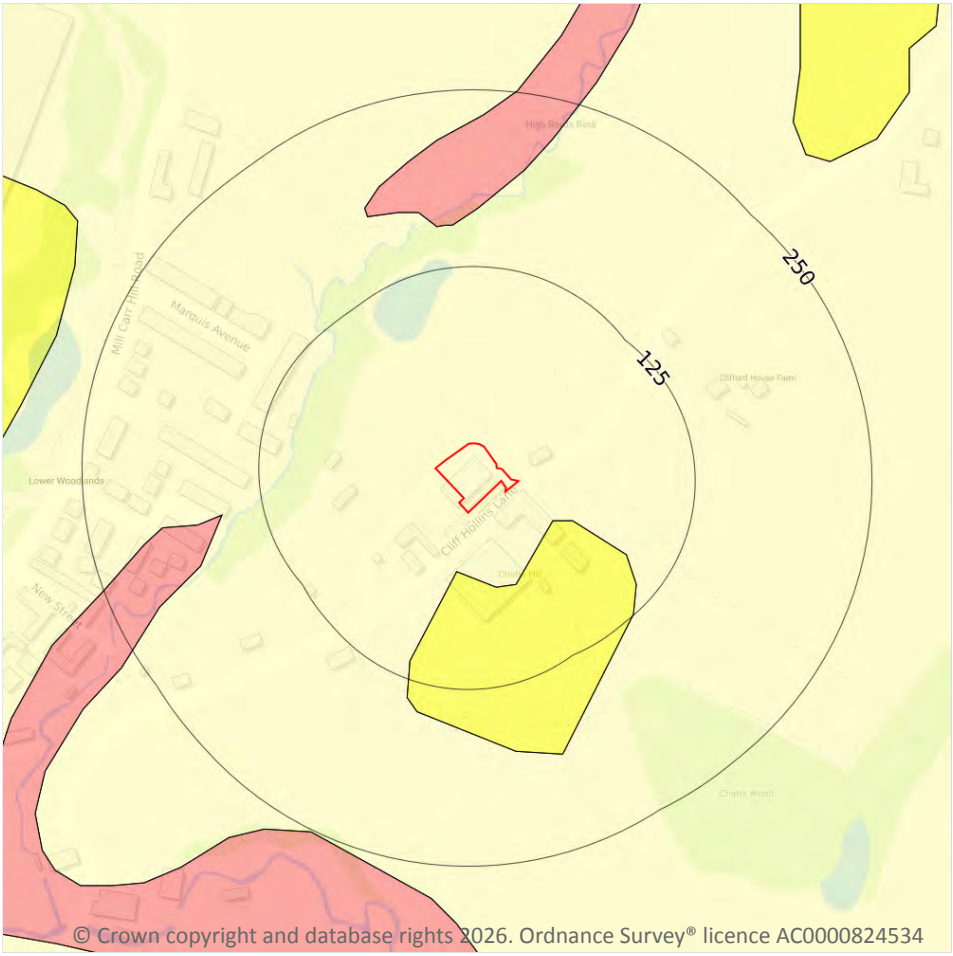
Features are displayed on the Natural ground subsidence - Running sands map on **page 100 >**

| 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 |
|---|---|---|
| 37m SE | 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




Site Outline

Search buffers in metres (m)

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

## 17.3 Compressible deposits

| Records within 50m | 2 |
|---|---|

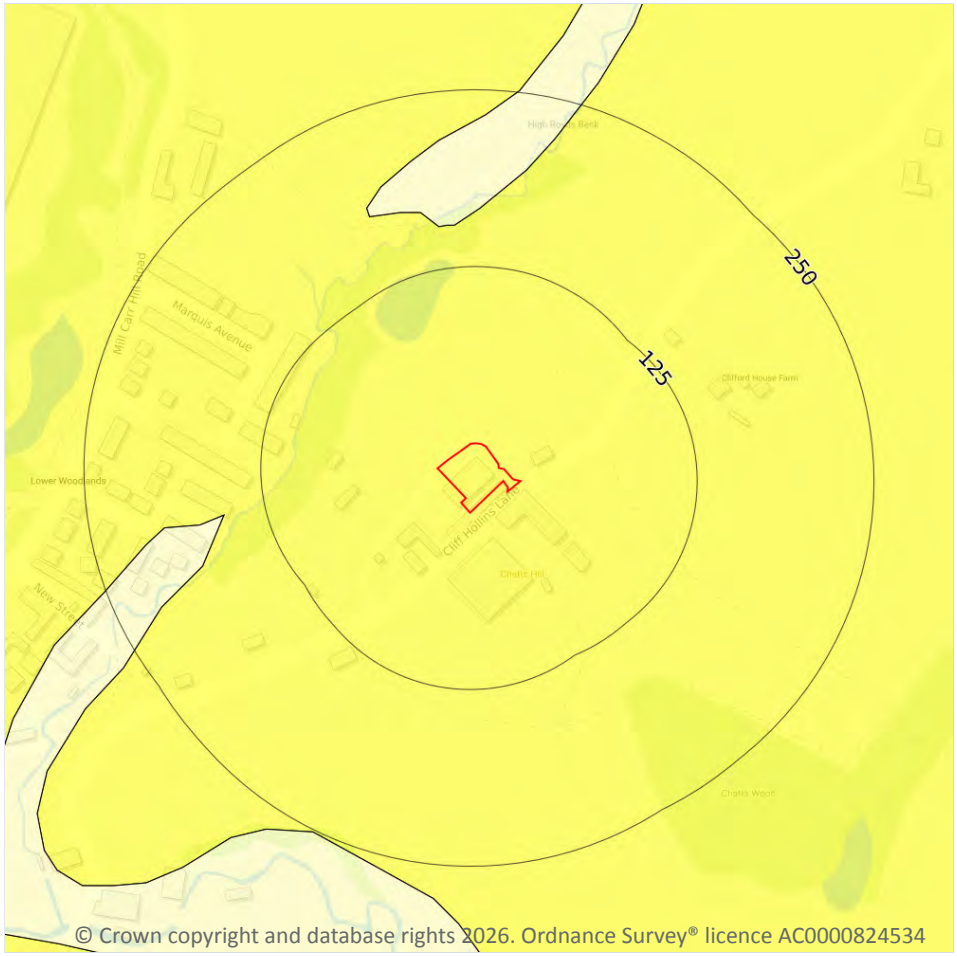
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 102 >**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Compressible strata are not thought to occur.** |
| 37m SE | 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 |
|---|---|

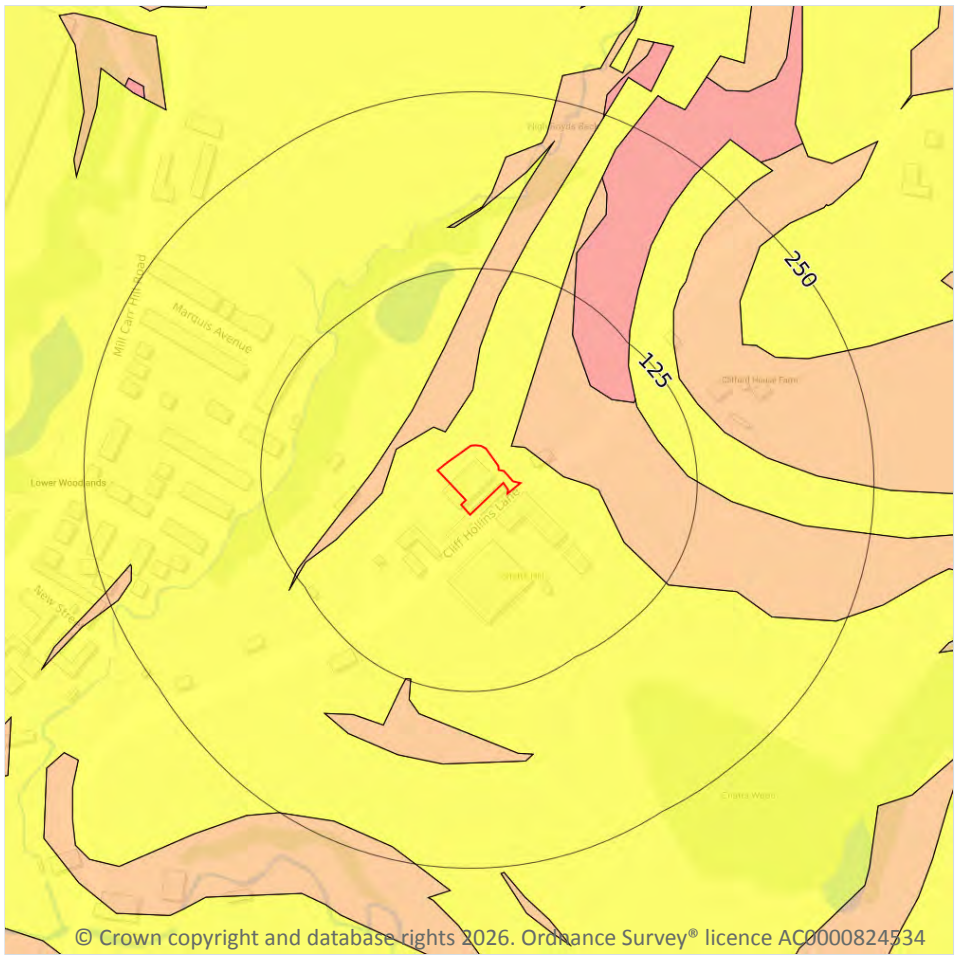
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 104 >**

| 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




Site Outline

Search buffers in metres (m)

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

## 17.5 Landslides

| Records within 50m | 3 |
|---|---|

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.

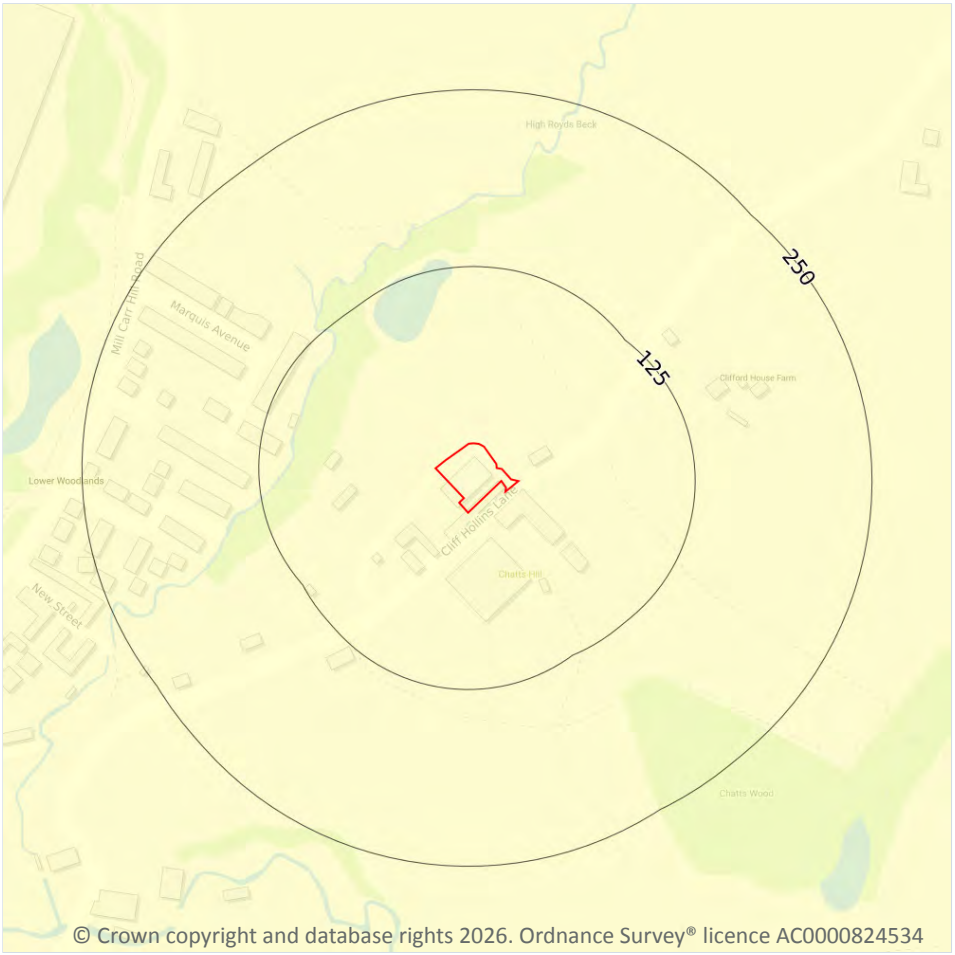
Features are displayed on the Natural ground subsidence - Landslides map on **page 105 >**

| 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.** |

| Location | Hazard rating | Details |
|---|---|---|
| 16m NE | Low | Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site. |
| 19m NW | Low | Slope instability problems may be present or anticipated. Site investigation should consider specifically the slope stability of the site. |

*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 |
|---|---|

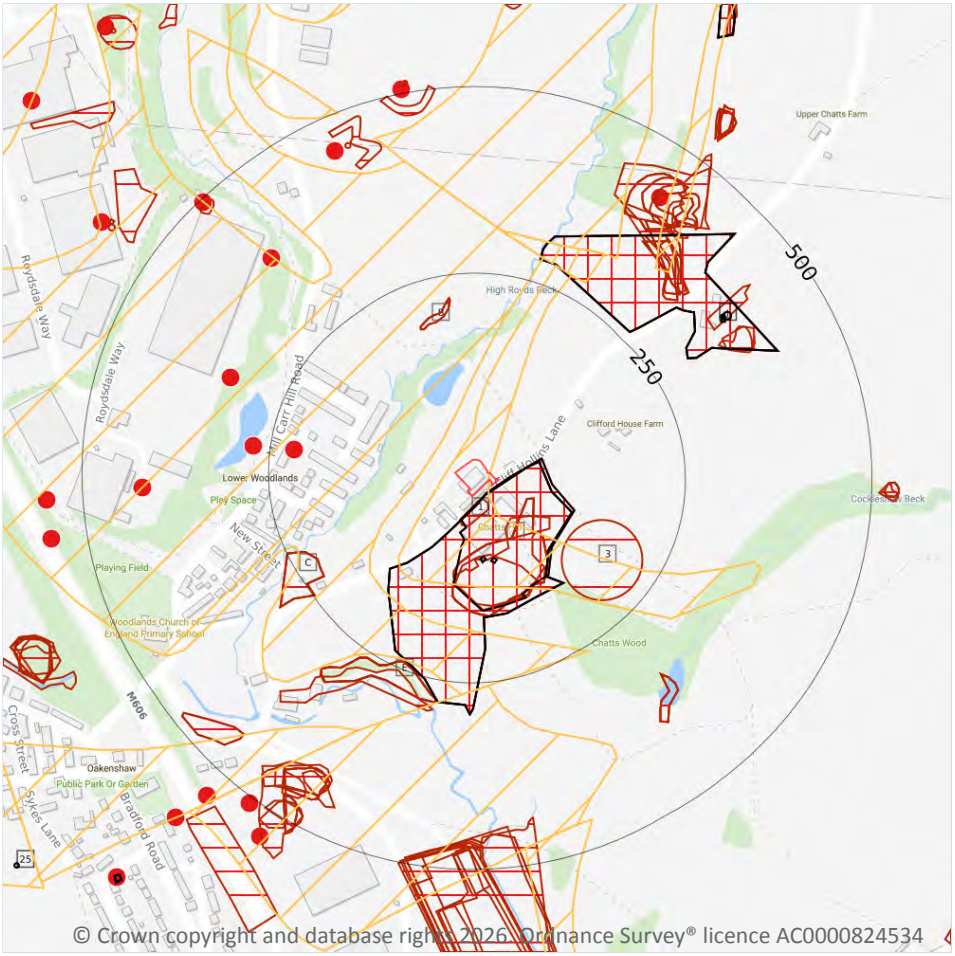
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 107 >**

| 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 | 15 |
|---|---|

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 109 >**

| ID | Location | Details | Description |
|---|---|---|---|
| D | 218m W | Name: Chatts Hill Pit<br>Address: Chatt's Wood, LEEDS, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| D | 218m W | Name: Chatts Hill Pit<br>Address: Chatt's Wood, LEEDS, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| G | 274m W | Name: Brook Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |

| ID | Location | Details | Description |
|---|---|---|---|
| G | 274m W | Name: Brook Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| H | 327m NW | Name: Croft Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| H | 327m NW | Name: Croft Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |

| ID | Location | Details | Description |
|---|---|---|---|
| K | 379m NW | Name: Olive Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| K | 379m NW | Name: Olive Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| N | 420m W | Name: Taylor's Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |

| ID | Location | Details | Description |
|---|---|---|---|
| N | 420m W | Name: Taylor's Pit<br>Address: Oakenshaw, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| F | 427m NE | Name: Clifford Pit No 7<br>Address: East Bierley, Birkenshaw, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| F | 427m NE | Name: Clifford Pit No 7<br>Address: East Bierley, Birkenshaw, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |

| ID | Location | Details | Description |
|---|---|---|---|
| M | 454m NW | Name: Hag Pit<br>Address: Bierley, BRADFORD, West Yorkshire<br>Commodity: Coal, Deep<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| M | 454m NW | Name: Hag Pit<br>Address: Bierley, BRADFORD, West Yorkshire<br>Commodity: Ironstone<br>Status: Ceased | Type: Working is wholly underground, access by shaft, adit, drift or incline. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun' Ee' - Scots). May also be locally termed `Quarry' or `Underground Quarry' when referring to sites extracting building stone (e.g. in Dorset and Wiltshire). The location given is that of the mine entrance and may be approximate for older sites shown on contemporaneous mapping by the Geological Survey used as the source document. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |
| R | 496m NW | Name: The Ruddings<br>Address: Woodhouse Hill, BRADFORD, West Yorkshire<br>Commodity: Sandstone<br>Status: Ceased | Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority. |

*This data is sourced from the British Geological Survey.*

## 18.2 Surface ground workings

| Records within 250m | 20 |
|---|---|

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 109 >**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 4m SE | Colliery | 1955 | 1:10560 |
| A | 6m SE | Colliery | 1948 | 1:10560 |
| A | 6m SE | Colliery | 1938 | 1:10560 |
| 1 | 10m SE | Unspecified Heap | 1905 | 1:10560 |
| A | 46m SE | Refuse Heap | 1948 | 1:10560 |
| A | 46m SE | Refuse Heap | 1938 | 1:10560 |
| A | 46m SE | Unspecified Disused Pit | 1905 | 1:10560 |
| A | 51m SE | Unspecified Heap | 1955 | 1:10560 |
| A | 67m S | Refuse Heap | 1892 | 1:10560 |
| A | 81m S | Refuse Heap | 1967 | 1:10560 |
| 3 | 122m SE | Unspecified Pit | 1892 | 1:10560 |
| B | 187m N | Unspecified Ground Workings | 1905 | 1:10560 |
| B | 187m N | Unspecified Ground Workings | 1892 | 1:10560 |
| C | 218m SW | Unspecified Quarry | 1948 | 1:10560 |
| C | 218m SW | Unspecified Quarry | 1938 | 1:10560 |
| C | 218m SW | Unspecified Quarry | 1905 | 1:10560 |
| E | 240m SW | Unspecified Pit | 1990 | 1:10000 |
| E | 240m SW | Unspecified Pit | 1983 | 1:10000 |
| E | 240m SW | Unspecified Pit | 1974 | 1:10000 |
| E | 240m SW | Unspecified Pit | 1967 | 1:10560 |

*This is data is sourced from Ordnance Survey®/Groundsure.*

## 18.3 Underground workings

| Records within 1000m | 41 |
|---|---|

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

Features are displayed on the Mining and ground workings map on **page 109 >**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 4m SE | Colliery | 1955 | 1:10560 |
| A | 6m SE | Colliery | 1948 | 1:10560 |
| A | 6m SE | Colliery | 1938 | 1:10560 |
| A | 82m S | Unspecified Old Shafts | 1938 | 1:10560 |
| A | 87m S | Unspecified Old Shafts | 1938 | 1:10560 |
| F | 263m NE | Colliery | 1948 | 1:10560 |
| F | 263m NE | Colliery | 1938 | 1:10560 |
| J | 365m NE | Unspecified Shaft | 1948 | 1:10560 |
| J | 369m NE | Unspecified Shaft | 1938 | 1:10560 |
| J | 372m NE | Unspecified Disused Shaft | 1974 | 1:10000 |
| J | 372m NE | Unspecified Disused Shaft | 1967 | 1:10560 |
| Z | 651m NE | Coal and Ironstone Pit | 1892 | 1:10560 |
| Z | 651m NE | Coal and Ironstone Pit | 1905 | 1:10560 |
| AA | 693m SW | Unspecified Old Shaft | 1955 | 1:10560 |
| AA | 694m SW | Unspecified Old Shaft | 1948 | 1:10560 |
| - | 759m NE | Disused Coal and Ironstone Pit | 1938 | 1:10560 |
| - | 760m NE | Air Shaft | 1905 | 1:10560 |
| - | 768m NE | Disused Coal and Ironstone Pit | 1955 | 1:10560 |
| - | 768m E | Unspecified Old Shaft | 1948 | 1:10560 |
| - | 772m E | Unspecified Old Shaft | 1955 | 1:10560 |
| - | 772m E | Unspecified Disused Shaft | 1990 | 1:10000 |
| - | 772m E | Unspecified Disused Shaft | 1983 | 1:10000 |
| - | 772m E | Unspecified Disused Shaft | 1974 | 1:10000 |

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| - | 772m E | Unspecified Disused Shaft | 1967 | 1:10560 |
| 25 | 782m SW | Unspecified Old Shaft | 1905 | 1:10560 |
| - | 843m NE | Air Shaft | 1938 | 1:10560 |
| - | 844m NE | Air Shaft | 1955 | 1:10560 |
| - | 856m NE | Unspecified Old Shaft | 1938 | 1:10560 |
| - | 858m NE | Unspecified Old Shaft | 1955 | 1:10560 |
| - | 863m NE | Unspecified Disused Shaft | 1974 | 1:10000 |
| - | 884m E | Air Shafts | 1948 | 1:10560 |
| - | 884m E | Air Shafts | 1938 | 1:10560 |
| - | 886m E | Air Shafts | 1955 | 1:10560 |
| - | 896m SE | Unspecified Old Shafts | 1948 | 1:10560 |
| - | 896m SE | Unspecified Old Shafts | 1938 | 1:10560 |
| - | 896m SE | Unspecified Old Shafts | 1955 | 1:10560 |
| - | 896m SE | Unspecified Disused Shaft | 1967 | 1:10560 |
| - | 897m SE | Unspecified Old Shafts | 1955 | 1:10560 |
| - | 902m E | Air Shafts | 1948 | 1:10560 |
| - | 902m E | Air Shafts | 1938 | 1:10560 |
| - | 906m E | Air Shafts | 1955 | 1:10560 |

*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 | 0 |
|---|---|

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.

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

| Records within 1000m | 20 |
|---|---|

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 109 >**

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| **A** | **On site** | **Leeds/Bradford area** | **Iron Ore (Bedded)** | **B** | **Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.** |
| 2 | 38m NW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 4 | 255m S | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 5 | 277m NE | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 6 | 282m N | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| 7 | 306m N | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 8 | 349m SW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 9 | 349m NE | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 10 | 462m S | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 11 | 498m N | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 16 | 621m NW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 17 | 622m N | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 704m SW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| 21 | 721m SW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |

| ID | Location | Name | Commodity | Class | Likelihood |
|---|---|---|---|---|---|
| 22 | 741m NW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 755m E | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 758m W | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 953m E | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 985m NW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered. |
| - | 985m NW | Leeds/Bradford area | Iron Ore (Bedded) | B | Underground mine workings may have occurred in the past or current mines may be working at significant depth to modern engineering standards. 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 | 4 |
|---|---|

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 |
|---|---|
| 124m W | Metals |
| 487m N | Metals |
| 487m N | Metals |
| 495m N | Metals |

*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 | 4 |
|---|---|

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 |
|---|---|
| 178m W | Ironstone |
| 204m NW | Ironstone |
| 205m W | Ironstone |
| 238m S | Coal |

*This data is sourced from Groundsure.*

## 18.12 Coal mining

| Records on site | 1 |
|---|---|

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

| Location | Details |
|---|---|
| **On site** | **The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.** |

*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

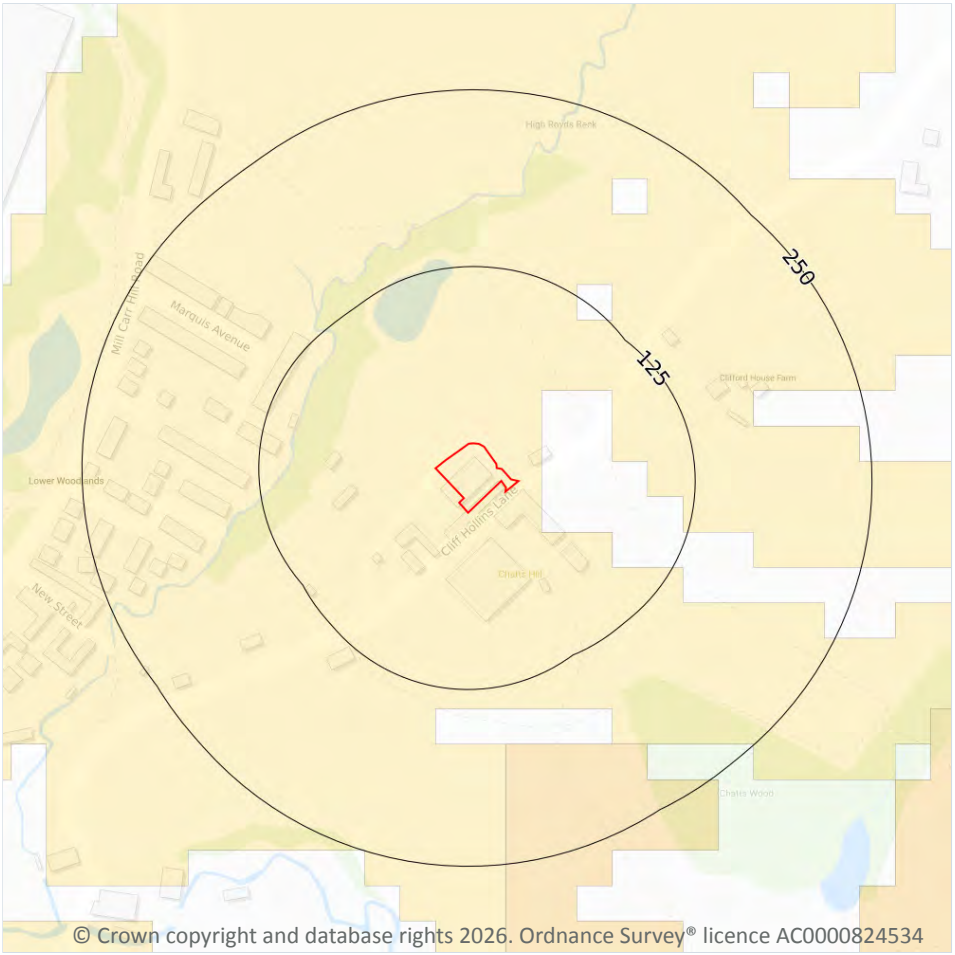
| Records within 500m | 0 |
|---|---|

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.*

# 20 Radon




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 126 >**

| Location | Estimated properties affected | Radon Protection Measures required |
|---|---|---|
| **On site** | **Between 1% and 3%** | **None** |

*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 | 5 |
|---|---|

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** | **35 - 45 mg/kg** | **No data** | **100 - 200 mg/kg** | **60 - 120 mg/kg** | **1.8 mg/kg** | **90 - 120 mg/kg** | **15 - 30 mg/kg** |
| **On site** | **35 - 45 mg/kg** | **No data** | **100 - 200 mg/kg** | **60 - 120 mg/kg** | **1.8 mg/kg** | **90 - 120 mg/kg** | **15 - 30 mg/kg** |
| 10m NW | 35 - 45 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 90 - 120 mg/kg | 15 - 30 mg/kg |
| 16m E | 45 - 60 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 60 - 90 mg/kg | 15 - 30 mg/kg |
| 38m NW | 35 - 45 mg/kg | No data | 100 - 200 mg/kg | 60 - 120 mg/kg | 1.8 mg/kg | 90 - 120 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.*

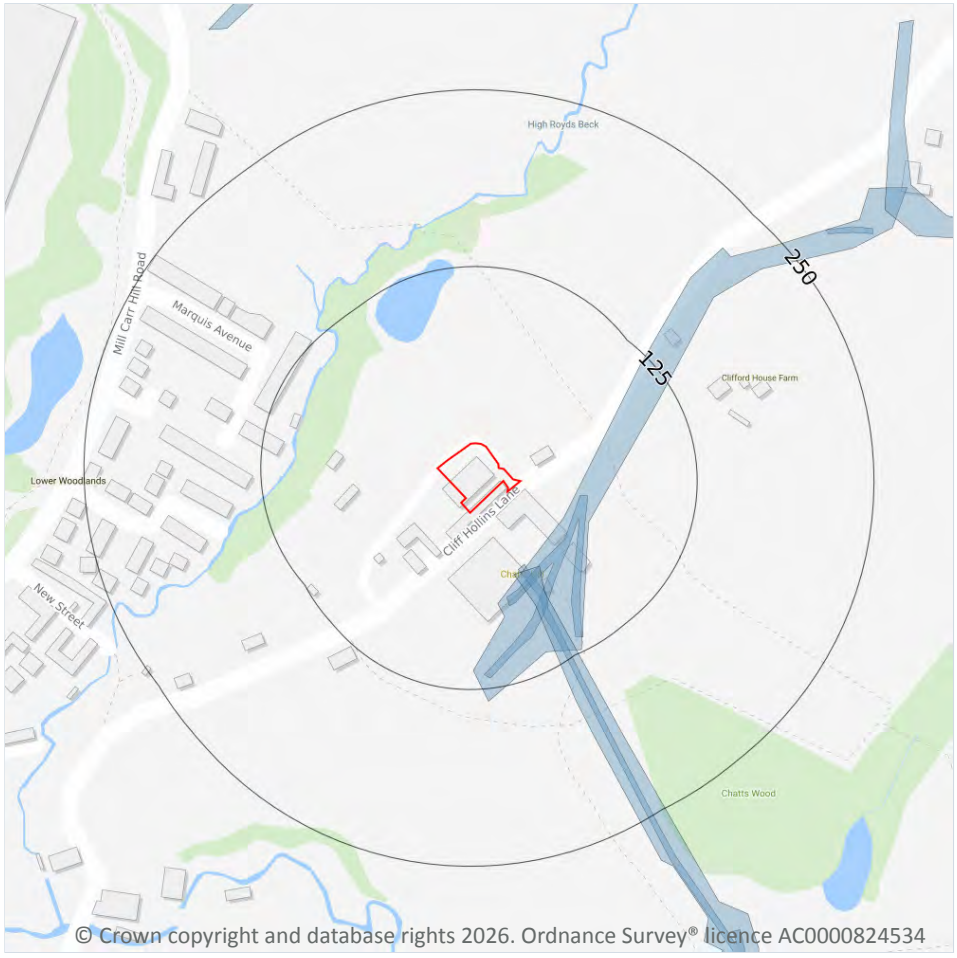
## 21.3 BGS Measured Urban Soil Chemistry

| 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




Site Outline

Search buffers in metres (m)

- 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 | 4 |
|---|---|

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 130 >**

| Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|
| 39m SE | Railway Sidings | 1892 | 10560 |
| 43m E | Railway Sidings | 1893 | 2500 |
| 53m S | Tramway Sidings | 1933 | 2500 |
| 54m SE | Tramway Sidings | 1938 | 10560 |

*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 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.*

## 22.9 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 ↗.

## Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-conditions-april-2026/ ↗.

# Appendix 4

## Photographs



Photo 1: Image shows southwest corner of the existing barn.



Photo 2: Image shows embankment on north boundary of the barn.



Photo 3: Image shows the eastern end of the barn.



Photo 4: Image shows stables adjacent to southern boundary of the barn.


Rogers Geotechnical Services Ltd

Offices 1 & 2, Barncliffe Business Park,
Near Bank, Shelley,
Huddersfield,


**Job No:**

C5994/26/E/9289

**Site:**

Lower Chatts Farm,
Cliff Hollins Lane,
Bradford,
West Yorkshire,
BD12 7ET

**Client:**

HCP Properties


ground investigation | drilling & excavation | insitu testing
laboratory testing & gas monitoring | engineering consultancy
surveying & flood risk assessments | training, CPD & expert witness
... delivered using our own drilling rigs / crews / soils lab / engineers

# Appendix 5

## Consultants Coal Mining Report

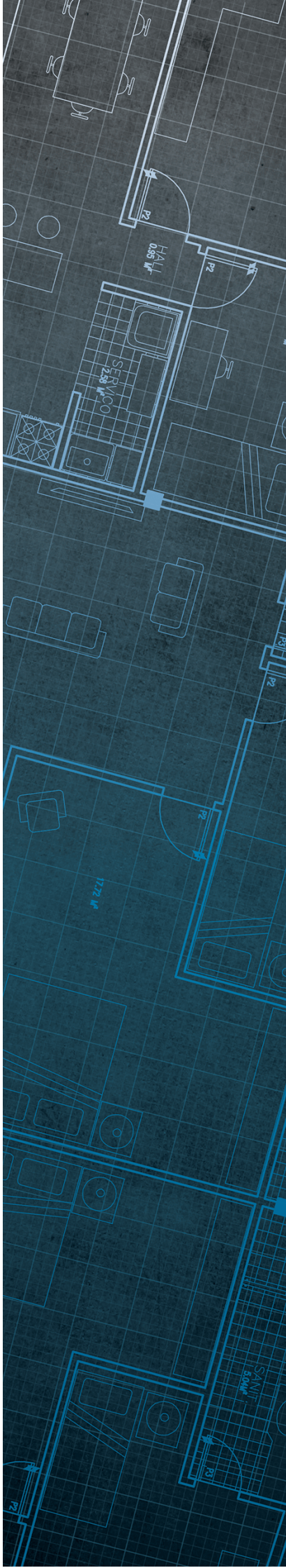
The Coal Authority

# Consultants

## Coal Mining Report

Lower Chatts Farm
Cliff Hollins Lane
East Bierley
Bradford
Kirklees
BD12 7ET

| | |
|---|---|
| Date of enquiry: | **15 May 2026** |
| Date enquiry received: | **15 May 2026** |
| Issue date: | **15 May 2026** |
| Our reference: | **51003570779001** |
| Your reference: | **C5994/26/9289 - PO-3838** |



# Consultants
# Coal Mining Report

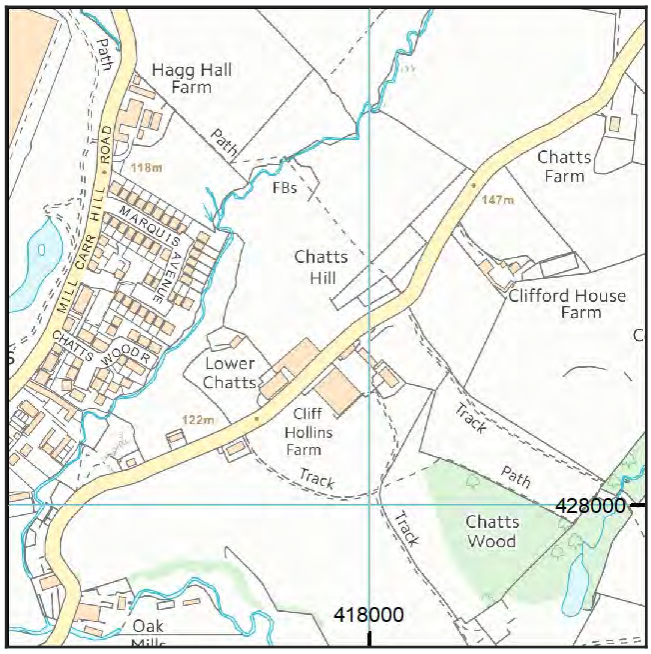
This report is based on and limited to the records held by the Coal Authority at the time the report was produced.

**Client name**

ROGERS GEOTECHNICAL SERVICES LTD

**Enquiry address**

Lower Chatts Farm
Cliff Hollins Lane
East Bierley
Bradford
Kirklees
BD12 7ET




Approximate position of property

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200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

reports@miningremediation.gov.uk

# Section 1 – Mining activity and geology

## Past underground mining

| Colliery | Seam | Mineral | Coal Authority reference | Depth (m) | Direction to working | Dipping rate of seam worked (degrees) | Dipped direction of seam worked | Extraction thickness (cm) | Year last mined |
|---|---|---|---|---|---|---|---|---|---|
| unnamed | BLACK BED | Coal | 6O20 | 43 | East | 1.6 | East | 74 | 1894 |
| unnamed | BLACK BED | Coal | 6G9I | 77 | Beneath Property | 1.9 | East | 216 | 1861 |
| unnamed | BETTER BED | Coal | 6G9J | 108 | Beneath Property | 3.3 | South-East | 66 | 1888 |
| unnamed | BETTER BED | Coal | 6O24 | 109 | East | 0.2 | South-East | 53 | 1862 |

## Probable unrecorded shallow workings

Yes.

## Spine roadways at shallow depth

No spine roadway recorded at shallow depth.

## Mine entries

| Entry type | Reference | Grid reference | Treatment description | Mineral | Conveyancing details |
|---|---|---|---|---|---|
| Shaft | 417428-011 | 417968 428084 | was filled to an unknown specification c.1938. | Coal | |
| Shaft | 417428-012 | 417984 428083 | Treatment details unknown.* | Coal | |
| Shaft | 417428-013 | 417995 428091 | was filled to an unknown specification c.1938. | Coal | |
| Shaft | 418428-020 | 418040 428147 | Treatment details unknown.* | Coal | |
| Adit | 418428-021 | 418052 428137 | Treatment details unknown.* | Coal | |

*For your information, before the coal industry was nationalised in 1947, there was no requirement for a mine operator to record mine entry treatment details when a mine was abandoned. Therefore, it is not unusual for us to have no treatment details for many of the 176,000 recorded mine entries on our database. Despite this lack of information, please be assured that the fact we have no treatment recorded does not necessarily mean that the mine entries were left untreated when abandoned.

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## Abandoned mine plan catalogue numbers

The following abandoned mine plan catalogue numbers intersect with some, or all, of the enquiry boundary:

| | | |
|---|---|---|
| GCR49 | 6965 | M31 |
| GCR26 | 5069 | GCR53 |
| 5076 | LM55 | 8265 |

Our records show we have more plans than those shown above which could affect the enquiry boundary.

For assistance in identifying the specific abandoned mine plans relevant to your requirements, **please contact us at InformationManagers@MiningRemediation.gov.uk**.

## Outcrops

| Seam name | Mineral | Seam workable | Distance to outcrop (m) | Direction to outcrop | Bearing of outcrop |
|---|---|---|---|---|---|
| WHINMOOR | Coal | Yes | Within | N/A | 126 |

## Geological faults, fissures and breaklines

No faults, fissures or breaklines recorded.

## Opencast mines

None recorded within 500 metres of the enquiry boundary.

## Coal Authority managed tips

None recorded within 500 metres of the enquiry boundary.

# Section 2 – Investigative or remedial activity

Please refer to the 'Summary of findings' map (on separate sheet) for details of any activity within the area of the site boundary.

### Site investigations
None recorded within 50 metres of the enquiry boundary.

### Remediated sites
None recorded within 50 metres of the enquiry boundary.

### Coal mining subsidence
The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

### Mine gas
None recorded within 500 metres of the enquiry boundary.

### Mine water treatment schemes
None recorded within 500 metres of the enquiry boundary.

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# Section 3 – Licensing and future mining activity

### Future underground mining
None recorded.

### Coal mining licensing
None recorded within 200 metres of the enquiry boundary.

### Court orders
None recorded.

### Section 46 notices
No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

### Withdrawal of support notices
The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

### Payments to owners of former copyhold land
The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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# Section 4 – Further information

The following potential risks have been identified and as part of your risk assessment should be investigated further.

### Future development

If development proposals are being considered, technical advice relating to both the investigation of coal and former coal mines and their treatment should be obtained before beginning work on site. All proposals should apply specialist engineering practice required for former mining areas. No development should be undertaken that intersects, disturbs or interferes with any coal or coal mines without first obtaining the permission of the Coal Authority.

**MINE GAS:** Please note, if there are no recorded instances of mine gas within 500m of the enquiry boundary, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded. Developers should be aware that the investigation of coal seams, mine workings or mine entries may have the potential to generate and/or displace underground gases. Associated risks both to the development site and any neighbouring land or properties should be fully considered when undertaking any ground works. The need for effective measures to prevent gases migrating onto any land or into any properties, either during investigation or remediation work, or after development must also be assessed and properly addressed. In these instances, the Coal Authority recommends that a more detailed Gas Risk Assessment is undertaken by a competent assessor.

### Development advice

The site is within an area of historical coal mining activity. Should you require advice and/or support on understanding the mining legacy, its risks to your development or what next steps you need to take, please contact us.

**For further information on specific site or ground investigations in relation to any issues raised in Section 4, please email us at reports@miningremediation.gov.uk.**

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# Section 5 – Data definitions

The datasets used in this report have limitations and assumptions within their results. For more guidance on the data and the results specific to the enquiry boundary, please **email us at reports@miningremediation.gov.uk.**

### Past underground coal mining

Details of all recorded underground mining relative to the enquiry boundary. Only past underground workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination, will be included.

### Probable unrecorded shallow workings

Areas where the Coal Authority believes there to be unrecorded coal workings that exist at or close to the surface (less than 30 metres deep).

### Spine roadways at shallow depth

Connecting roadways either, working to working, or, surface to working, both in-seam and cross measures that exist at or close to the surface (less than 30 metres deep), either within or within 10 metres of the enquiry boundary.

### Mine entries

Details of any shaft or adit either within, or within 100 metres of the enquiry boundary including approximate location, brief treatment details where known, the mineral worked from the mine entry and conveyance details where the mine entry has previously been sold by the Authority or its predecessors British Coal or the National Coal Board.

### Abandoned mine plan catalogue numbers

Plan numbers extracted from the abandoned mines catalogue containing details of coal and other mineral abandonment plans deposited via the Mines Inspectorate in accordance with the Coal Mines Regulation Act and Metalliferous Mines Regulation Act 1872. A maximum of 9 plan extents that intersect with the enquiry boundary will be included. This does not infer that the workings and/or mine entries shown on the abandonment plan will be relevant to the site/property boundary.

### Outcrops

Details of seam outcrops will be included where the enquiry boundary intersects with a conjectured or actual seam outcrop location (derived by either the British Geological Survey or the Coal Authority) or intersects with a defined 50 metres buffer on the coal (dip) side of the outcrop. An indication of whether the Coal Authority believes the seam to be of sufficient thickness and/or quality to have been worked will also be included.

### Geological faults, fissures and breaklines

Geological disturbances or fractures in the bedrock. Surface fault lines (British Geological Survey derived data) and fissures and breaklines (Coal Authority derived data) intersecting with the enquiry boundary will be included. In some circumstances faults, fissures or breaklines have been known to contribute to surface subsidence damage as a consequence of underground coal mining.

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### Opencast mines
Opencast coal sites from which coal has been removed in the past by opencast (surface) methods and where the enquiry boundary is within 500 metres of either the licence area, site boundary, excavation area (high wall) or coaling area.

### Coal Authority managed tips
Locations of disused colliery tip sites owned and managed by the Coal Authority, located within 500 metres of the enquiry boundary.

### Site investigations
Details of site investigations within 50 metres of the enquiry boundary where the Coal Authority has received information relating to coal mining risk investigation and/or remediation by third parties.

### Remediated sites
Sites where the Coal Authority has undertaken remedial works either within or within 50 metres of the enquiry boundary following report of a hazard relating to coal mining under the Coal Authority's Emergency Surface Hazard Call Out procedures.

### Coal mining subsidence
Details of alleged coal mining subsidence claims made since 31 October 1994 either within or within 50 metres of the enquiry boundary. Where the claim relates to the enquiry boundary confirmation of whether the claim was accepted, rejected or whether liability is still being determined will be given. Where the claim has been discharged, whether this was by repair, payment of compensation or a combination of both, the value of the claim, where known, will also be given.

Details of any current 'Stop Notice' deferring remedial works or repairs affecting the property/site, and if so the date of the notice.

Details of any request made to execute preventative works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991. If yes, whether any person withheld consent or failed to comply with any request to execute preventative works.

### Mine gas
Reports of alleged mine gas emissions received by the Coal Authority, either within or within 500 metres of the enquiry boundary that subsequently required investigation and action by the Coal Authority to mitigate the effects of the mine gas emission. Please note, if there are no recorded instances of mine gas reported, this does not mean that mine gas is not present within the vicinity. The Coal Authority Mine Gas data is limited to only those sites where a Mine Gas incident has been recorded.

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### Mine water treatment schemes
Locations where the Coal Authority has constructed or operates assets that remove pollutants from mine water prior to the treated mine water being discharged into the receiving water body.

These schemes are part of the UK's strategy to meet the requirements of the Water Framework Directive. Schemes fall into 2 basic categories: Remedial – mitigating the impact of existing pollution or Preventative – preventing a future pollution incident.

Mine water treatment schemes generally consist of one or more primary settlement lagoons and one or more reed beds for secondary treatment. A small number are more specialised process treatment plants.

### Future underground mining
Details of all planned underground mining relative to the enquiry boundary. Only those future workings where the enquiry boundary is within 0.7 times the depth of the workings (zone of likely physical influence) allowing for seam inclination will be included.

### Coal mining licensing
Details of all licenses issued by the Coal Authority either within or within 200 metres of the enquiry boundary in relation to the under taking of surface coal mining, underground coal mining or underground coal gasification.

### Court orders
Orders in respect of the working of coal under the Mines (Working Facilities and Support) Acts of 1923 and 1966 or any statutory modification or amendment thereof.

### Section 46 notices
Notice of proposals relating to underground coal mining operations that have been given under section 46 of the Coal Mining Subsidence Act 1991.

### Withdrawal of support notices
Published notices of entitlement to withdraw support and the date of the notice. Details of any revocation notice withdrawing the entitlement to withdraw support given under Section 41 of the Coal Industry Act 1994.

### Payment to owners of former copyhold land
Relevant notices which may affect the property and any subsequent notice of retained interests in coal and coal mines, acceptance or rejection notices and whether any compensation has been paid to a claimant.

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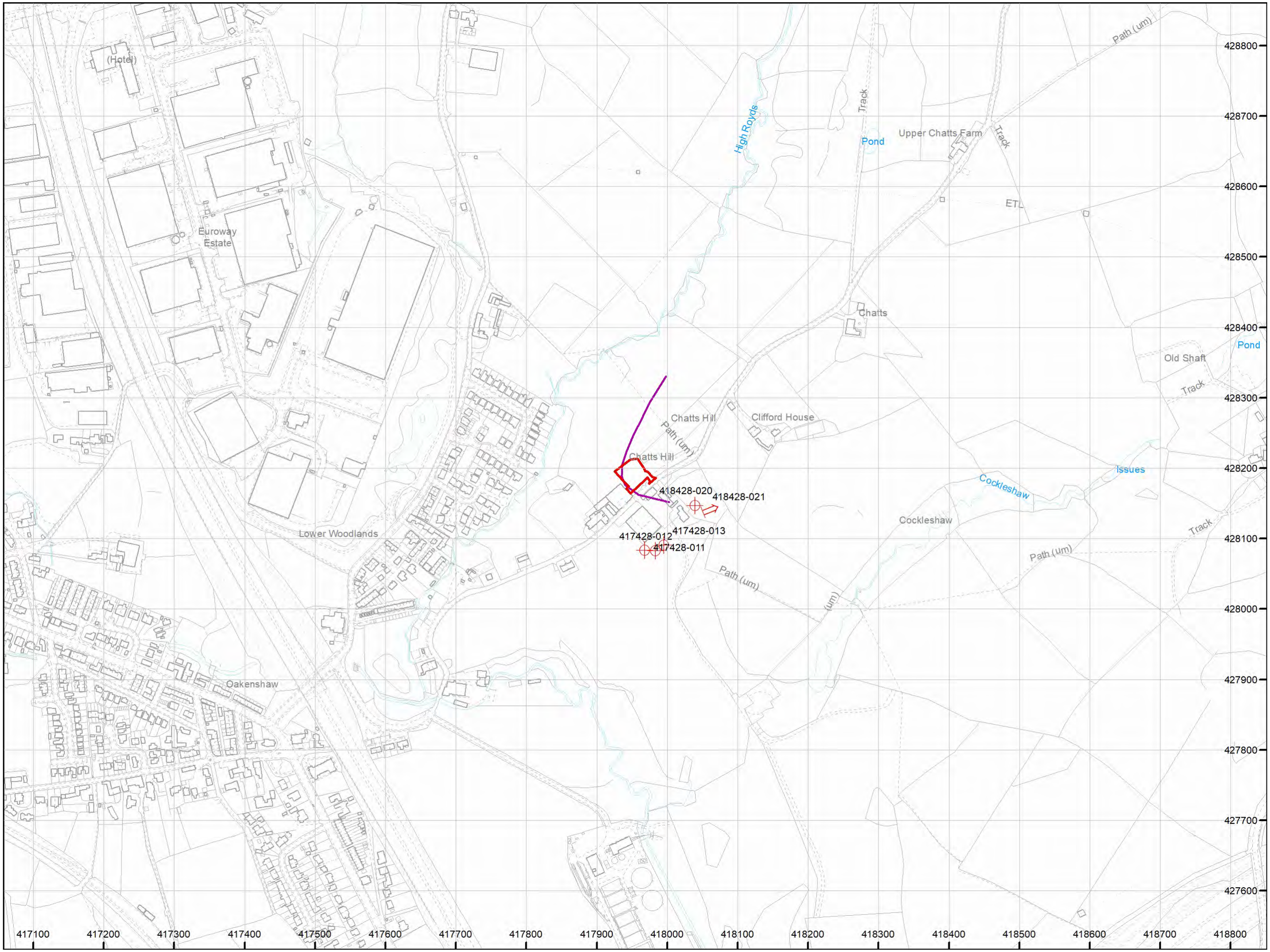
# Summary of findings

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The map highlights any specific surface or subsurface features within or near to the boundary of the site.

## Key

- Approximate position of the enquiry boundary shown
- Disused mine shaft
- Disused adit
- Outcrop (Proven)




**How to contact us**
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