



EARTH ENVIRONMENTAL
& GEOTECHNICAL

Phase I Desk Study Report

Further Red Lumb
Rochdale

June 2024

On behalf of
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1.0 INTRODUCTION

1.1 APPOINTMENT

Earth Environmental & Geotechnical Ltd (EEG) have been commissioned by Everhaus Limited to undertake a Phase I GeoEnvironmental Desk Study for land at Further Red Lumb, Red Lumb Street, Rochdale OL12 7TX.

This study has been commissioned in relation to the proposed development of a single storey dwelling with soft landscaping.

1.2 OBJECTIVE

The purpose of the Desk Study is to collate available geological and environmental data for the site (and its environment) and provide a preliminary geotechnical and geo-environmental appraisal, with a site-specific conceptual site model. This enables a preliminary assessment of geo-environmental risks to be undertaken and, if necessary, provides information for the design of a Phase II Ground Investigation.

1.3 SCOPE

The Phase I GeoEnvironmental Desk Study comprises a review of the following information sources, which may have been provided by the client:

- British Geological Survey online maps.
- Google Earth aerial imagery.
- Environment Agency (EA) online mapping data
- UXO Risk Maps supplied by Zetica Ltd (Appendix 2).
- Ecological, Archaeological and other relevant environmental data by reference to the Department for Environmental, Food and Rural Affairs (DEFRA) MAGIC website.
- Historical Ordnance Survey maps provided by Landmark (Appendix 1).
- The site and surrounding areas environmental and geological data presented in the site-specific Groundsure Report provided by Landmark (Appendix 1).
- Coal Authority Interactive Viewer.
- Consultants Coal Mining Report.

2.0 SITE LOCATION & DESCRIPTION

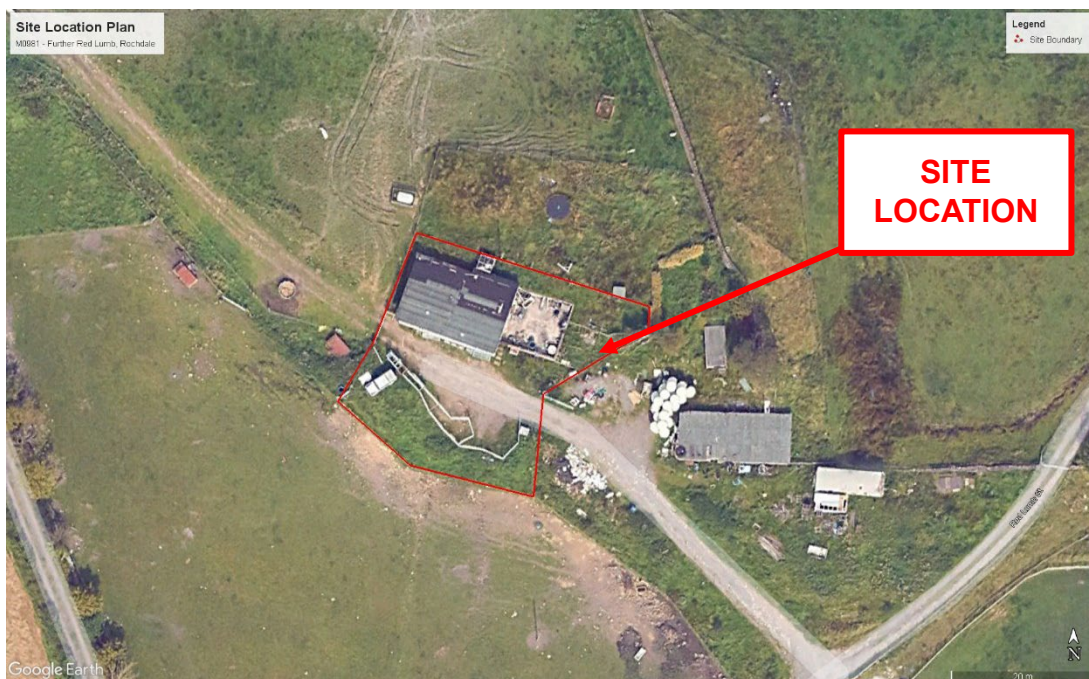
The site area is located to the northwest of Further Red Lumb Farm, Red Lumb Street, Rochdale with the nearest postcode being OL12 7TX.

The approximate National Grid Reference for the centre of the site is X: 384391, Y: 415893. The site is accessed from the southeast from Edenfield Road via Overtown Lane and Red Lumb Street.

The immediate surrounding areas comprise of agricultural land. Farm buildings are located east of the site, with farmsteads located further south, east and west.

A site location plan is shown overleaf as Figure 1.

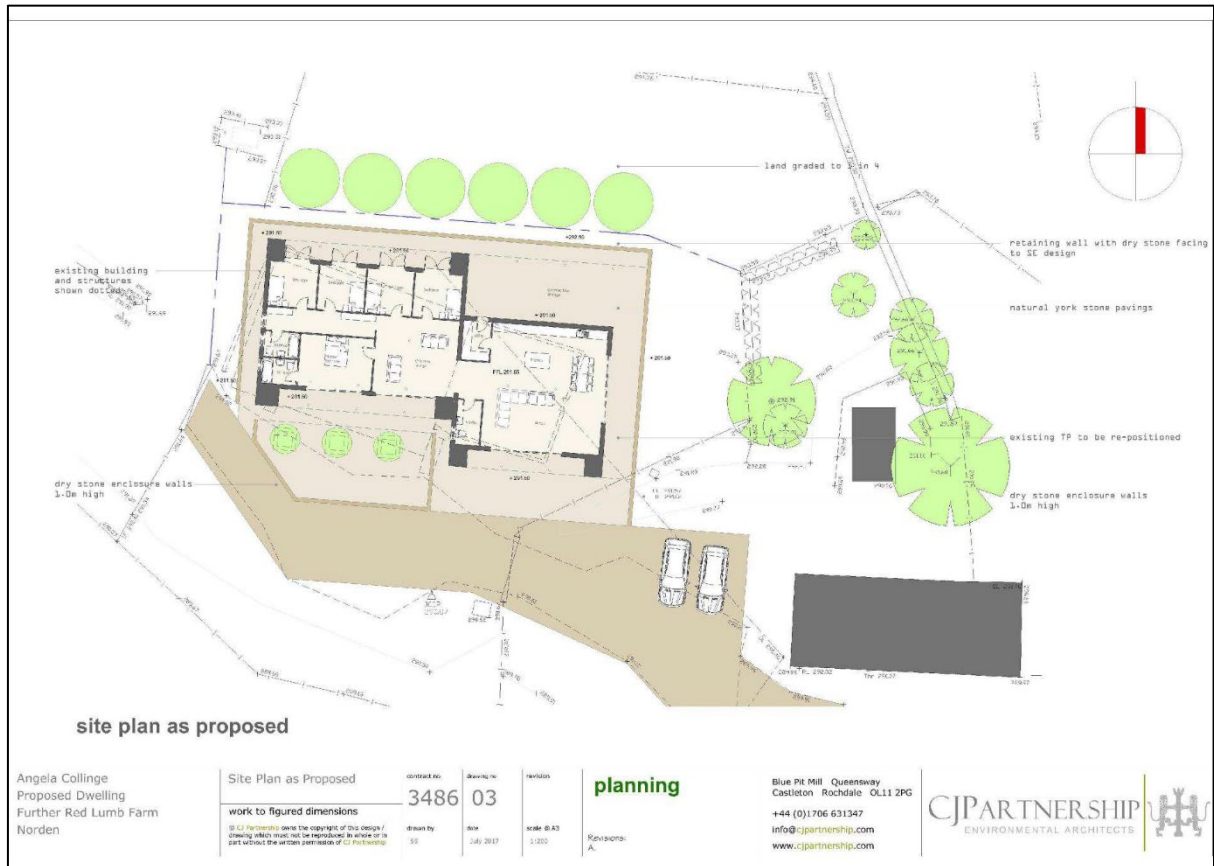
Figure 1 Site Location Plan



2.1 PROPOSED PLANS

The client intends to construct a single storey dwelling with soft landscaping, See figure 2, overleaf.

Figure 2 Proposed Site Plan



3.0 SITE HISTORY

The historical development of the site has been determined by reference historical plans and Google Earth aerial imagery. The reviewed historical plans comprise only readily available records, and therefore may be limited in detail. However, the information available to date indicates that additional searches are unlikely to add to our understanding of the site.

The earliest available historical mapping covering the site dates to 1857. In general, only surrounding historical land uses within 250m of the site and of environmental significance are reported.

The site and significant surrounding land use history is summarised in Table 1, below, followed by selected extracts from the OS historical maps and Google Earth aerial imagery.

Table 1: Summary of Site History

Date	On-Site History	Surrounding Land Use History
1857 1:10,560	Site comprises undeveloped agricultural land with an unnamed road and tree line marking the eastern boundary of the site.	The site is located in village of Great Smeaton with buildings located from 15m - 200m south of the site and 15m - 400m west of the site. A well is located 60m northwest of the site. A spring is located 450m west of the site. A pump is located 200m southeast of the site.
1892-1893 1:10,560 & 1893 1:2,500	A building appears to be located on the southern boundary of the site; however later maps show the building moves so is likely a scaling error with the maps. The unnamed road located on the site possibly provides access to the pit noted to the north of the site.	Pumps are located 60m and 70m south, 110m and 140m west, 220m north of the site. Smithy located 240m west of the site. Creamery located 200m southwest of the site. Ponds located 240m southeast and 230m east of the site. Pit located 120m south of the site.

Date	On-Site History	Surrounding Land Use History
1851 1:10,560	The site is undeveloped and comprises of agricultural land. A track runs along the south of the site.	Building located 10m southeast of the site. Coal pits located 100m, 130m northeast, 300m west of the site. Well located 110m south of the site.
1890-1891 1:10,560 & 1890-1891 1:2,500	No Significant Changes.	Watercourse located 50m north of the site, running east to west. Pit located 90m northwest of the site with associated building 100m northwest. Building located 100m northeast of the site. Buildings located 130m south and west of the site. Watercourse located 170m east of the site running north to south.
1908-1909 1:10,560 & 1910 1:2,500	No Significant Changes.	Watercourse located 70m north of the site. Track runs 60m east of the site running south to north from Red Lumb. Heap located 250m southeast of the site.
1928-1949 1:10,560 & 1929 2:2,500	No Significant Changes.	Well located 250m northwest of the site. Watercourse located 60m west of the site running north to south. Buildings located 10m east of the site removed, building still located 20m east of the site.
1967-1968 1:10,560 & 1962-1969 1:2,500	No Significant Changes.	Spring located 60m west of the site. Water Issues located 90-60m northeast to east of the site. Water Sinks located 80m northwest of the site. Watercourses 60m north of the site as Issues. Track located 50m west of the site running south to north.

Date	On-Site History	Surrounding Land Use History
		Building located 110m west of the site.
1983-1987 1:10,000	No Significant Changes.	
1992 1:10,000 & 1992 1:2,500	No Significant Changes.	Farm buildings located 100m northwest, 80m east, 100m east and 130m south and southeast of the site.
2001 1:10,000 & 2003 1:1,250	No Significant Changes.	
2010 1:10,000	No Significant Changes.	
2024 1:10,000	Building located on the northwest of the site.	No Significant Changes.
2012 Aerial Imagery	The site comprises of a larger and smaller building, with a garden area and potential storage to the east of the larger building. A track cuts through the centre of the site.	The area to the north, south and west comprises undeveloped agricultural land, with three buildings located 20-50m east of the site. Farms are located further east and west of the site.
2019 Aerial Imagery	Only the larger building remains onsite, and the track has been widened to the south of the building. The garden has expanded north of the site. Areas onsite look to be used for storage.	Two of the buildings 20-50m east of the site have been removed, small caravans/containers are located in this area.

Figure 3 Historical OS Map Extract: 1851

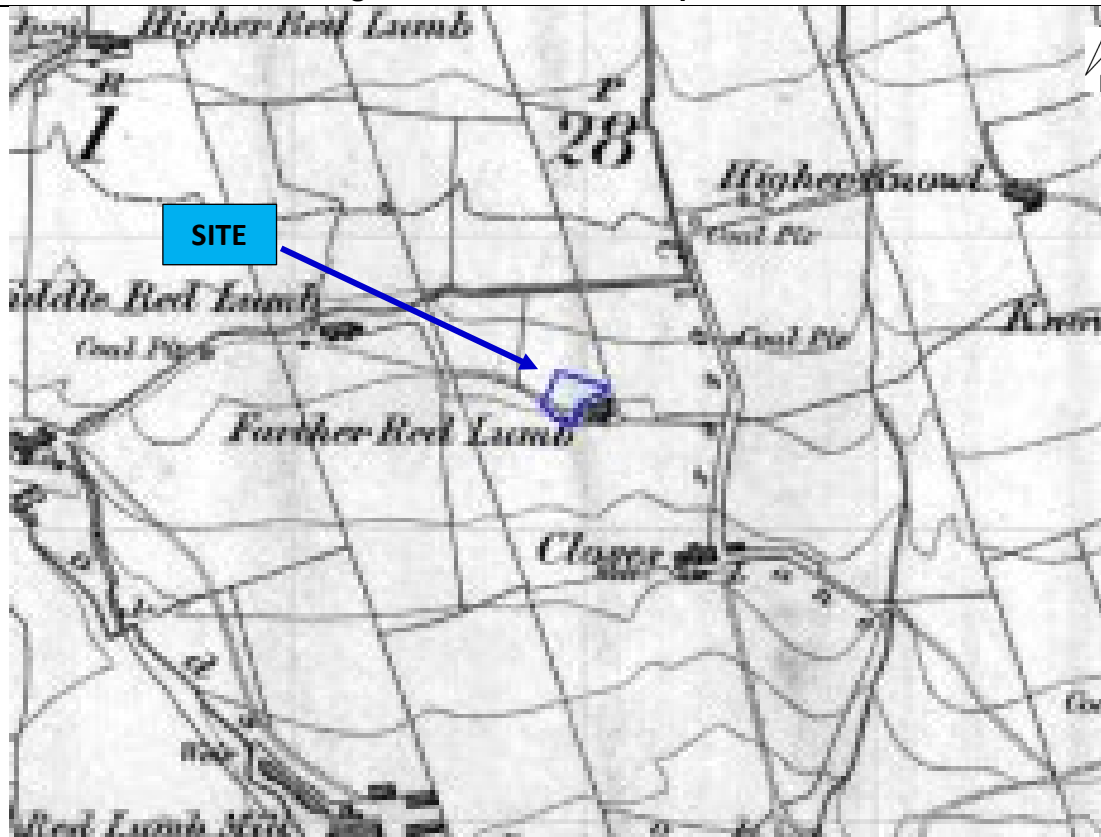


Figure 4 Historical OS Map Extract: 1962

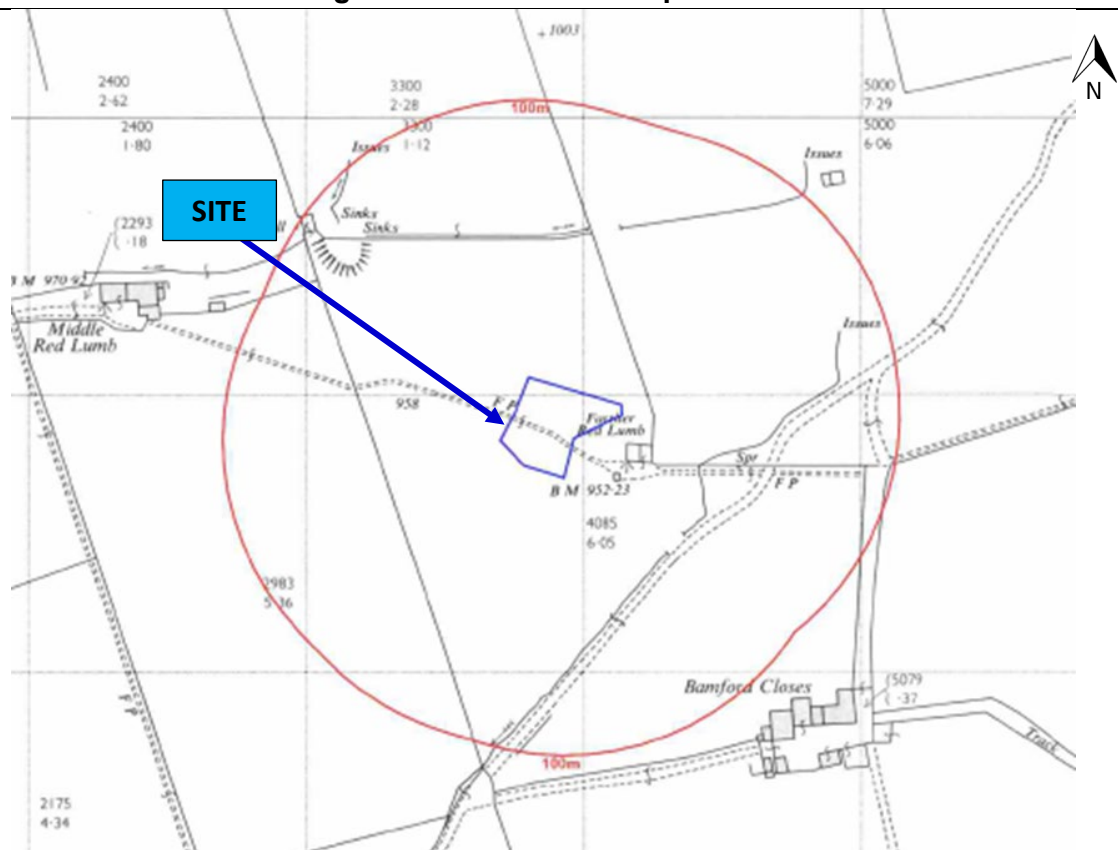


Figure 5 Historical OS Map Extract: 1992

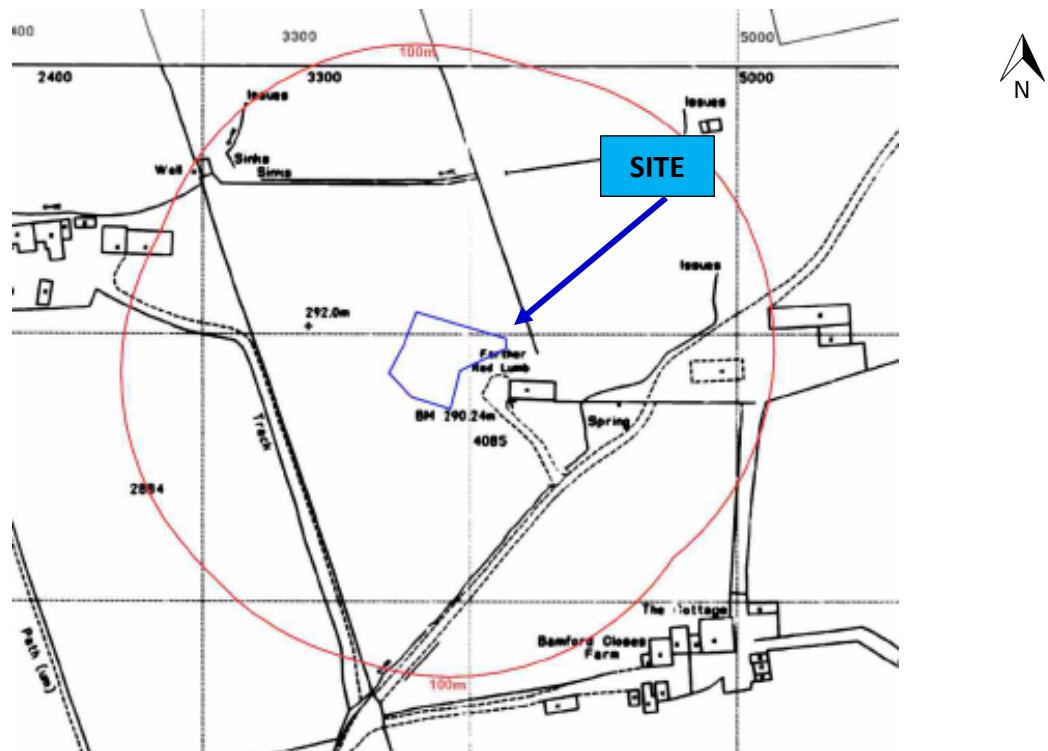


Figure 6 OS Raster Map Extract: 2010



Figure 7 Getmapping Aerial Photograph: 2018

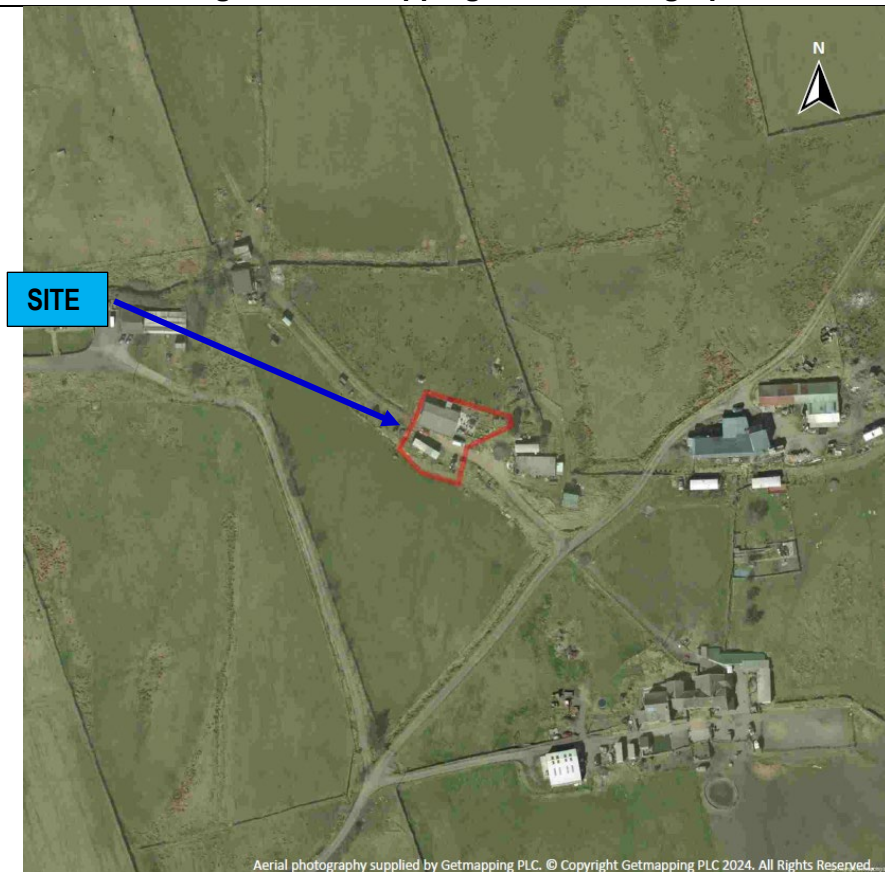
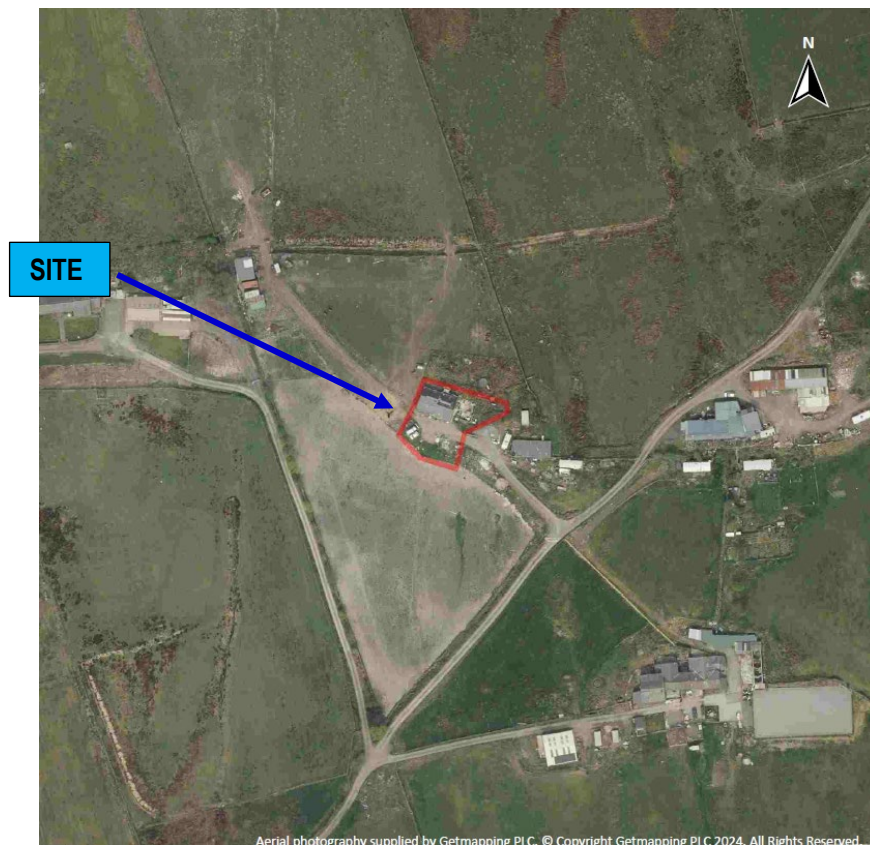


Figure 8 Getmapping Earth Aerial Photograph: 2023



4.0 ENVIRONMENTAL & GEOLOGICAL SETTING

The geology of the site is covered by British Geological Survey (BGS) online data and the site-specific Groundsure Report (Appendix 1).

Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site-specific Groundsure report (Appendix 1)

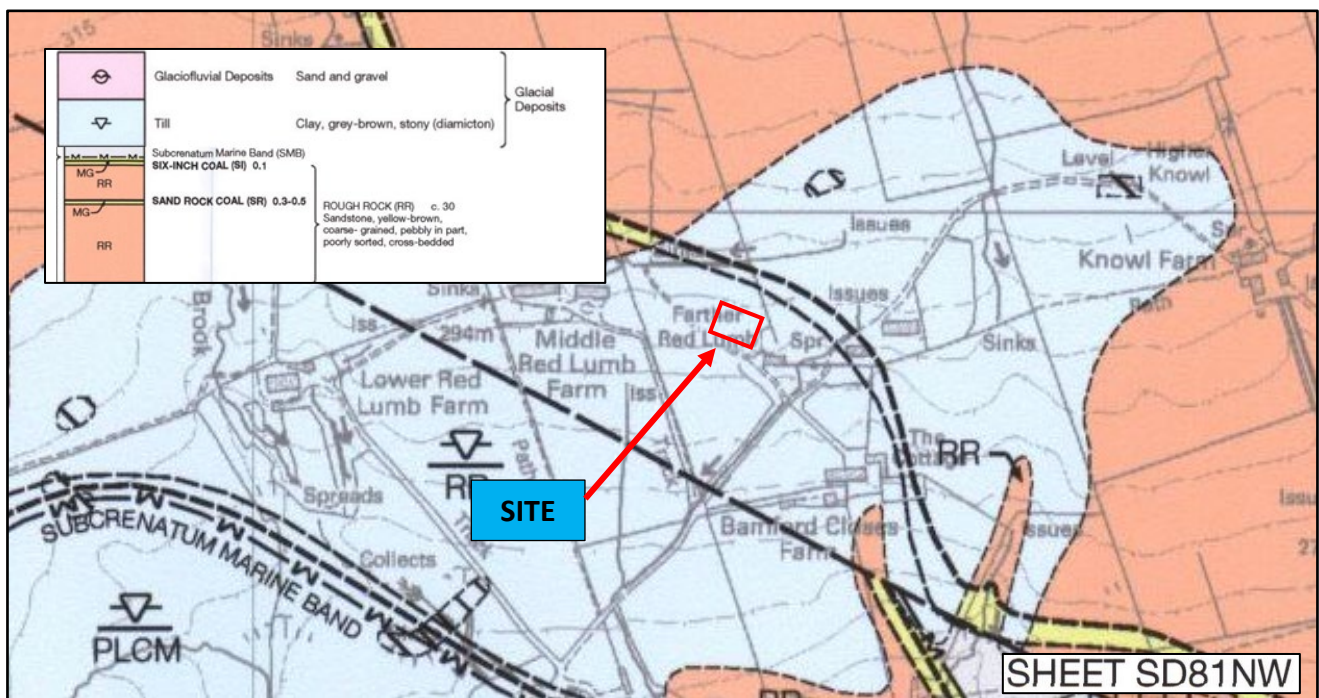
4.1 GEOLOGY

The BGS indicates that the site is underlain by Superficial Deposits of Till, Devensian – Diamicton.

The BGS indicates that the Bedrock geology beneath the site comprises Sandstone of the Rough Rock.

There is one recorded area of Made Ground relating 123m northeast of the site as Made Ground (Undivided) Artificial Deposit.

Figure 9: BGS Map 1:10,000 (Sheet SD81NW)



There are no BGS boreholes recorded within 250m of the site.

The ground stability hazards concerning the site are detailed below in Table 2:

Table 2: Ground Stability Hazards of the Site

Ground Conditions	Recorded Risk within the Site Area
Collapsible Ground	Very Low
Compressible Ground	Negligible
Ground Dissolution	Negligible
Landslides	Low
Running Sand	Very Low
Shrinking/Swelling of Clay	Very Low

4.2 QUARRYING/SURFACE EXTRACTION

There are no records of surface ground workings within 250m of the site.

4.3 MINING & OTHER UNDERGROUND WORKINGS

Reference to the Coal Authority Online Interactive Viewer shows the site to be located within a Coal Mining Reporting Area.

A Consultants Coal Mining Report has been ordered for the site and will be discussed in Section 5

4.4 RADON POTENTIAL

The site is located in a Lower probability Radon Affected Area where less than 1% of properties are estimated to be at or above the Action Level.

4.5 HYDROGEOLOGY & HYDROLOGY

The site area is underlain by superficial deposits of Till, Devensian - Diamicton and these deposits are designated as **Secondary Undifferentiated**.

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.

The Bedrock Geology at the site is defined as Sandstone of Rough Rock and designated as a **Secondary A Aquifer**.

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.*

The groundwater vulnerability for the site is classified as a Low superficial Vulnerability and Medium bedrock Vulnerability, with Productive Bedrock and Superficial aquifers.

The Groundsure report indicates that there is no soluble rock risk.

There are no recorded water abstractions within 250m of the site boundary.

The site is not located within a Source Protection Zone.

The site is located in the Naden Brook River Water Body Catchment with a Moderate overall rating (2019), ID: GB112069064710, and the Northern Manchester Carboniferous Aquifers groundwater body with an overall rating of Poor (2019), ID: GB41202G101800.

4.6 LANDFILL, WASTE MANAGEMENT ACTIVITY & INFILLED GROUND

There are no records of Landfill, Infilled Ground or waste sites within 250m of the site.

4.7 INDUSTRIAL LAND USE

There are ten records of Historical industrial land uses within 250m of the site, closest relating Unspecified Heap 57m northwest of the site, dated 1967-1992. There are two further pits located 62m northwest as Refuse Heap (1908) and Unspecified Heap (1928).

4.8 ENVIRONMENTAL PERMITS, INCIDENTS & REGISTERS

There are no records of Licensed discharges to controlled waters within 250m of the site.

There are two records of Pollution Incidents located within 250m of the site, closest relating 35m southeast of the site as Inert Materials and Wastes pollutant, with No Impact to Air or Water, Minor Impact to Land, dated 2002. The second incident relates 205m southeast of the site as Oils and Fuel pollutant, No Impact to Water and Air, Minor Impact to Land.

4.9 ENVIRONMENTALLY SENSITIVE SITES

The site does not lie in a Nitrate Vulnerable zone.

The site lies in an SSSI Impact Risk Zone, however it does not affect the proposed development.

The site lies within an area for Priority Species for CS Targeting – Lapwing.

The site is located on Green Belt Land.

4.10 POTENTIAL FLOOD RISKS

A detailed assessment of flood risk is outside the scope of this report. However, the Groundsure report identifies that the entire site and surrounding area is in a **No Risk** category.

A review of the BGS Flood GFS Data within the Groundsure report shows that the entirety of the site has Low potential for groundwater flooding to occur.

4.11 ASBESTOS

There is always the possibility that asbestos fibres may also be present in any Made Ground beneath the site.

4.12 UNEXPLODED ORDANANCE/BOMB (UXO/UXB) RISK

A UXB Risk Map has been obtained from Zetica Ltd. This indicates that the site is in a Low-risk area, with respect to UXB. The Risk Map is presented as Appendix 2.

4.13 PREVIOUS SITE INVESTIGATIONS

EEG have not been made aware of any previous investigations undertaken on site.

5. COAL MINING RISK ASSESSMENT

The site is located within a coal mining area as defined by the Coal Authority, therefore a Consultants Coal Mining Report was ordered to assess coal mining issues at the site.

Geological Information

The geology of the site has been determined from geological maps for the area and examination of Coal Authority (CA) records.

British Geological Survey Published Data Assessment

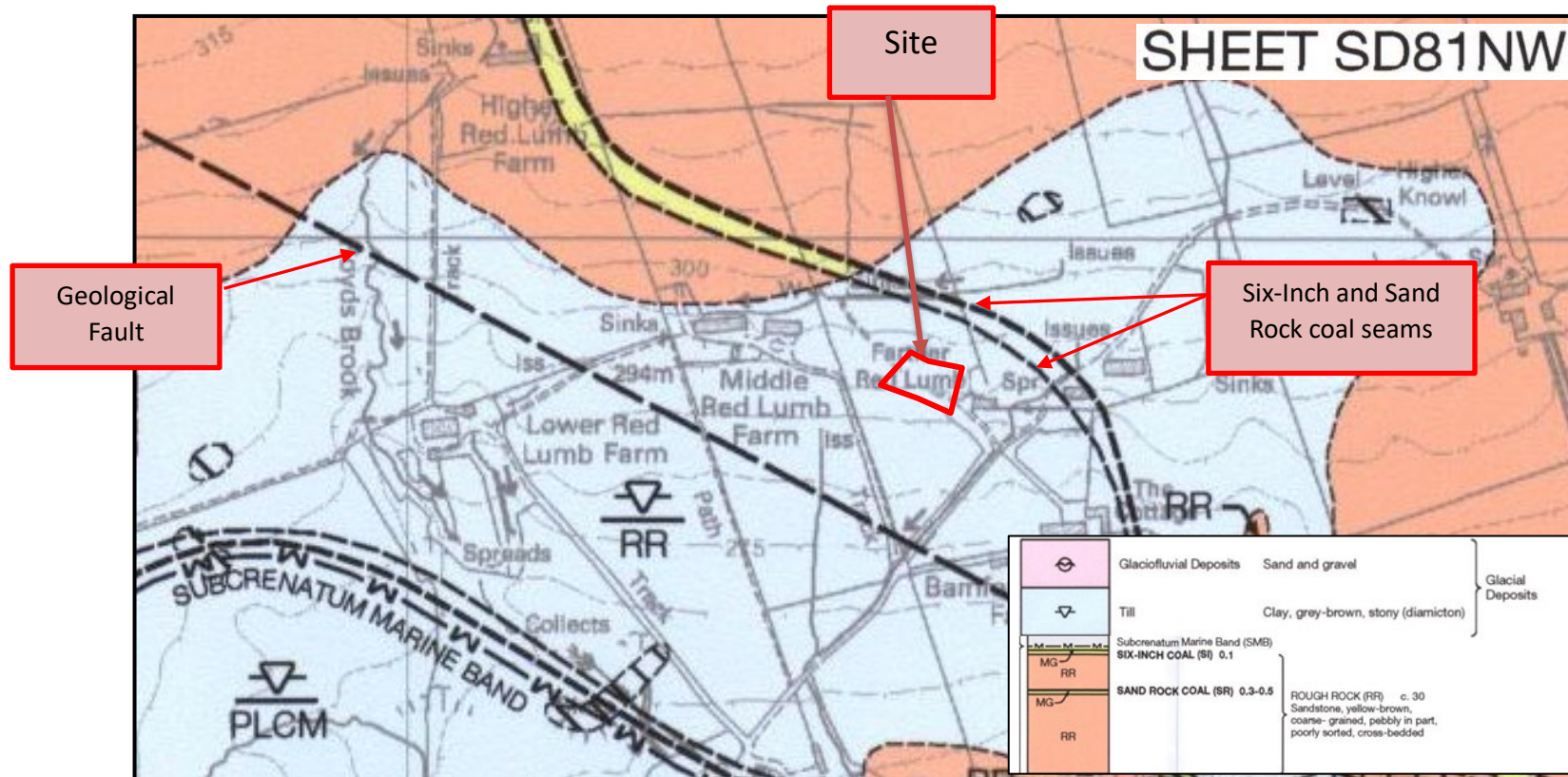
The superficial deposits at the site is mapped by the BGS as Till, Devensian –Diamicton.

The solid geology of the site is mapped by the BGS as Sandstone of Rough Rock.

There are no BGS boreholes recorded within 250m radius of the site.

Extracts from the most recently published 1:10,560 geological maps showing the approximate site location and key local geological features are presented overleaf in Figure 10.

Figure 10 Geology Map Extract Sheet SE43SW 1:10,560

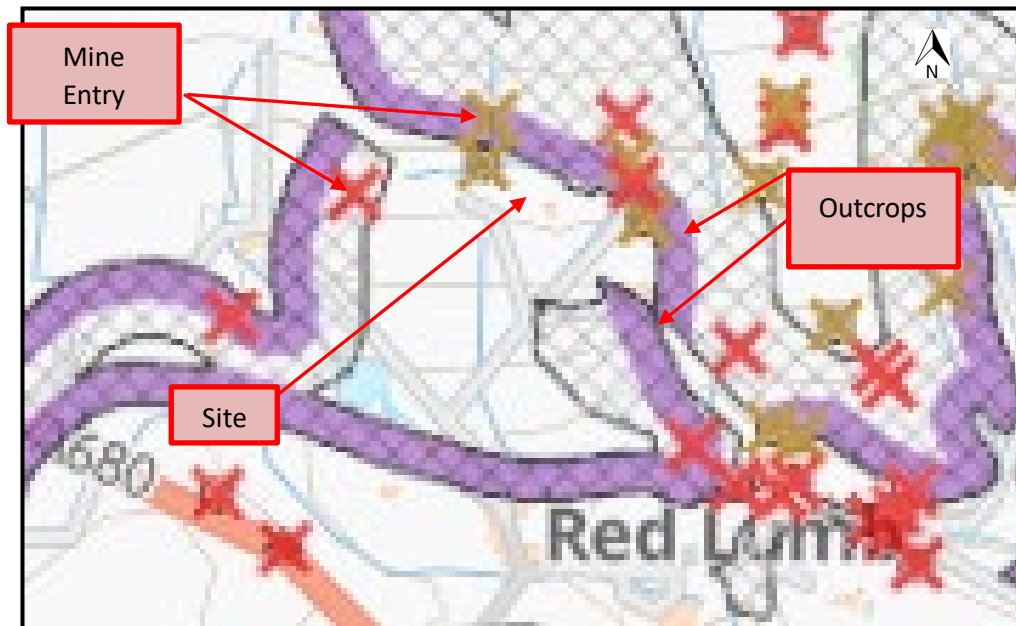


Coal Authority Records

Reference to the Coal Authority Online Interactive Viewer (Figure 11) shows the site is located within a Coal Mining Reporting Area.

Two coal outcrops are mapped trending approximately west to east dipping north away from the site.

Figure 11 Coal Authority Interactive Viewer



The Coal Authority report highlights that there are no records of Past Underground Mining below the site.

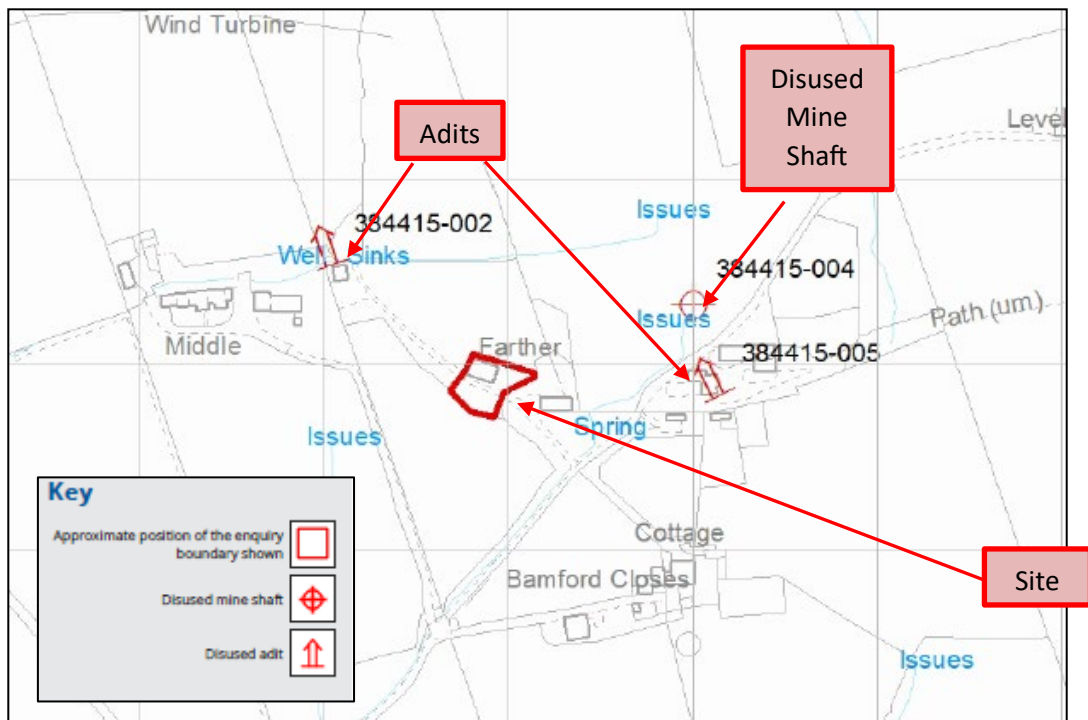
The Coal Authority report doesn't record any past unrecorded probable shallow workings beneath the site.

There is one shaft located approximately 120m west of the site at NGR: 384501 415932, and two adits located approximately 90m west of the site at NGR: 384303 415956 and approximately 110m east at NGR: 384513 415885.

There are no mine gas emissions, mine water treatment schemes or Coal Authority managed tips recorded within 500m of the site boundary.

There are no spine roadways recorded at shallow depth.

Figure 12 Coal Authority Map Extract

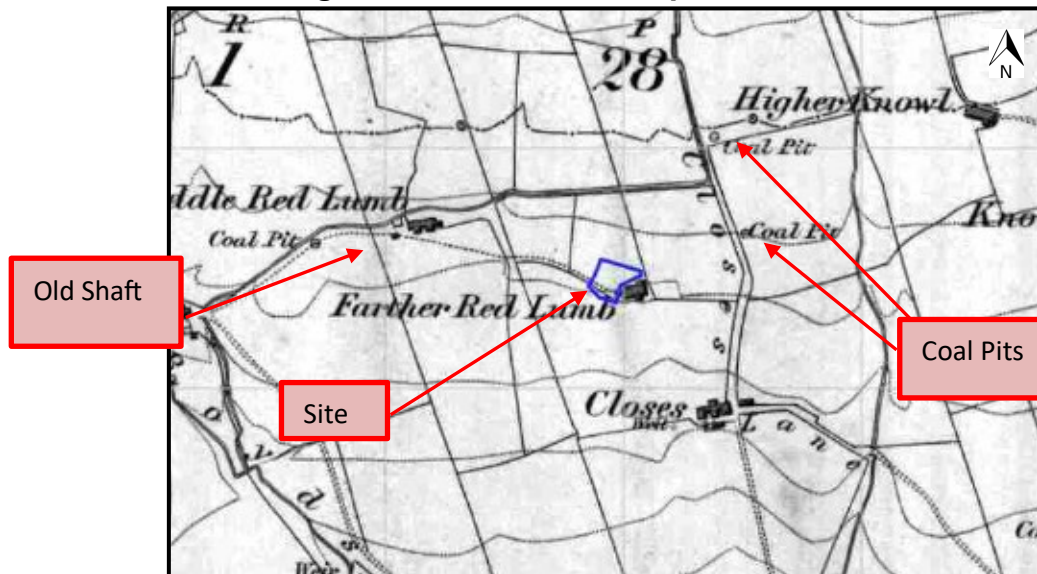


Historical Information

The available historical plans dating back to 1851 show the site to be undeveloped.

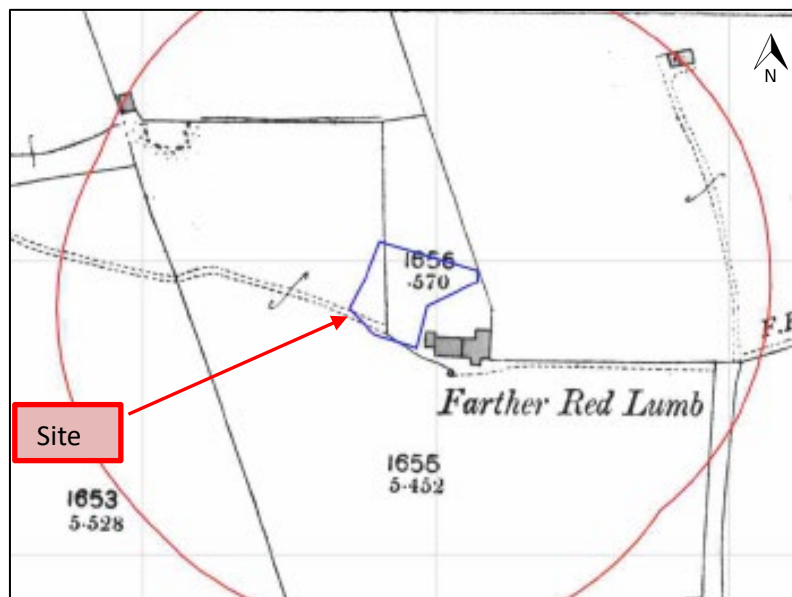
The 1888-1913 OS Map (See Figure 7) shows the site undeveloped, with coal pits to the east and west of the site.

Figure 13 OS Six Inch Map Extract 1851



The 1949-1973 OS map (See Figure 8) shows no significant mining developments in the area, the pits are presumed infilled. A pit is located to the northwest of the site however this could potentially be associated to the adjacent Well.

Figure 14 OS 1:10,000 Map Extract 1890-1891



Data Limitations

It should be appreciated that it did not become a legal requirement to deposit coal mining abandonment plans until the 1870's and that this requirement was not rigorously enforced for some time after. Many shallow coal seams were worked prior to the introduction of first edition Ordnance Survey Maps and information on these workings is often not available. Therefore, if coal seams were accessible then there is the potential that they could have been worked by formal or informal means.

It is also possible that if unrecorded workings are present then unrecorded mine entries may be present.

Coal Mining Risks

The risks associated with coal mining are as follows:

- Collapse of relict workings beneath buildings causing damage to the building fabric and infrastructure.
- Migration of mine gases from old mine workings and mine entries resulting in accumulation of flammable and asphyxiating gases in confined areas.
- Consolidation of relict workings and overlying strata causing structural defects in building fabric and infrastructure.
- Failure of mine entries causing loss of ground beneath building and external areas.
- Spontaneous combustion of old mine workings.

Conclusions

The site does lie within a Coal Mining Reporting Area and is in close proximity to a Coal Authority Development High Risk Area due to the coal outcrops located north of the site and the probable shallow workings relating to the outcrops.

The solid geology of the site is mapped by the BGS as Sandstone of Rough Rock.

Historically, there has been little change to the site, no surface workings have been noted but there has been mining activities Coal Pits and Shafts and Adits located within 150m of the site.

The Coal Authority report highlights that there are no records of Past Underground Mining, probable unrecorded shallow workings recorded onsite.

An east-west trending fault with the north being displaced downwards cuts south of the site.

Discussion

It's concluded that despite mining activity in the vicinity of the site, there are no risks to the site posed by coal mining due to there being no records of past underground mining, probable unrecorded shallow workings or opencast mines onsite.

In relation the mine entries, given the distances, direction of the adits (inferred directing away from the site) and lack of superficial deposits, the two mines will have no influence on the development.

There is still a risk of gas migration from the coal measures and surrounding workings which should be considered.

5.0 SITE WALKOVER

A walkover was completed on the 21st of May 2024. The site is accessed from the southeast via a dirt track running northwest from a gated part of Red Lumb Street. The site boundary is marked by wooden fencing in the north, south and west, and is crudely marked in the east between the garden and the out-buildings/sheds on a dirt track in the east.

The site consists of a single storey residential house situated on a roughly 2m slope heading downhill in the south. A small, stepped garden area and a mature tree lies to the east of the house and another garden area surrounds the house to the north and is demarcated by wooden fencing (marking the northern site boundary). Farm equipment and other materials, such as crush gates, metal fencing and rubble, are dotted about the site in the south. The field immediately south of the site was occupied by pigs at the time of this walkover.

The site is surrounded by undeveloped agricultural land with some farm buildings and cottages located 75m east, 110m southeast and 105m northwest of the site. There are two dilapidated shed-like structures immediately east of the site.

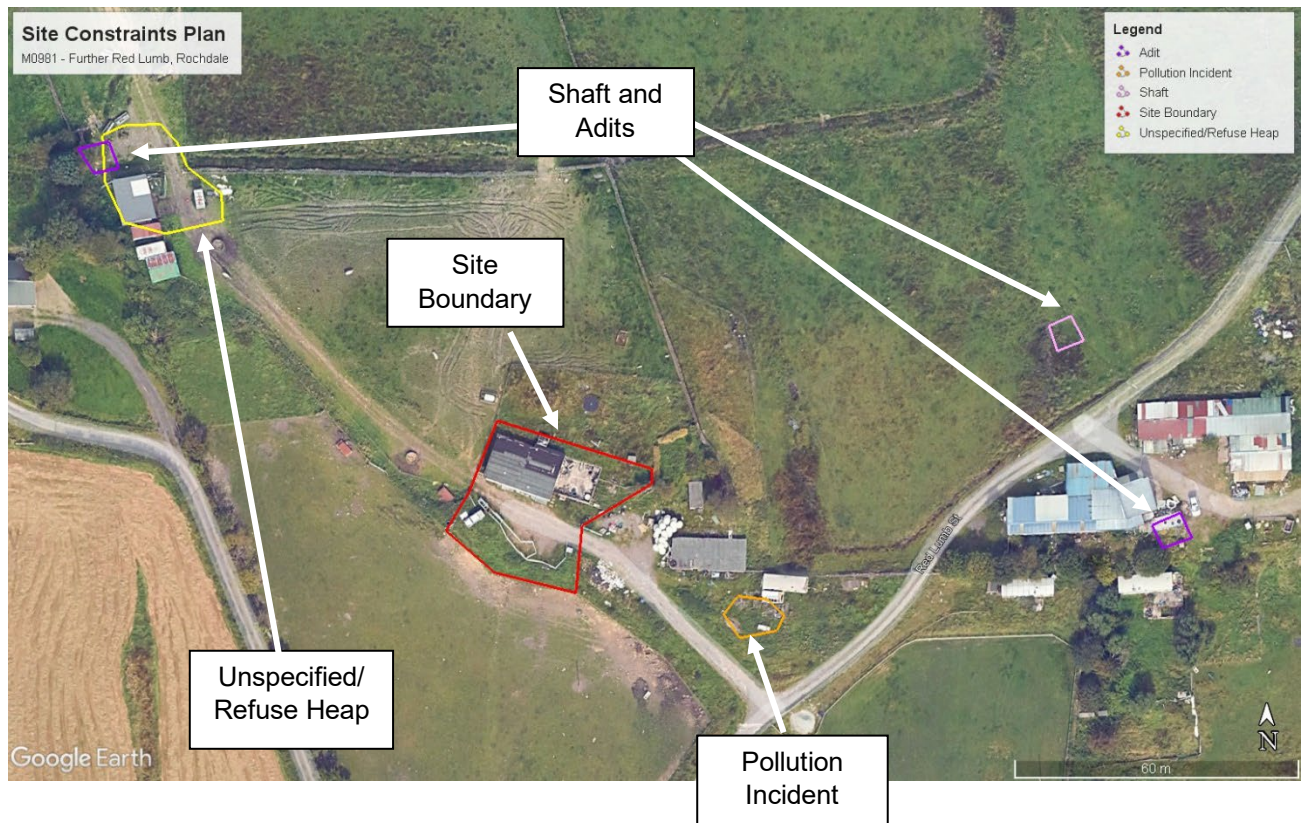
A fuel tank (approximately 2.5m by 2m) is located less than 1m northeast of the site in the adjacent field.

One utility pole is located in the fenced garden towards the centre/north of the site and connects to other poles heading in a rough north to south direction. Another pole is situated in the pig pen to the south but is not on site.

There were no visual indications of contamination on site but, due to the slope and flattened area around the dirt track, it is assumed that made ground is present throughout the site.

A Site Constraints Plan is presented as Figure 9.

Figure 15 Site Constraints Plan



6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

6.1 INTRODUCTION

The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, LCRM⁽²⁰²⁰⁾.

Table 5 provides a Preliminary Conceptual Model (PCM) which considers the Source-Pathway-Receptor linkages present alongside the likelihood, severity and risk level as defined within Table 3 and Table 4 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and LCRM.

Table 3 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

The PCM/PRA is based on the proposed commercial end use.

Table 3: Probability, Consequence & Risk Definitions

Probability	Consequence	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health, or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage, and all the elements are present, which means that it is probable an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage and circumstances are possible for an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term	Moderate – Long term or short term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that this would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 4: Estimation of Level of Risk by Comparison of Consequence & Probability

		Consequence			
		High	Moderate	Low	Very Low
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate to Low Risk
	Likely	High Risk	Moderate Risk	Moderate to Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate to Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate to Low Risk	Low Risk	Very Low Risk	Very Low Risk

6.2 POTENTIAL SOURCES

Historically the site has been undeveloped until a building was built in at least 2012, however the track on the site provided access to the adit to the north. The site now comprises of said building, a garden, a track, and storage of unknown materials.

There is a low risk in terms of ground gas migration due to the lack development, no quarries or landfills noted within 250m and the assumed lack of made ground at the site.

There is potential for the presence of contamination associated with the following:

- Potential Made Ground from any previous adjacent offsite development, domestic activities and materials used to build up the access road.
- Asbestos containing materials (ACM) within any Potential shallow Made Ground could be possible.
- Location of the unspecified/refuse heap located 62m northwest of the site.

6.3 POTENTIAL PATHWAYS

The following pathways have been considered for the construction and operational stages of the proposed works:

- Dermal contact, ingestion, inhalation pathways of potentially contaminated soils
- Downward, horizontal and vertical migration of leachable contaminants through granular lenses in the underlying soils to shallow groundwater and watercourses
- Vertical or lateral migration of ground gas from coal measures.

6.4 POTENTIAL RECEPTORS

The following receptors have been considered for the construction and operational stages of the proposed works:

- Current site users

- Adjacent land users.
- Future land users
- Construction/maintenance workers during site development/maintenance works.
- Controlled Waters (Groundwater within the underlying Secondary A Aquifer)

Table 5: Preliminary Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comments
Potential Made Ground associated with site development and refuse/unspecified heap.	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	Unlikely	Low	Very Low Risk	The site was undeveloped until at least 2012 when a dwelling was built. The location of the heap is at a distance where it will likely not affect the site. Therefore there are no long-term or significant potential risks for direct contact between contaminated soils and current site users. The risk of mobilisation of contaminants within the sub-surface soils is considered to be unlikely. The risk is therefore considered to be VERY LOW .
		Adjacent Land Users	Unlikely	Low	Very Low Risk	There were no significant sources of contamination identified on the site. The risk is considered VERY LOW .
		Future Land Users	Unlikely	Low	Very Low Risk	The site is to be developed with a dwelling, however contamination is unlikely due to the lack of historical development and therefore poses a VERY LOW RISK .
		Construction/Maintenance Workers	Low Likelihood	Low	Low Risk	Due to the lack of contamination identified, the distance to the heap and the nature of historical development, the risk to construction workers is considered to be LOW .
	Migration of leachate to shallow groundwater	Controlled Waters (Groundwater within the underlying Secondary Aquifer)	Low Likelihood	Moderate	Moderate to Low Risk	There are no significant sources of contamination identified, however the groundwater vulnerability is classed as Medium. The risk to groundwater is considered LOW to MODERATE .
Asbestos/ACM within potential Made Ground.	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	Unlikely	Low	Very Low Risk	The site was undeveloped until at least 2012 when a dwelling was built. The location of the heap is at a distance where it will likely not affect the site. Therefore, there are no long-term or significant potential risks for direct contact between contaminated soils and current site users. The risk of mobilisation of contaminants within the sub-surface soils is considered to be unlikely. The risk is therefore considered to be VERY LOW .
		Adjacent Land Users	Unlikely	Low	Very Low Risk	There were no significant sources of contamination identified on the site. The risk is considered VERY LOW .
		Future Land Users	Unlikely	Low	Very Low Risk	Due to the nature of historical development, the site poses a VERY LOW RISK .

Source	Pathway	Receptor	Probability	Consequence	Risk	Comments
		Construction/Maintenance Workers	Low Likelihood	Low	Low Risk	Due to the lack of contamination identified, the distance to the heap and the nature of historical development, the risk to construction workers is considered to be LOW .
Ground Gas Associated within any Deeper Areas of Made Ground Measures	Vertical or lateral migration of ground gas	Current Site Users	Likely	Moderate	Moderate Risk	The site is underlain by coal measures and the house is currently used, so the risk is considered to be MODERATE .
		Adjacent Land Users	Likely	Moderate	Low to Moderate Risk	The site is underlain by coal measures but there is a lack of development in the area, so the risk is considered to be MODERATE .
		Future Land Users	Likely	Moderate	Moderate Risk	The site is underlain by coal measures and the development is sensitive, so the risk is MODERATE .
		Construction/Maintenance Workers	Low Likelihood	Low	Low Risk	The site is underlain by coal measures however will pose a low risk to construction workers.

7.0 CONCLUSIONS & RECOMMENDATIONS

7.1 CONCLUSIONS

Historically the site has been undeveloped, with agricultural land to the north, east, south and west however the site once provided access to the mine adit to the north of the site. Site development did not occur until at least 2012 with the construction of a dwelling. The site currently comprises of a dwelling with areas for storage and a garden. The surrounding area to the north and south comprises undeveloped agricultural land with buildings to the immediate east as potential storage. Farms are located further east, southeast and west.

The overall risk to current and future site users is **MODERATE**, with the main risks being associated with ground gas from underground workings. Along with made ground associated with the former track which provides access to a mine entry with historical residential use.

The overall risk to construction workers is concluded to be **LOW**.

The risk to groundwater is concluded to be **LOW** as there is no evidence of widespread sources of significant mobile contamination present at the assessment site.

7.2 RECOMMENDATIONS

The Coal Authority (CA) Consultants Coal Mining Report states there no records of past underground mine workings and there are no possible shallow unrecorded workings below the site.

The CA consultant's report also highlights the location of 2 No. adits and a mine shaft. Given conservative depth to rockhead as less than 5m and the direction of the adits (inferred to point away from the site) **both possess a low risk to the development**.

Contamination

It is recommended that in advance of any future development of the site, or other activities which could disturb soils and increase the potential for a contaminant linkage, an intrusive ground investigation is undertaken to assess possible presence of shallow soil contamination at the site.

Foundations

The BGS maps show the site to be underlain by Till as sandy clays and Made Ground is expected to be generally thin (< c. 1.5m thick) and there are no recorded workings present below the site, therefore traditional shallow reinforced foundations are likely within the natural superficial soils.

It is therefore recommended that ground investigation works (targeting the areas of proposed development) are completed to allow the design of foundations at the assessment site.

Hazardous Ground Gases

Due to the coal measures and coal mining activities within the surrounding area, this represents a source of ground gas and therefore a ground gas risk assessment should be undertaken.

The site does not lie within an area in which specific precautions to protect against radon gas are required.

Recommended Outline Scope of Intrusive Ground Investigation

The finalised scope of an intrusive ground investigation should be determined following confirmation of the nature of the development works. However, at this stage, it is recommended that the following be considered:

- Trial Pitting or shallow window sample boreholes to investigate shallow ground conditions, undertake in situ geotechnical testing and obtain soil samples for laboratory chemical analysis (contamination analysis).
- Laboratory analysis of soil samples for geotechnical parameters, e.g., plastic/liquid limits, undrained shear strength and compressibility characteristics.
- Laboratory analysis of soil, and if necessary, groundwater and surface water, for heavy metals, pH, sulphates, organic contaminants, and asbestos.
- The installation of ground gas monitoring pipes within the boreholes including monitoring the levels of ground gas over 6 visits, including visits during low and high trending pressures.
- Production of a Phase 2 GeoEnvironmental report.

APPENDIX 1

ENVIROCHECK REPORT

&

HISTORICAL OS MAPS

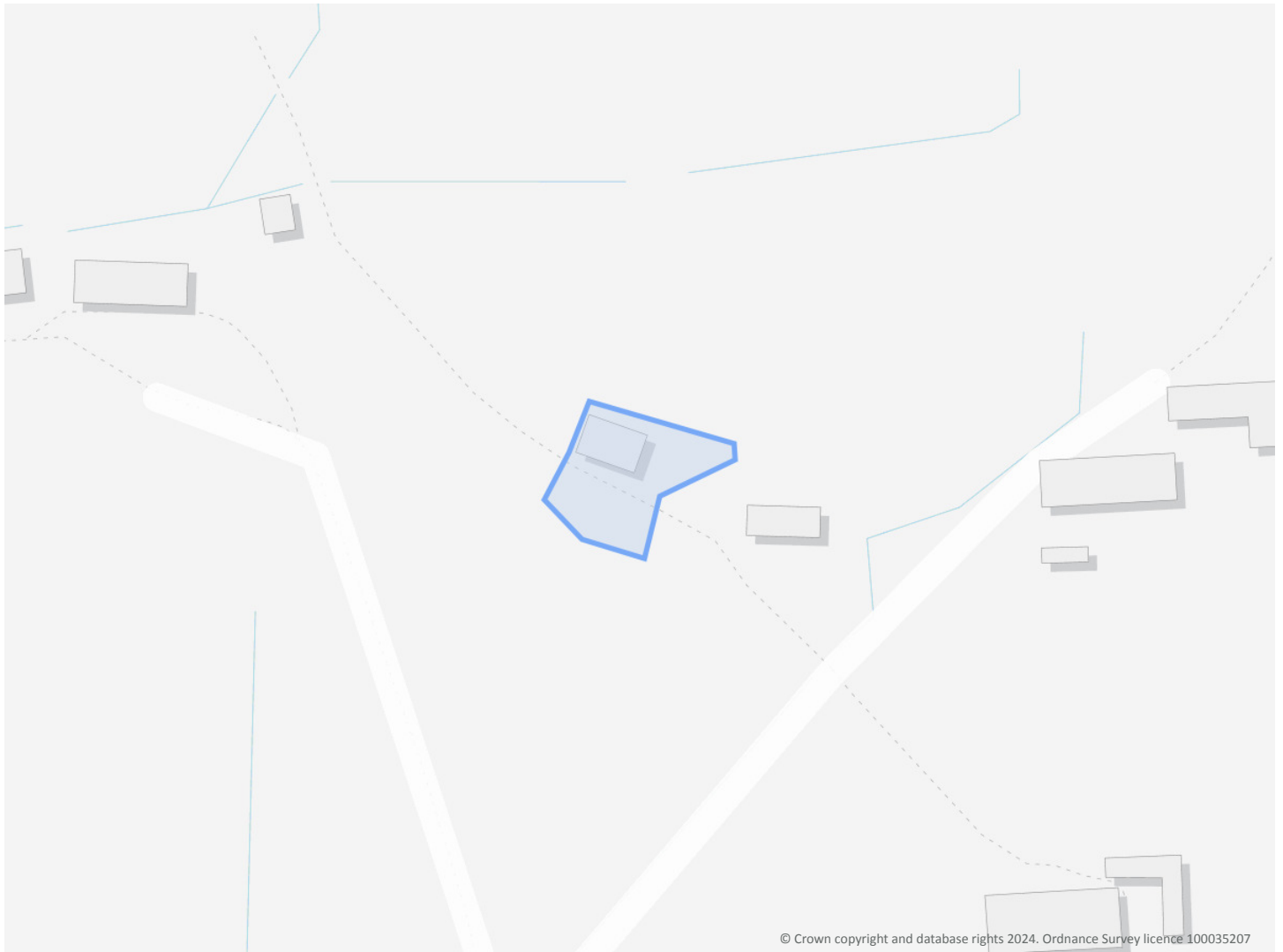
FURTHER RED LUMB, RED LUMB STREET, ROCHDALE, OL12 7TX

Order Details

Date: 09/05/2024
Your ref: M0981/GS/CS
Our Ref: GS-7RH-E4S-J2O-EWF

Site Details

Location: 384389 415889
Area: 0.08 ha
Authority: [Rochdale Metropolitan Borough Council](#)
↗



Summary of findings

[p. 2 >](#) **Aerial image**

[p. 9 >](#)

OS MasterMap site plan

[p.12 >](#) **[Insight User Guide](#)** ↗

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
13 >	1.1 >	Historical industrial land uses >	0	0	10	20	-
15 >	1.2 >	Historical tanks >	0	0	0	2	-
15 >	1.3 >	Historical energy features >	0	0	0	1	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	0	0	0	-
16	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
17 >	2.1 >	Historical industrial land uses >	0	0	12	30	-
19 >	2.2 >	Historical tanks >	0	0	0	2	-
19 >	2.3 >	Historical energy features >	0	0	0	1	-
20	2.4	Historical petrol stations	0	0	0	0	-
20	2.5	Historical garages	0	0	0	0	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
21	3.1	Active or recent landfill	0	0	0	0	-
21	3.2	Historical landfill (BGS records)	0	0	0	0	-
21	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
21	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
21	3.5	Historical waste sites	0	0	0	0	-
22	3.6	Licensed waste sites	0	0	0	0	-
22	3.7	Waste exemptions	0	0	0	0	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
23 >	4.1 >	Recent industrial land uses >	0	0	1	-	-
24	4.2	Current or recent petrol stations	0	0	0	0	-
24	4.3	Electricity cables	0	0	0	0	-
24	4.4	Gas pipelines	0	0	0	0	-
24	4.5	Sites determined as Contaminated Land	0	0	0	0	-



24	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
25	4.7	Regulated explosive sites	0	0	0	0	-
25	4.8	Hazardous substance storage/usage	0	0	0	0	-
25	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
25	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
25	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
26	4.12	Radioactive Substance Authorisations	0	0	0	0	-
26 >	4.13 >	<u>Licensed Discharges to controlled waters</u> >	0	0	0	2	-
26	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
27	4.15	Pollutant release to public sewer	0	0	0	0	-
27	4.16	List 1 Dangerous Substances	0	0	0	0	-
27	4.17	List 2 Dangerous Substances	0	0	0	0	-
27 >	4.18 >	<u>Pollution Incidents (EA/NRW)</u> >	0	1	1	0	-
28	4.19	Pollution inventory substances	0	0	0	0	-
28	4.20	Pollution inventory waste transfers	0	0	0	0	-
28	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
29 >	5.1 >	<u>Superficial aquifer</u> >	Identified (within 500m)				
30 >	5.2 >	<u>Bedrock aquifer</u> >	Identified (within 500m)				
31 >	5.3 >	<u>Groundwater vulnerability</u> >	Identified (within 50m)				
32	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
32	5.5	Groundwater vulnerability- local information	None (within 0m)				
33 >	5.6 >	<u>Groundwater abstractions</u> >	0	0	0	0	22
39 >	5.7 >	<u>Surface water abstractions</u> >	0	0	0	0	13
43 >	5.8 >	<u>Potable abstractions</u> >	0	0	0	0	18
47	5.9	Source Protection Zones	0	0	0	0	-
48	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology</u> >	On site	0-50m	50-250m	250-500m	500-2000m
49 >	6.1 >	<u>Water Network (OS MasterMap)</u> >	0	3	25	-	-



52 >	6.2 >	Surface water features >	0	2	14	-	-
52 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
52 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
53 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
54	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
54	7.2	Historical Flood Events	0	0	0	-	-
54	7.3	Flood Defences	0	0	0	-	-
55	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
55	7.5	Flood Storage Areas	0	0	0	-	-
56	7.6	Flood Zone 2	None (within 50m)				
56	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
57	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
58 >	9.1 >	Groundwater flooding >	Low (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
59	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
60	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
60	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
60	10.4	Special Protection Areas (SPA)	0	0	0	0	0
60	10.5	National Nature Reserves (NNR)	0	0	0	0	0
61	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
61 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
61	10.8	Biosphere Reserves	0	0	0	0	0
62	10.9	Forest Parks	0	0	0	0	0
62	10.10	Marine Conservation Zones	0	0	0	0	0
62 >	10.11 >	Green Belt >	1	0	0	0	1
62	10.12	Proposed Ramsar sites	0	0	0	0	0



63	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
63	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
63	10.15	Nitrate Sensitive Areas	0	0	0	0	0
63	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
64 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
65	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
66	11.1	World Heritage Sites	0	0	0	-	-
66	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
66	11.3	National Parks	0	0	0	-	-
66	11.4	Listed Buildings	0	0	0	-	-
67	11.5	Conservation Areas	0	0	0	-	-
67	11.6	Scheduled Ancient Monuments	0	0	0	-	-
67	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
68 >	12.1 >	Agricultural Land Classification >	Grade 4 (within 250m)				
69 >	12.2 >	Open Access Land >	0	0	2	-	-
69	12.3	Tree Felling Licences	0	0	0	-	-
69	12.4	Environmental Stewardship Schemes	0	0	0	-	-
70	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
71	13.1	Priority Habitat Inventory	0	0	0	-	-
71	13.2	Habitat Networks	0	0	0	-	-
71	13.3	Open Mosaic Habitat	0	0	0	-	-
71	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
72 >	14.1 >	10k Availability >	Identified (within 500m)				
73 >	14.2 >	Artificial and made ground (10k) >	0	0	1	3	-
75 >	14.3 >	Superficial geology (10k) >	1	0	0	0	-



76 >	14.4 >	Landslip (10k) >	0	0	0	2	-
77 >	14.5 >	Bedrock geology (10k) >	1	2	3	3	-
78 >	14.6 >	Bedrock faults and other linear features (10k) >	0	1	3	1	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
79 >	15.1 >	50k Availability >	Identified (within 500m)				
80	15.2	Artificial and made ground (50k)	0	0	0	0	-
80	15.3	Artificial ground permeability (50k)	0	0	-	-	-
81 >	15.4 >	Superficial geology (50k) >	1	0	0	0	-
82 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
82 >	15.6 >	Landslip (50k) >	0	0	0	1	-
82	15.7	Landslip permeability (50k)	None (within 50m)				
83 >	15.8 >	Bedrock geology (50k) >	1	0	2	1	-
84 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
84 >	15.10 >	Bedrock faults and other linear features (50k) >	0	1	2	2	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
85	16.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
86 >	17.1 >	Shrink swell clays >	Very low (within 50m)				
87 >	17.2 >	Running sands >	Very low (within 50m)				
88 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
89 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
90 >	17.5 >	Landslides >	Low (within 50m)				
91 >	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
93 >	18.1 >	BritPits >	0	0	0	1	-
94 >	18.2 >	Surface ground workings >	0	0	6	-	-
94 >	18.3 >	Underground workings >	0	0	0	11	25
96	18.4	Underground mining extents	0	0	0	0	-
96	18.5	Historical Mineral Planning Areas	0	0	0	0	-



96 >	18.6 >	Non-coal mining >	1	0	0	0	2
97	18.7	JPB mining areas	None (within 0m)				
97	18.8	The Coal Authority non-coal mining	0	0	0	0	-
97	18.9	Researched mining	0	0	0	0	-
98	18.10	Mining record office plans	0	0	0	0	-
98	18.11	BGS mine plans	0	0	0	0	-
98 >	18.12 >	Coal mining >	Identified (within 0m)				
98	18.13	Brine areas	None (within 0m)				
99	18.14	Gypsum areas	None (within 0m)				
99	18.15	Tin mining	None (within 0m)				
99	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
100	19.1	Natural cavities	0	0	0	0	-
100	19.2	Mining cavities	0	0	0	0	0
100	19.3	Reported recent incidents	0	0	0	0	-
100	19.4	Historical incidents	0	0	0	0	-
101	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
102 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
104 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	0	-	-	-
104	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
104	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
105	22.1	Underground railways (London)	0	0	0	-	-
105	22.2	Underground railways (Non-London)	0	0	0	-	-
105	22.3	Railway tunnels	0	0	0	-	-
105	22.4	Historical railway and tunnel features	0	0	0	-	-
105	22.5	Royal Mail tunnels	0	0	0	-	-



106	22.6	Historical railways	0	0	0	-	-
106	22.7	Railways	0	0	0	-	-
106	22.8	Crossrail 1	0	0	0	0	-
106	22.9	Crossrail 2	0	0	0	0	-
106	22.10	HS2	0	0	0	0	-

Recent aerial photograph



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Capture Date: 23/05/2019

Site Area: 0.08ha



Recent site history - 2012 aerial photograph



Capture Date: 26/03/2012

Site Area: 0.08ha



Recent site history - 1999 aerial photograph



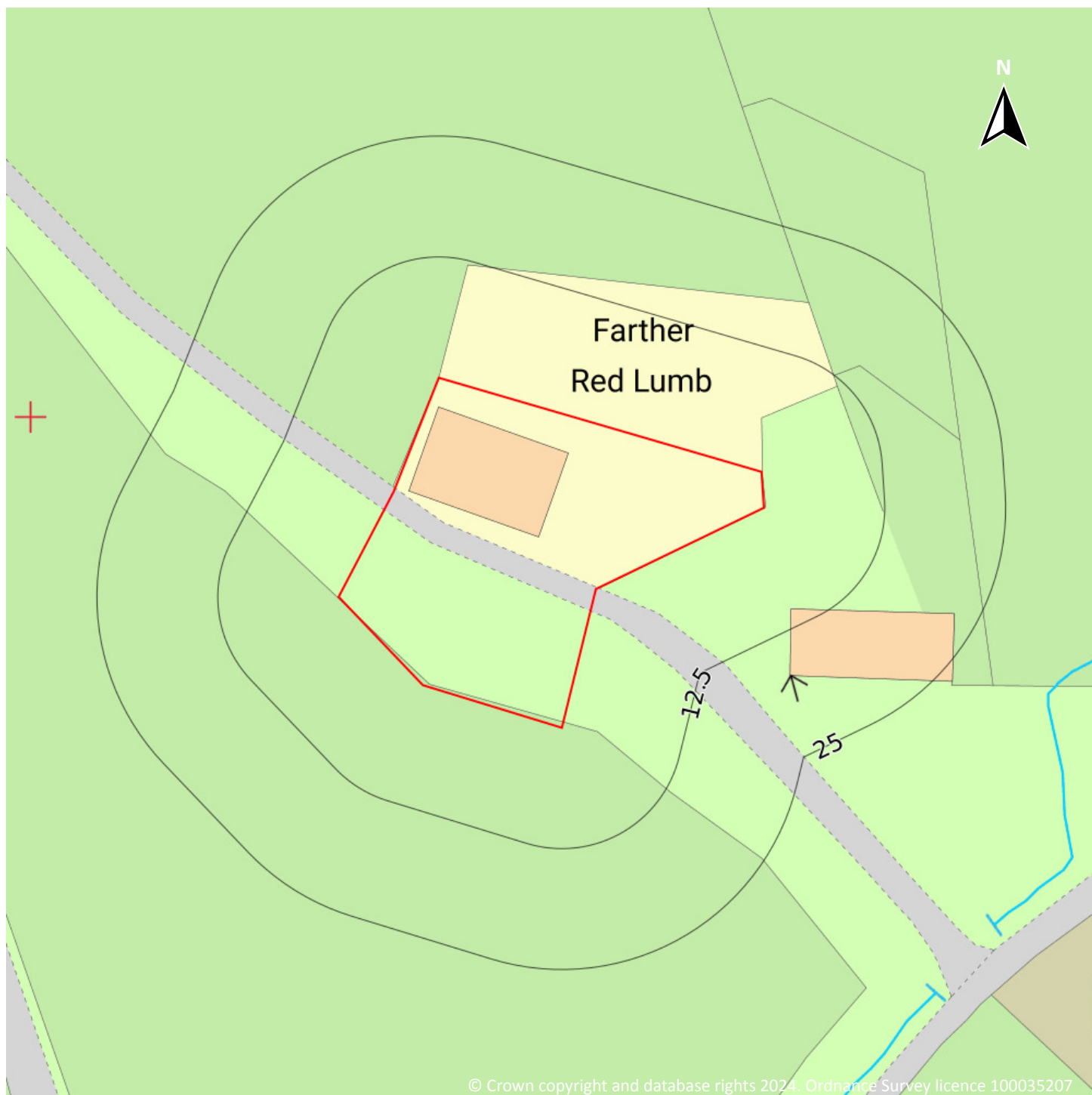
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved

Capture Date: 10/09/1999

Site Area: 0.08ha



OS MasterMap site plan



Site Area: 0.08ha



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

30

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 13 >](#)

ID	Location	Land use	Dates present	Group ID
A	57m NW	Unspecified Heap	1967 - 1992	737605



ID	Location	Land use	Dates present	Group ID
A	62m NW	Refuse Heap	1908	677383
A	62m NW	Unspecified Heap	1928	788769
1	89m E	Coal Pit	1851	654103
2	122m NE	Coal Pit	1851	654118
B	221m SW	Unspecified Mill	1949 - 1992	738068
3	228m W	Coal Pit	1851	654119
B	234m SW	Unspecified Mill	1938	757918
C	241m NE	Unspecified Level	1949	699845
B	249m S	Unspecified Mill	1928	766094
B	268m S	Cotton Mill	1851	644285
B	270m S	Unspecified Mill	1891 - 1908	716808
C	282m NE	Unspecified Level	1909	697294
C	301m NE	Unspecified Level	1938	749719
C	305m NE	Unspecified Level	1928	767374
C	309m NE	Unspecified Level	1967 - 1992	786196
4	331m S	Unspecified Pit	1891	690718
D	335m SE	Railway Sidings	1890	641621
D	380m SE	Unspecified Shaft	1890	665129
E	396m NW	Unspecified Quarry	1891	769583
5	408m W	Coal Pit	1851	654121
6	411m W	Unspecified Old Shaft	1891	651628
E	413m NW	Unspecified Quarry	1908 - 1938	709993
E	415m NW	Unspecified Pit	1967 - 1992	708503
E	415m NW	Unspecified Quarry	1949	712538
F	445m SE	Coal Pits	1851	648700
7	461m S	Unspecified Ground Workings	1928	647130
F	467m SE	Coal Pits	1851	648702
8	469m N	Clay Pit	1851	676028



ID	Location	Land use	Dates present	Group ID
9	474m SW	Unspecified Old Shaft	1891	651783

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

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

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 ungrouped 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 13 >](#)

ID	Location	Land use	Dates present	Group ID
B	343m SW	Gasometer	1910	78079
B	343m SW	Unspecified Tank	1891	84118

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 ungrouped 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 13 >](#)

ID	Location	Land use	Dates present	Group ID
B	343m SW	Gasometer	1910	46131

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 ungrouped 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 ungrouped 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

42

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 17](#) >

ID	Location	Land Use	Date	Group ID
A	57m NW	Unspecified Heap	1992	737605
A	57m NW	Unspecified Heap	1967	737605
A	57m NW	Unspecified Heap	1987	737605



ID	Location	Land Use	Date	Group ID
A	62m NW	Unspecified Heap	1928	788769
A	62m NW	Refuse Heap	1908	677383
1	89m E	Coal Pit	1851	654103
2	122m NE	Coal Pit	1851	654118
B	221m SW	Unspecified Mill	1949	738068
3	228m W	Coal Pit	1851	654119
B	234m SW	Unspecified Mill	1938	757918
C	241m NE	Unspecified Level	1949	699845
B	249m S	Unspecified Mill	1928	766094
B	268m S	Cotton Mill	1851	644285
B	270m S	Unspecified Mill	1891	716808
B	274m S	Unspecified Mill	1908	716808
B	278m S	Unspecified Mill	1992	738068
B	278m S	Unspecified Mill	1967	738068
B	278m S	Unspecified Mill	1987	738068
C	282m NE	Unspecified Level	1909	697294
C	301m NE	Unspecified Level	1938	749719
C	305m NE	Unspecified Level	1928	767374
C	309m NE	Unspecified Level	1992	786196
C	309m NE	Unspecified Level	1967	786196
C	309m NE	Unspecified Level	1987	786196
4	331m S	Unspecified Pit	1891	690718
D	335m SE	Railway Sidings	1890	641621
D	380m SE	Unspecified Shaft	1890	665129
E	396m NW	Unspecified Quarry	1891	769583
5	408m W	Coal Pit	1851	654121
6	411m W	Unspecified Old Shaft	1891	651628
E	413m NW	Unspecified Quarry	1928	709993



ID	Location	Land Use	Date	Group ID
E	413m NW	Unspecified Quarry	1908	709993
E	415m NW	Unspecified Pit	1992	708503
E	415m NW	Unspecified Pit	1967	708503
E	415m NW	Unspecified Quarry	1949	712538
E	415m NW	Unspecified Pit	1987	708503
E	419m NW	Unspecified Quarry	1938	709993
F	445m SE	Coal Pits	1851	648700
7	461m S	Unspecified Ground Workings	1928	647130
F	467m SE	Coal Pits	1851	648702
8	469m N	Clay Pit	1851	676028
9	474m SW	Unspecified Old Shaft	1891	651783

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	2
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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 17](#) >

ID	Location	Land Use	Date	Group ID
B	343m SW	Unspecified Tank	1891	84118
B	343m SW	Gasometer	1910	78079

This data is sourced from Ordnance Survey / Groundsure.

2.3 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. 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 17](#) >

ID	Location	Land Use	Date	Group ID
B	343m SW	Gasometer	1910	46131

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

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

0

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.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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.

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

3.5 Historical waste sites

Records within 500m

0

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

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



3.6 Licensed waste sites

Records within 500m

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

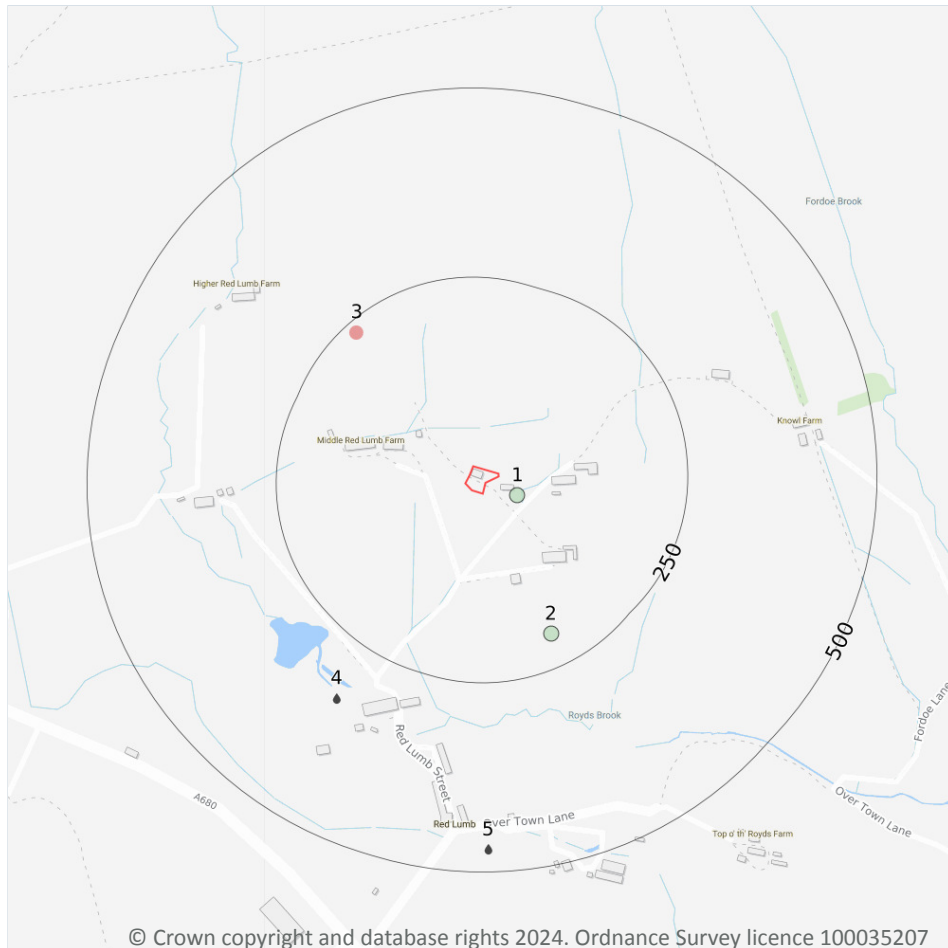
0

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.

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

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 23](#) >

ID	Location	Company	Address	Activity	Category
3	235m NW	Wind Turbine	Greater Manchester, OL12	Energy Production	Industrial Features

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**0**

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**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.



4.7 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.

4.8 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.

4.9 Historical licensed industrial activities (IPC)

Records within 500m**0**

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m**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.

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

Records within 500m**0**

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

This data is sourced from Local Authority records.



4.12 Radioactive Substance Authorisations

Records within 500m	0
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Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

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

4.13 Licensed Discharges to controlled waters

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

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 23](#) >

ID	Location	Address	Details	
4	327m SW	RED LUMB MILL STP, RED LUMB, ROCHDALE, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016993135 Permit Version: 1 Receiving Water: TRIB NADEN BROOK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 22/07/1996 Revocation Date: -
5	470m S	RED LUMB ST (68&CHAPEL), RED LUMB, NORDEN, ROCHDALE, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 016990618 Permit Version: 1 Receiving Water: ROYDS BROOK	Status: PRE NRA LEGISLATION WHERE ISSUE DATE 01-SEP-89 (HISTORIC ONLY) Issue date: - Effective Date: 20/05/1985 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0
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Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

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

4.15 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m**0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m**0**

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m**2**

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

Features are displayed on the Current industrial land use map on [page 23](#) >

ID	Location	Details	
1	35m SE	Incident Date: 12/02/2002 Incident Identification: 57808 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
2	205m SE	Incident Date: 01/02/2002 Incident Identification: 55755 Pollutant: Oils and Fuel Pollutant Description: Gas and Fuel Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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



4.19 Pollution inventory substances

Records within 500m**0**

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

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

4.20 Pollution inventory waste transfers

Records within 500m**0**

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

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

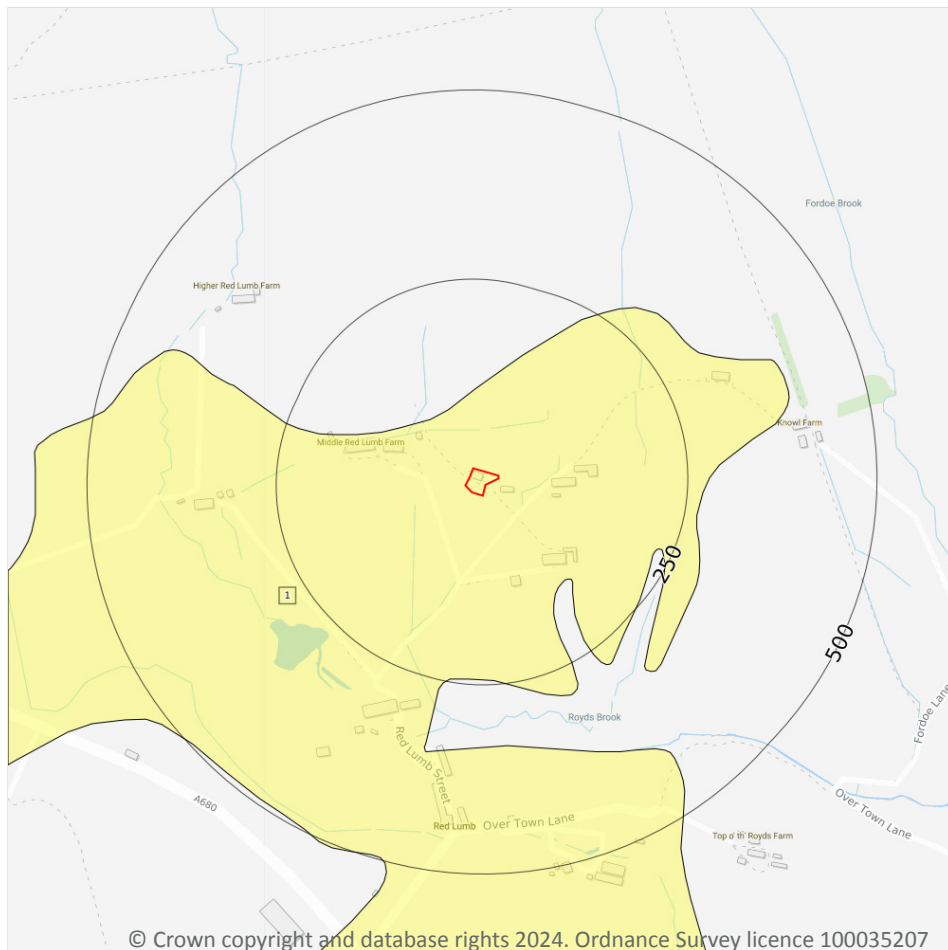
4.21 Pollution inventory radioactive waste

Records within 500m**0**

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

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

5 Hydrogeology - Superficial aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

1

Aquifer status of groundwater held within superficial geology.

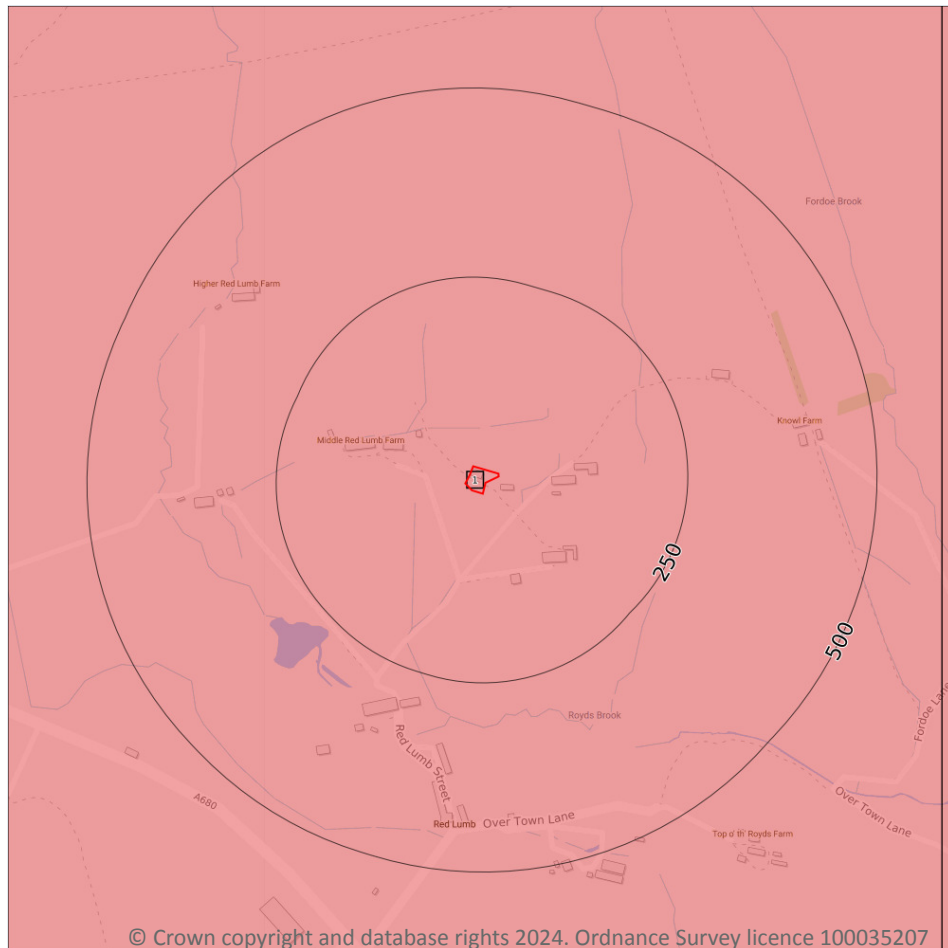
Features are displayed on the Hydrogeology map on [page 29 >](#)

ID	Location	Designation	Description
1	On site	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

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5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

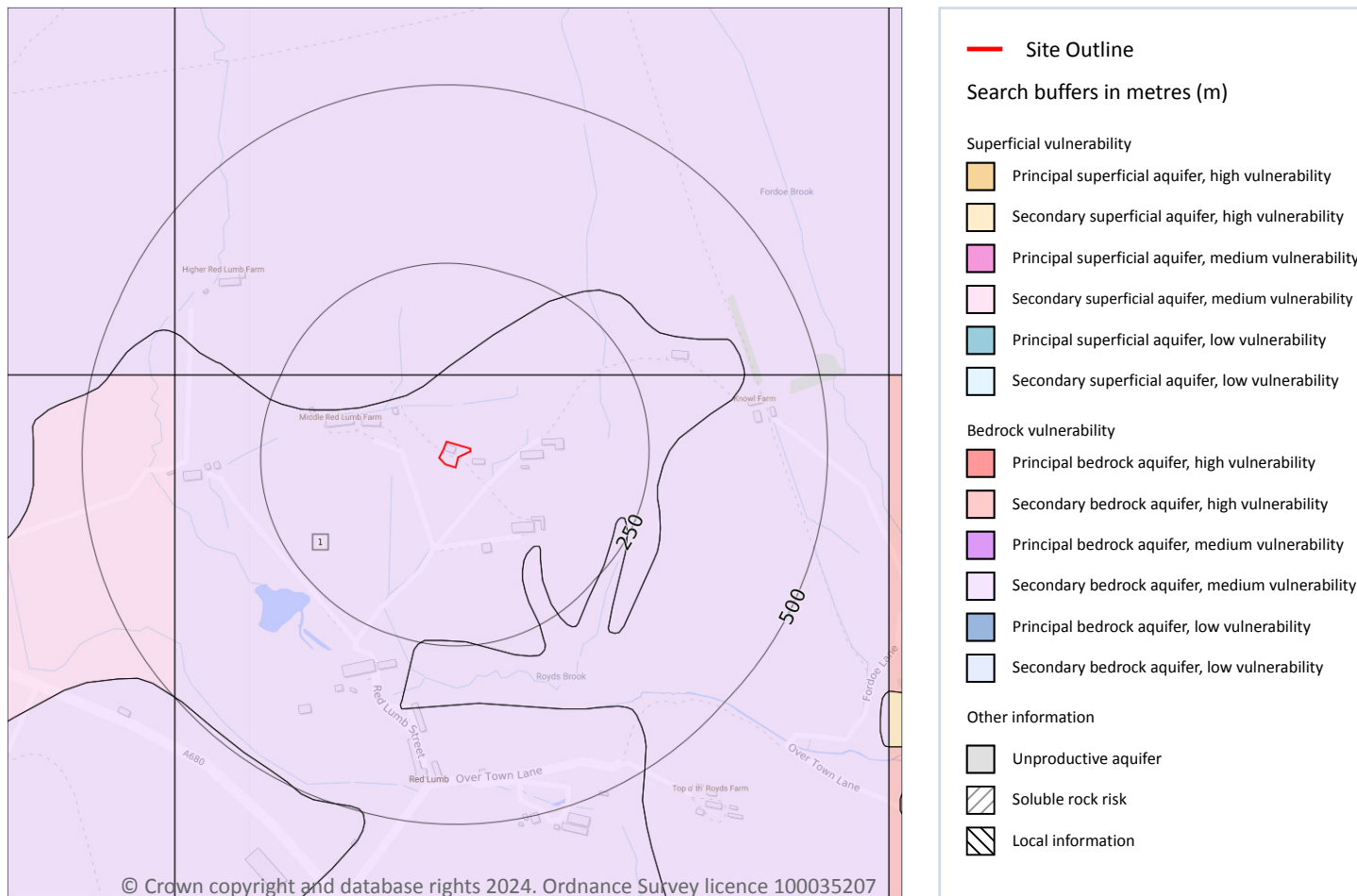
Features are displayed on the Bedrock aquifer map on [page 30](#) >

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



5.3 Groundwater vulnerability

Records within 50m

1

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

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

Features are displayed on the Groundwater vulnerability map on [page 31](#) >



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary bedrock aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: >550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: <3m Patchiness value: <90% Recharge potential: High	Vulnerability: Medium 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.

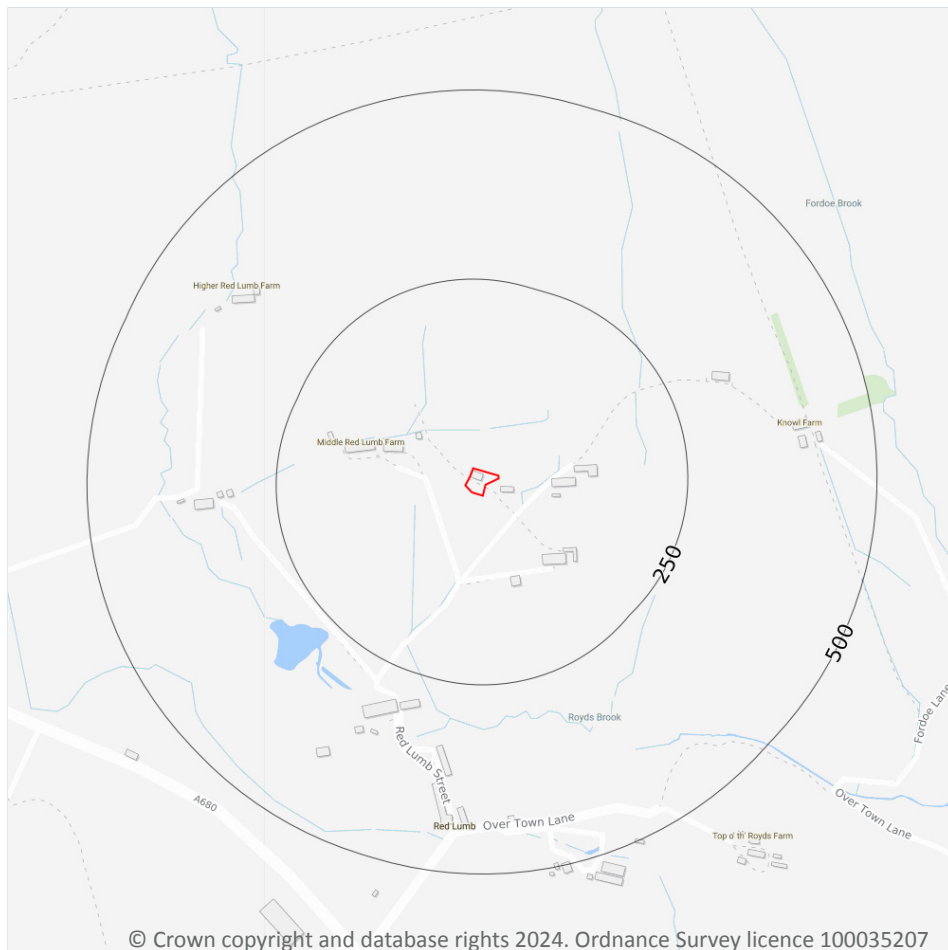
5.5 Groundwater vulnerability- local information

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
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

22

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 33](#) >



ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	1013m SE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1013m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1013m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1013m SE	Status: Historical Licence No: 2569002187 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	1212m W	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -
-	1464m W	Status: Historical Licence No: 2569002164 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE" Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1464m W	Status: Historical Licence No: 2569002164 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1695m S	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH" Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -



ID	Location	Details	
-	1695m S	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1695m S	Status: Historical Licence No: 2569002224 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH Data Type: Point Name: TOMLINSON Easting: 384100 Northing: 414200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/1982 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1982 Version End Date: -
-	1736m SW	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22732.73 Max Daily Volume (m ³): 62.28 Original Application No: 2541 Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -
-	1736m SW	Status: Active Licence No: 2569002220 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): 22732.73 Max Daily Volume (m ³): 62.28 Original Application No: 2541 Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2006 Version End Date: -



ID	Location	Details	
-	1736m SW	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
-	1736m SW	Status: Historical Licence No: 2569002220 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, ASHWORTH, NEARROCHDALE, LANCASHIRE" Data Type: Point Name: EDUS LTD Easting: 383200 Northing: 414600	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 20/10/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	13
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Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 33 >](#)

ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002188 Details: Process water Direct Source: Surface, Non-Tidal - North West Region Point: RESERVOIR FED BY ROYDS BRK AT PREMISES, NORDEN, ROCHDA Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1124m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1124m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1124m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1359m W	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1359m W	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1612m SE	Status: Historical Licence No: 2569002221 Details: Process water Direct Source: "Surface, Non-Tidal - North West Region" Point: "NADEN BRK AT NORDERN, NR ROCHDALE" Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -
-	1612m SE	Status: Historical Licence No: 2569002221 Details: Process Water Direct Source: Surface, Non-Tidal - North West Region Point: NADEN BRK AT NORDERN, NR ROCHDALE Data Type: Point Name: TACKLEA WORKS LTD Easting: 385600 Northing: 414800	Annual Volume (m ³): 150018 Max Daily Volume (m ³): 590.98 Original Application No: - Original Start Date: 04/11/1981 Expiry Date: - Issue No: 100 Version Start Date: 05/02/1988 Version End Date: -

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



5.8 Potable abstractions

Records within 2000m

18

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

Features are displayed on the Abstractions and Source Protection Zones map on [page 33](#) >

ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE 106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE \$106 Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -



ID	Location	Details	
-	844m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1013m SE	Status: Historical Licence No: 2569002187 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1013m SE	Status: Historical Licence No: 2569002187 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLES (2) AT PREMISES, NORDEN, ROCHDALE Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 385300 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 30/05/1990 Version End Date: -
-	1124m SE	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385300 Northing: 415200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1124m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1124m SE	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE*31 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385300 Northing: 415200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1212m W	Status: Historical Licence No: 2569002083 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT ASHWORTH MOOR, NORDEN Data Type: Point Name: GREENALL WHITLEY P LC Easting: 383200 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 04/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1987 Version End Date: -
-	1224m E	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 385600 Northing: 416200	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE108 Data Type: Point Name: NORTH WEST WATER LTD Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1224m E	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN & GREENBOOTH RESERVOIRS, ROCHDALE\$108 Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 385600 Northing: 416200	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1359m W	Status: Active Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: Surface, Non-Tidal - North West Region Point: ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE Data Type: Point Name: United Utilities Water Ltd Easting: 383100 Northing: 415400	Annual Volume (m ³): 9092000 Max Daily Volume (m ³): 40914 Original Application No: 1613 Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -



ID	Location	Details	
-	1359m W	Status: Historical Licence No: 2569002197 Details: Potable Water Supply - Direct Direct Source: "Surface, Non-Tidal - North West Region" Point: "ASHWORTH MOOR, NADEN AND GREENBOOTH RESERVOIRS, ROCHDALE" Data Type: Point Name: UNITED UTILITIES WATER PLC Easting: 383100 Northing: 415400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 14/03/1990 Version End Date: -
-	1464m W	Status: Historical Licence No: 2569002164 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE" Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1464m W	Status: Historical Licence No: 2569002164 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: SPRING FED COLLECTING TANK AT TOM HILL, CHEESDEN, ROCHDALE Data Type: Point Name: NUTTER Easting: 383000 Northing: 416400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 31/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -

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

5.9 Source Protection Zones

Records within 500m	0
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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

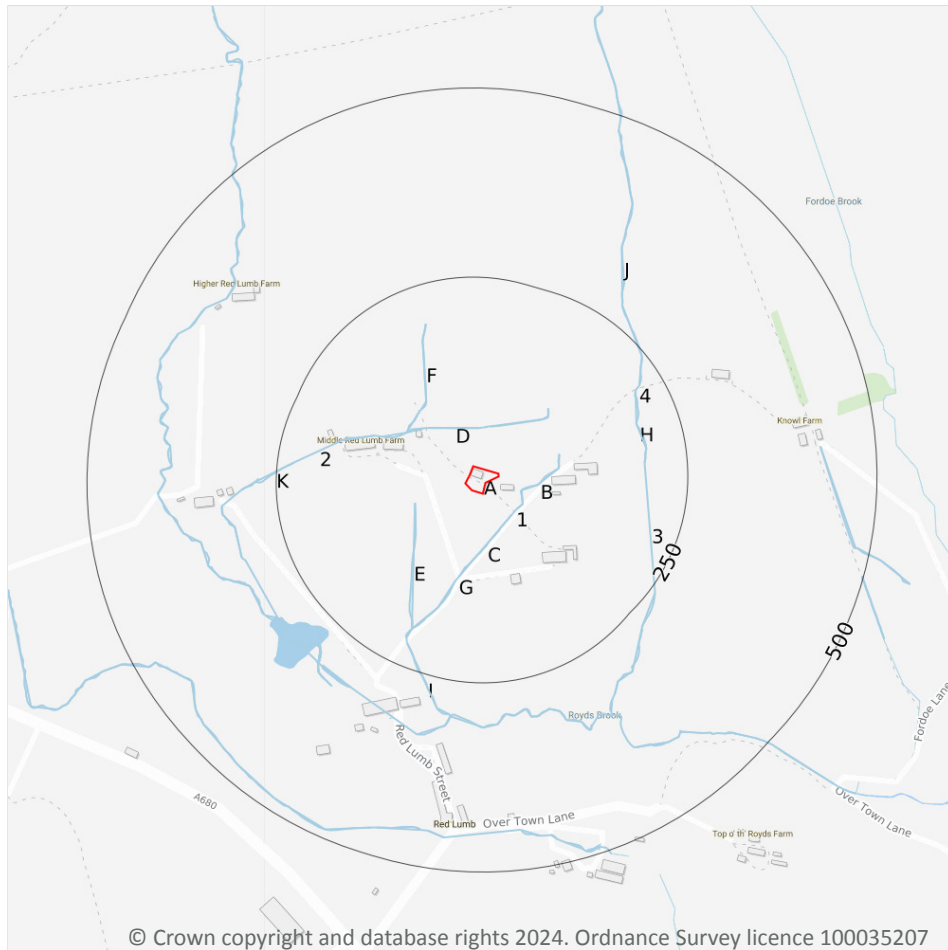
0

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



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

28

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 49 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
B	35m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
C	46m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
1	47m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	50m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	51m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	52m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	56m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	57m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
E	71m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	78m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	82m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	98m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	98m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	101m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
F	101m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	114m S	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	120m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	126m NW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
D	135m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
2	172m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
3	193m E	Inland river not influenced by normal tidal action.	Not provided	Watercourse contains water year round (in normal circumstances)	-
H	193m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
G	199m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
4	212m NE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
G	213m SW	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
I	218m SW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	219m NE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
K	228m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	16
----------------------------	-----------

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

Features are displayed on the Hydrology map on [page 49 >](#)

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 49 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	On site	River	Naden Brook	GB112069064710	Roch Irk Medlock	Irwell

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 49 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	1121m SW	River	Naden Brook	GB112069064710 ↗	Moderate	Fail	Moderate	2019

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

6.5 WFD Groundwater bodies

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

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

Features are displayed on the Hydrology map on [page 49 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800 ↗	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.

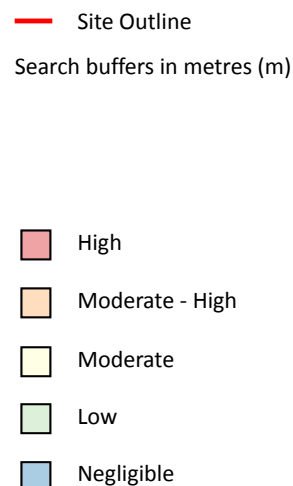
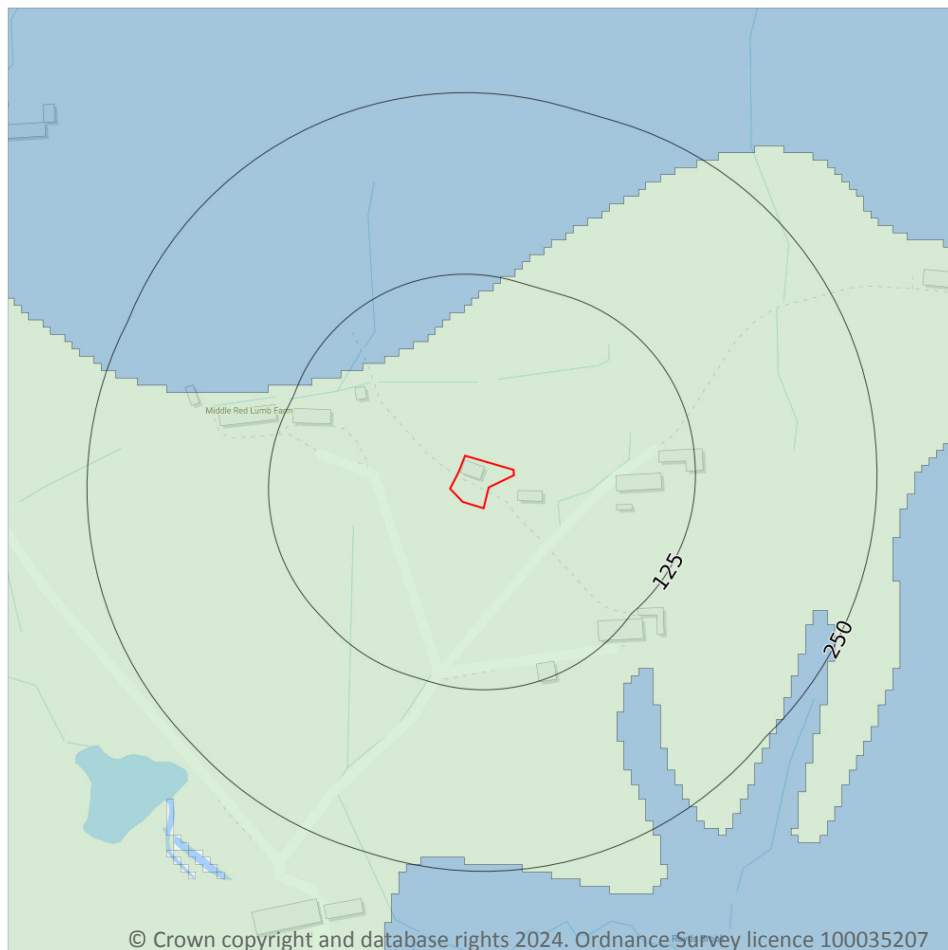
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the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



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

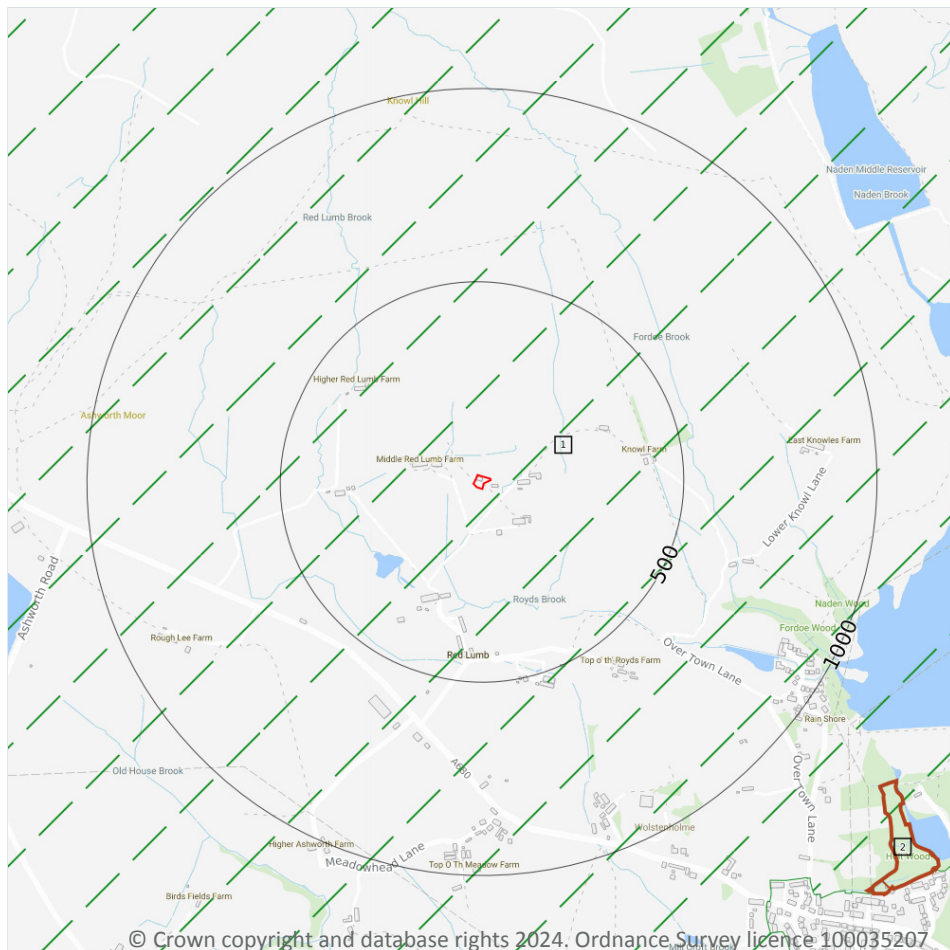
Low

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 58](#) >

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- 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**0**

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.

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

10.7 Designated Ancient Woodland

Records within 2000m**3**

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

Features are displayed on the Environmental designations map on [page 59 >](#)

ID	Location	Name	Woodland Type
2	1282m SE	Wolstenholme Wood	Ancient & Semi-Natural Woodland
3	1288m S	Fester Clough Wood	Ancient & Semi-Natural Woodland
-	1350m S	Naden Brook 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

2

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

Features are displayed on the Environmental designations map on [page 59 >](#)

ID	Location	Name	Local Authority name
1	On site	Merseyside and Greater Manchester	Rochdale
-	1812m W	Merseyside and Greater Manchester	Rossendale

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.



10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

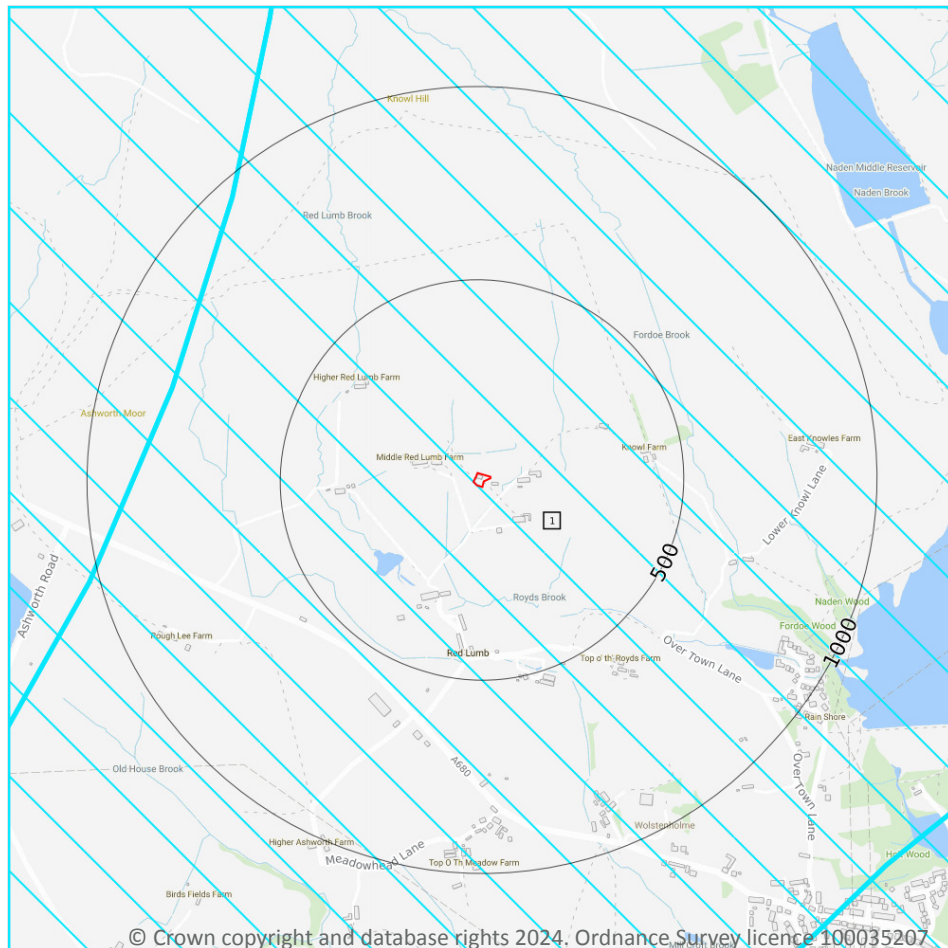
Records within 2000m**0**

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

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



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 64](#) >

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



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

0

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

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



11 Visual and cultural designations

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

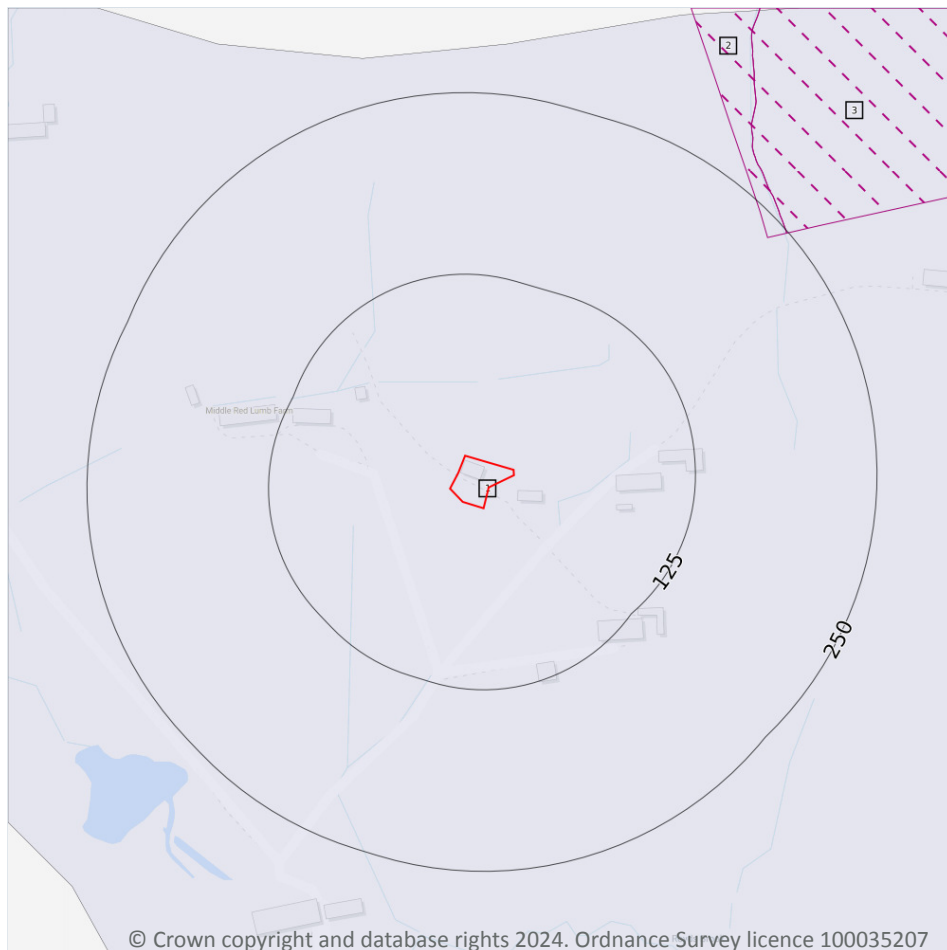
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Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, 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



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

1

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 68](#) >

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



This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m

2

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.

Features are displayed on the Agricultural designations map on [page 68](#) >

ID	Location	Name	Classification	Other relevant legislation
2	237m NE	-	Section 4 Conclusive Open Country	-
3	249m NE	-	Section 4 Conclusive Open Country	-

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

13.1 Priority Habitat Inventory

Records within 250m

0

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

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

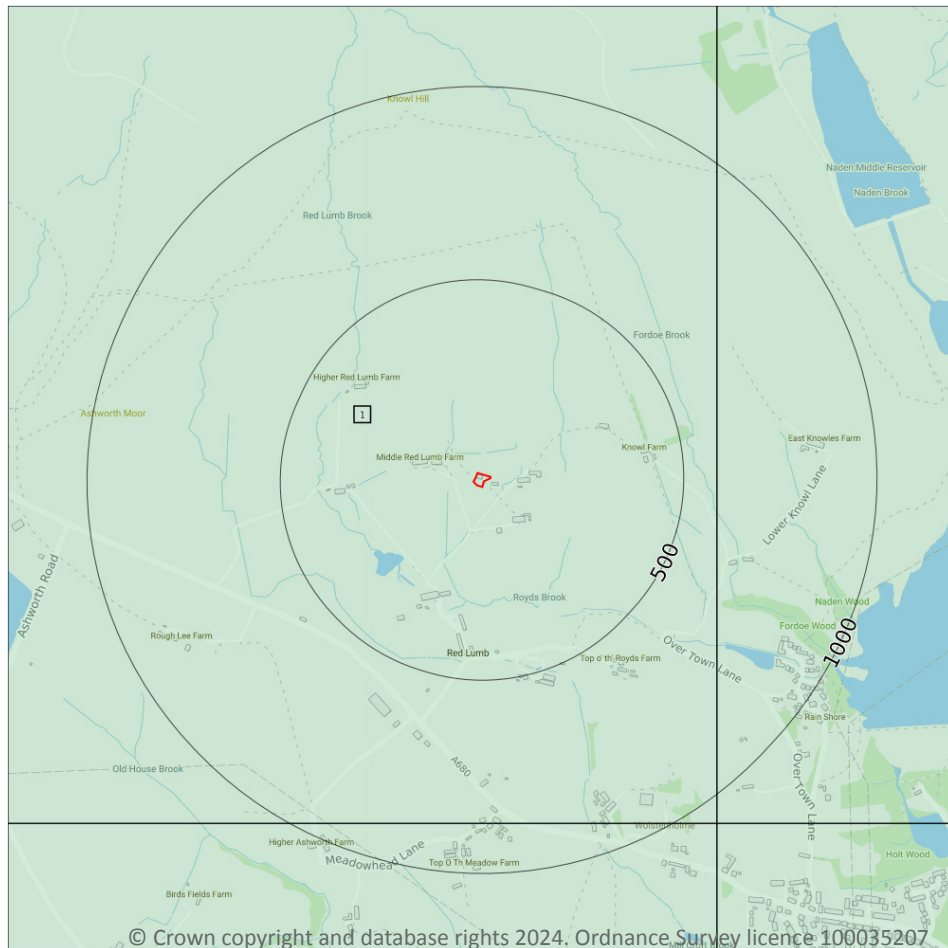
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Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable 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.

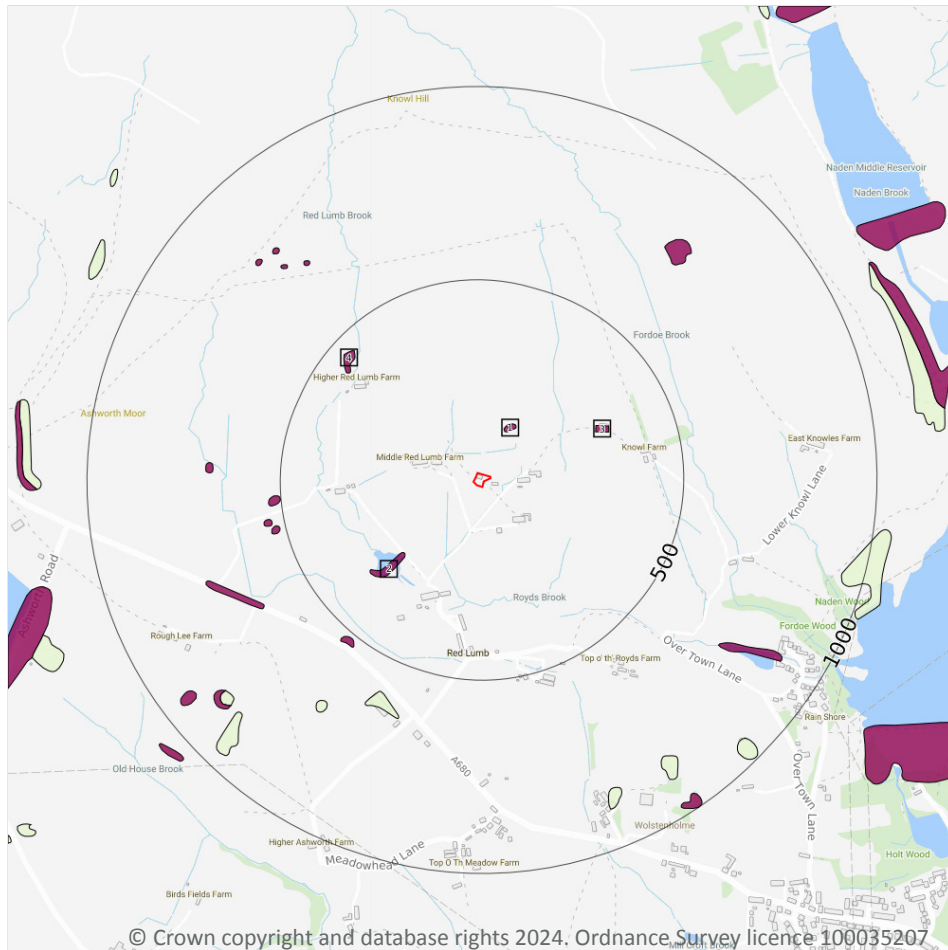
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 72](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD81NW

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

4

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 73](#) >

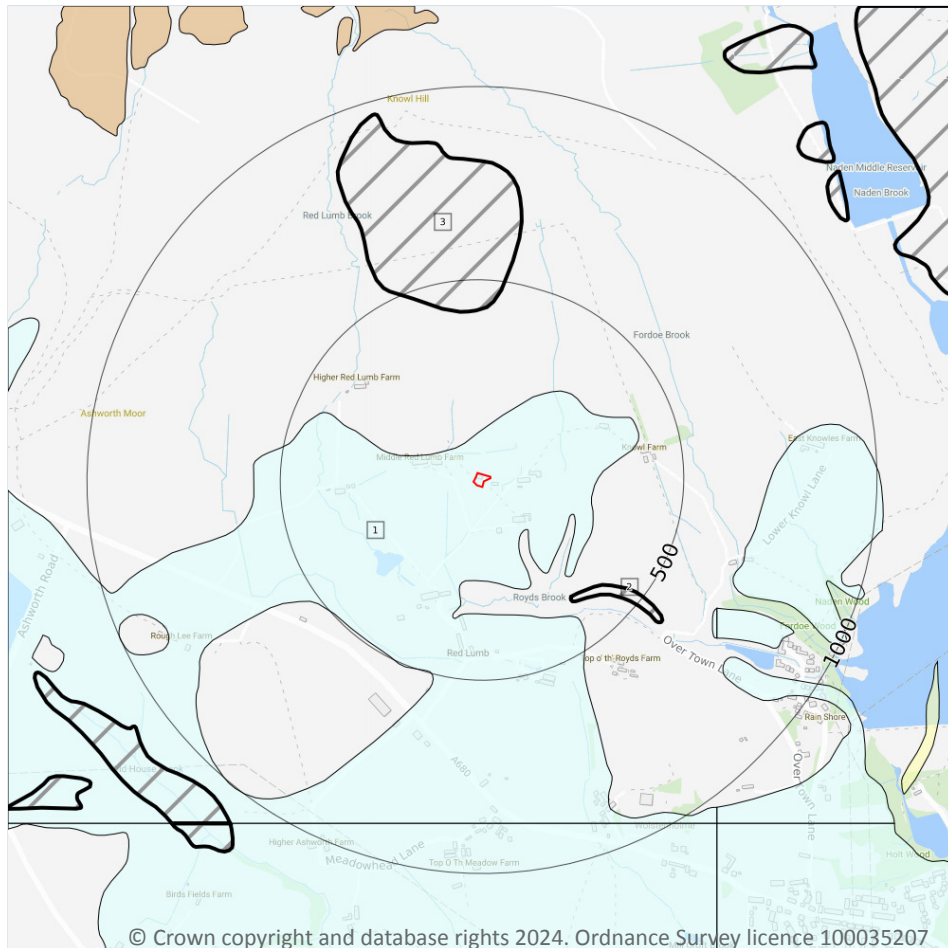
ID	Location	LEX Code	Description	Rock description
1	123m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	257m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	296m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	420m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit



This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



14.3 Superficial geology (10k)

Records within 500m

1

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 75 >](#)

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

2

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.

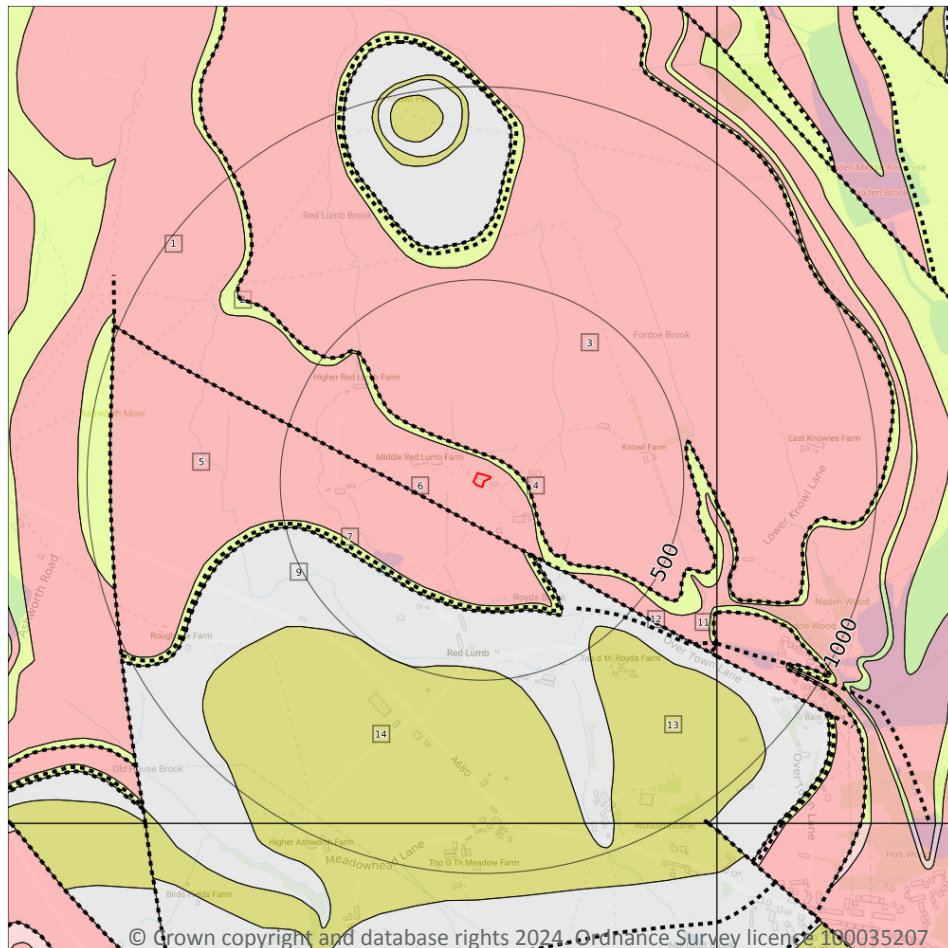
Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 75 >](#)

ID	Location	LEX Code	Description	Rock description
2	365m SE	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry
3	418m N	SLIP-UNKNOWN	Landslide Deposits	Unknown/unclassified Entry

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

9

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 77 >](#)

ID	Location	LEX Code	Description	Rock age
1	On site	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
2	33m NE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
3	49m NE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age



ID	Location	LEX Code	Description	Rock age
5	93m SW	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
7	194m SE	MG-MDSI	Millstone Grit Group [see Also Migr] - Mudstone And Siltstone	Namurian Age
9	222m SE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	302m SE	RR-SDST	Rough Rock - Sandstone	Yeadonian Sub-age
13	467m SE	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age
14	468m S	WH-SDST	Woodhead Hill Rock - Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

5

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.

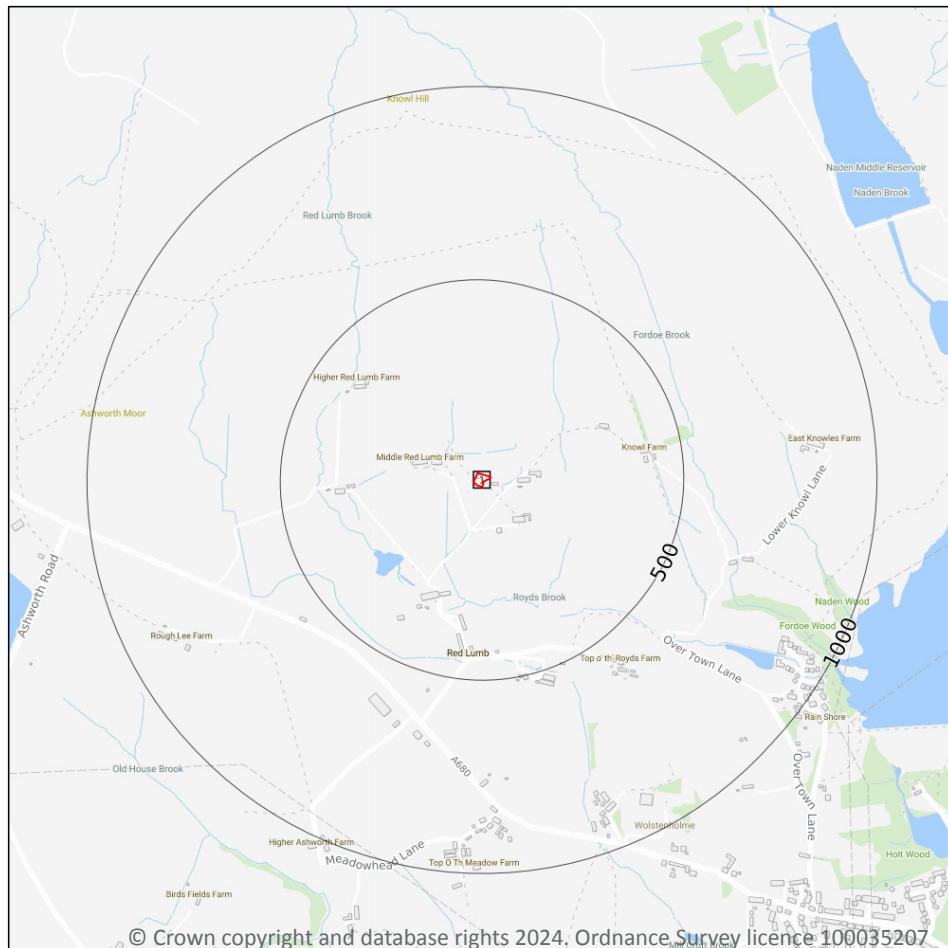
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 77 >](#)

ID	Location	Category	Description
4	49m NE	ROCK	Coal seam, inferred coincident with bedrock geology boundary
6	93m SW	FAULT	Normal fault, inferred
8	210m SE	ROCK	Coal seam, inferred
10	222m SE	FOSSIL_HORIZON	Fossil horizon, marine band coincident with bedrock geology boundary
12	395m SE	LANDFORM	Glacial meltwater channel, undifferentiated, centre line

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— 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 79](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	Full	EW076_rochdale_v4

This data is sourced from the British Geological Survey.



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

15.2 Artificial and made ground (50k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

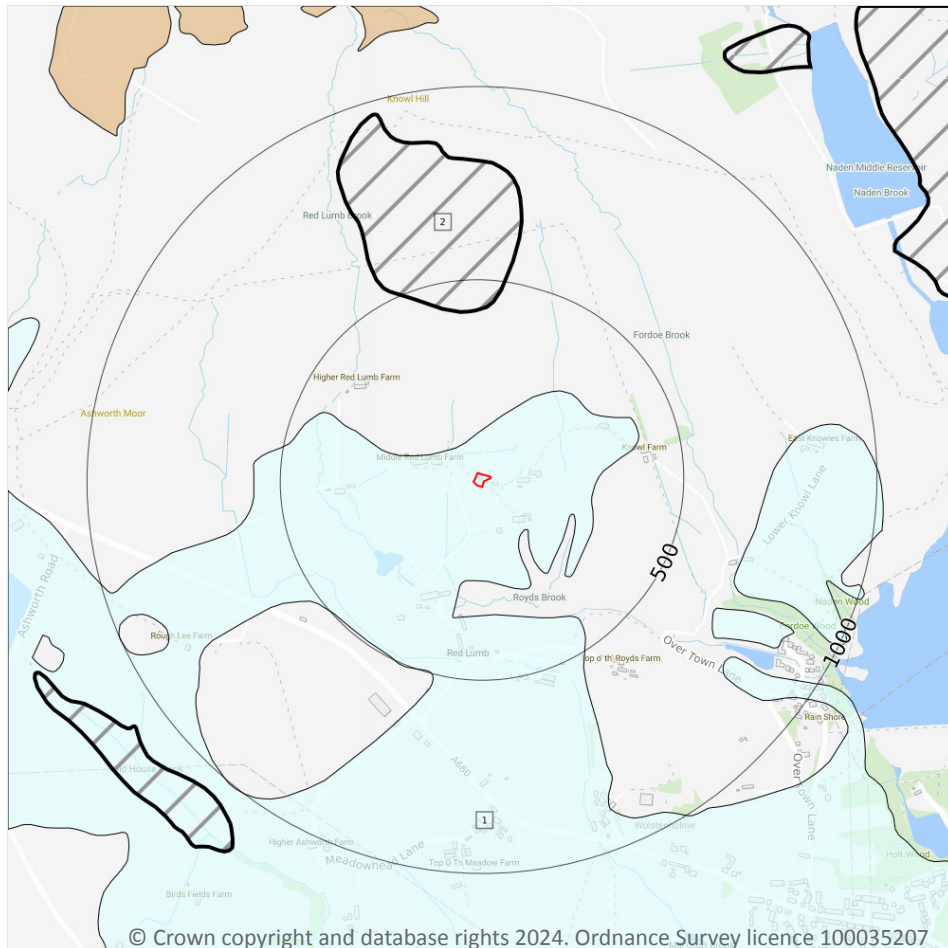
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial 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 - Superficial



— 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

1

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 81](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



15.5 Superficial 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 superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Mixed	High	Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

1

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.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 81](#) >

ID	Location	LEX Code	Description	Rock description
2	418m N	SLIP-UNKNOWN	LANDSLIDE DEPOSITS	UNKNOWN/UNCLASSIFIED ENTRY

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

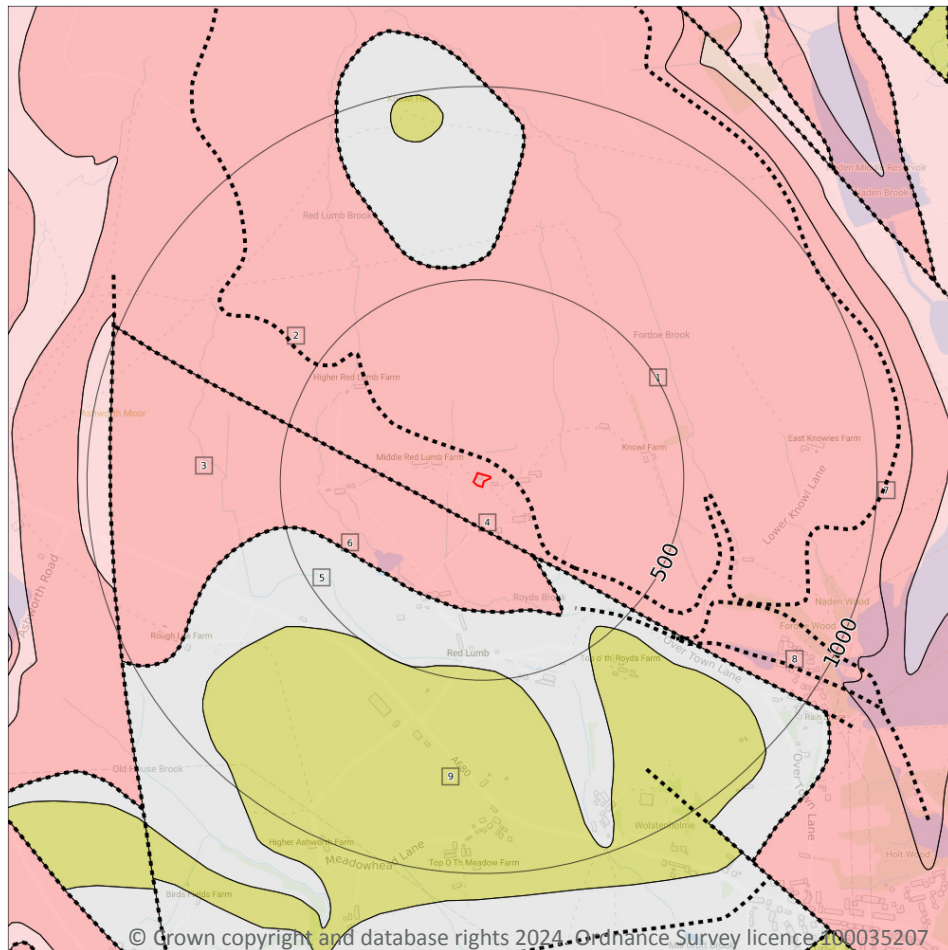
0

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

4

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 83](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
3	93m SW	RR-SDST	ROUGH ROCK - SANDSTONE	NAMURIAN
5	222m SE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
9	467m SE	WH-SDST	WOODHEAD HILL ROCK - SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1
---------------------------	----------

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	5
----------------------------	----------

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 83](#) >

ID	Location	Category	Description
2	33m NE	ROCK	Coal seam, inferred
4	93m SW	FAULT	Fault, inferred
6	222m SE	FOSSIL_HORIZON	Marine band
7	317m SE	ROCK	Coal seam, inferred
8	395m SE	LANDFORM	Glacial meltwater channel centre line, undifferentiated

This data is sourced from the British Geological Survey.



16 Boreholes

16.1 BGS Boreholes

Records within 250m

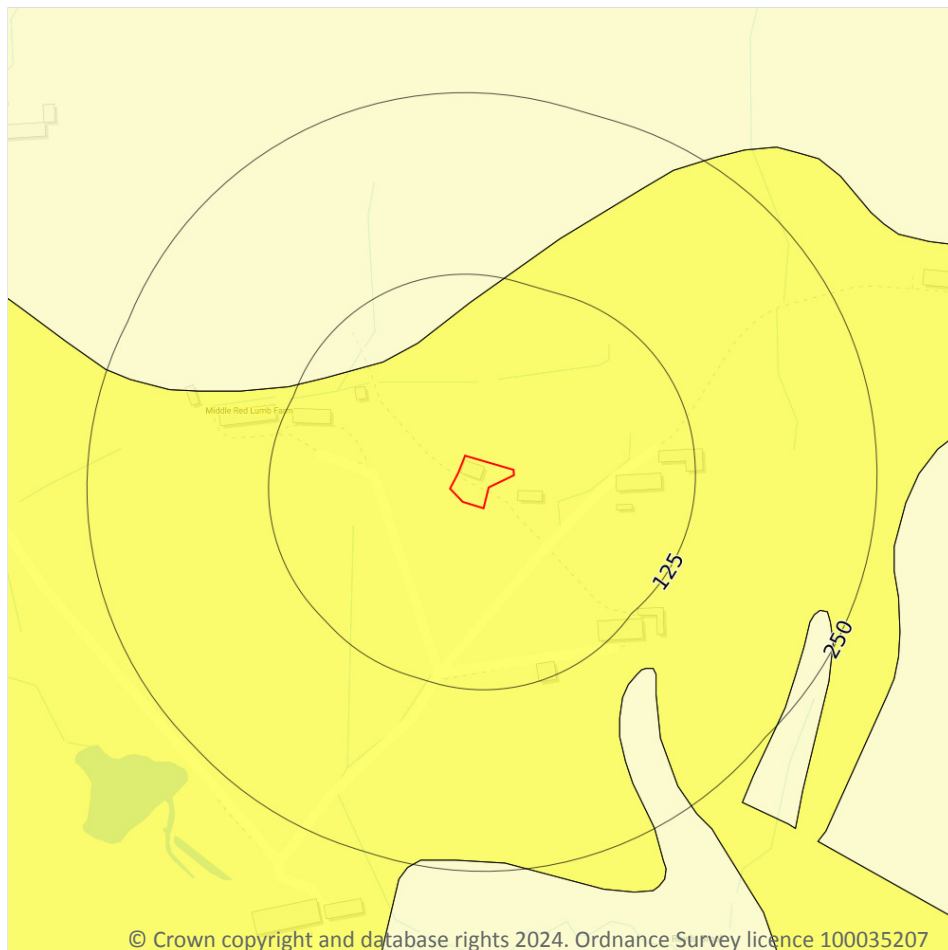
0

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.

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

1

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

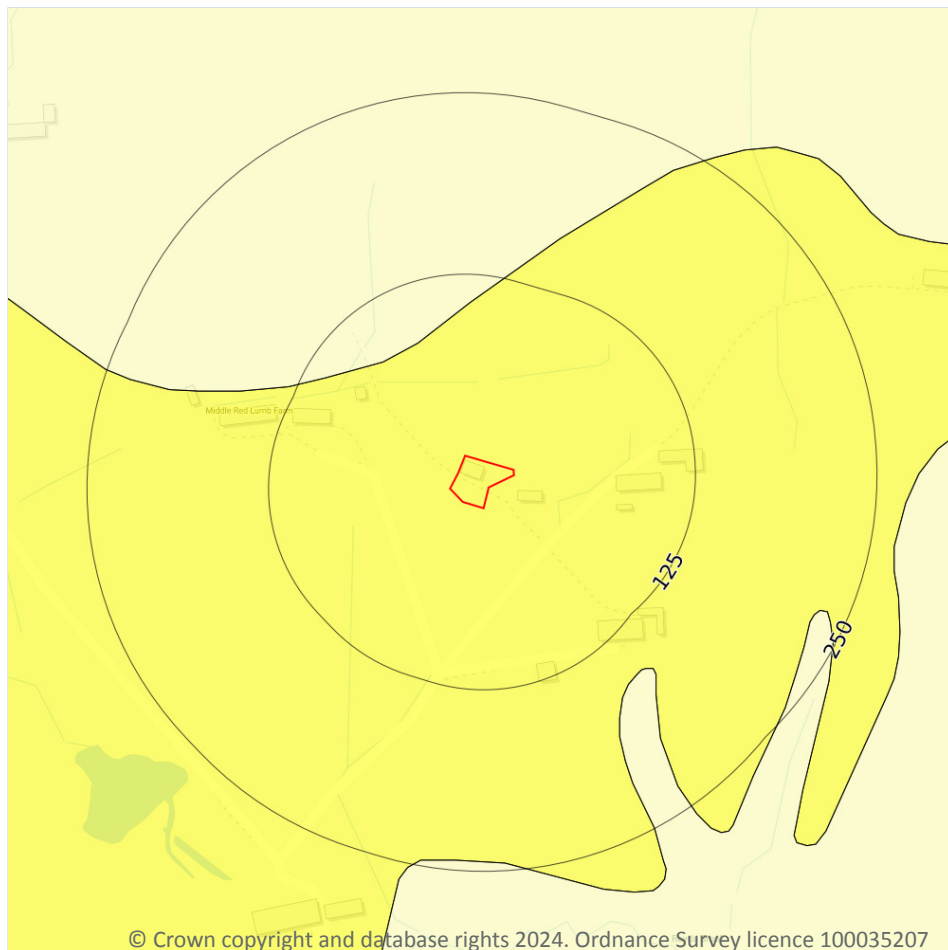
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 86 >](#)

Location	Hazard rating	Details
On site	Very low	Ground conditions predominantly low plasticity.

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

1

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.

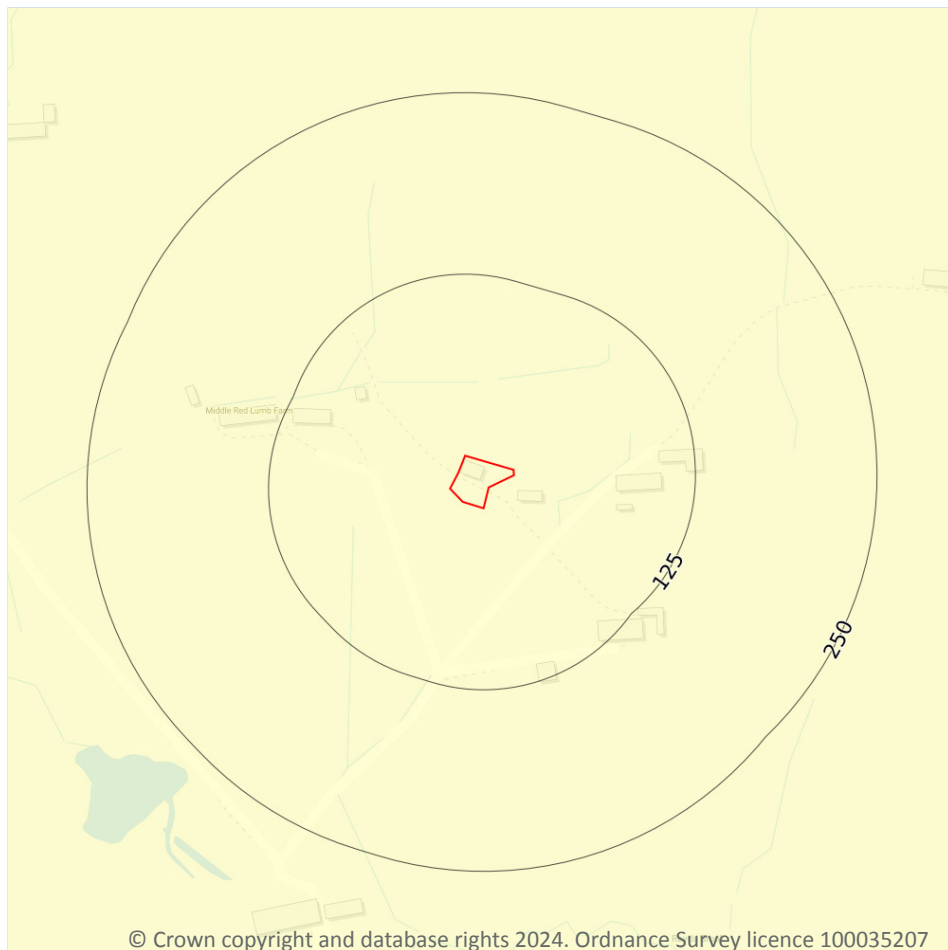
Features are displayed on the Natural ground subsidence - Running sands map on [page 87 >](#)

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

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

1

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.

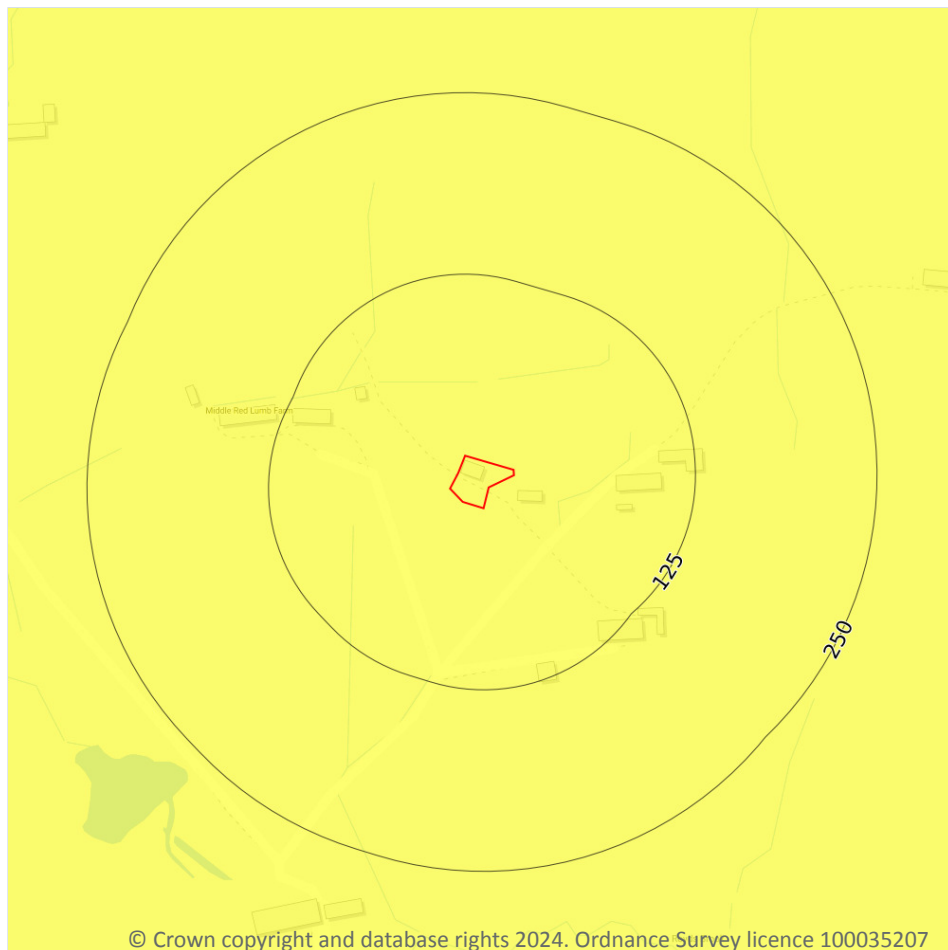
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 88](#) >

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

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.

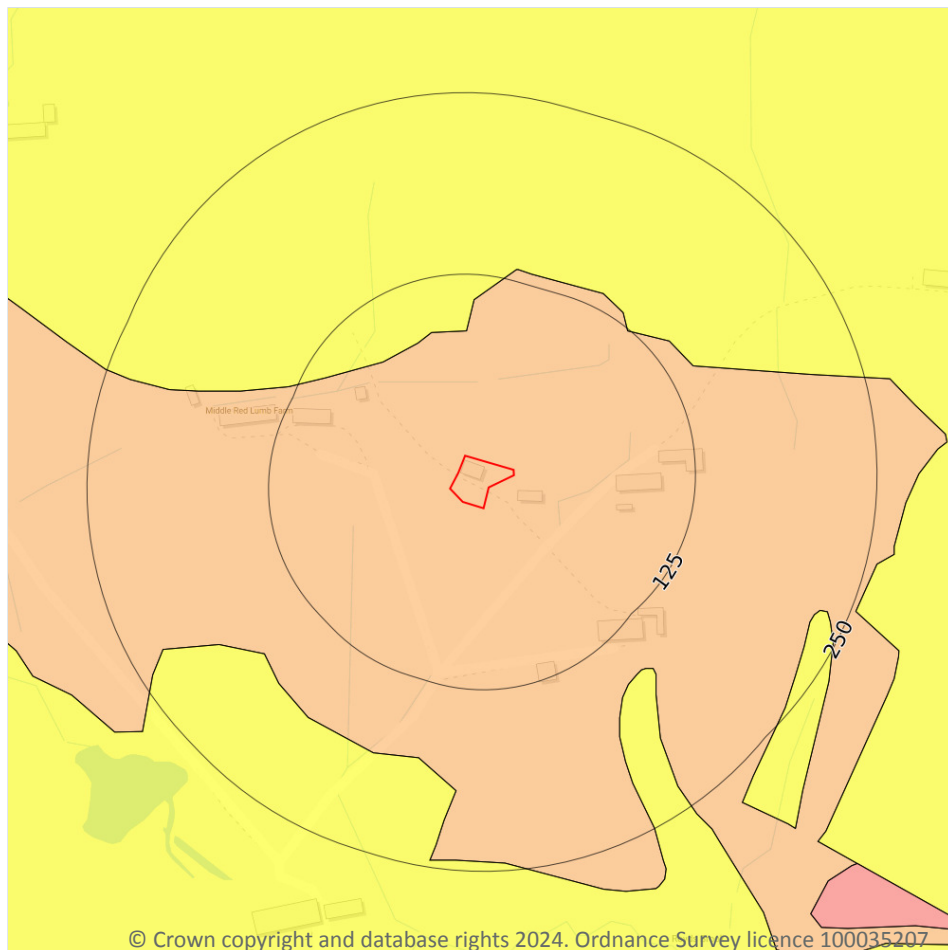
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 89](#) >

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

1

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

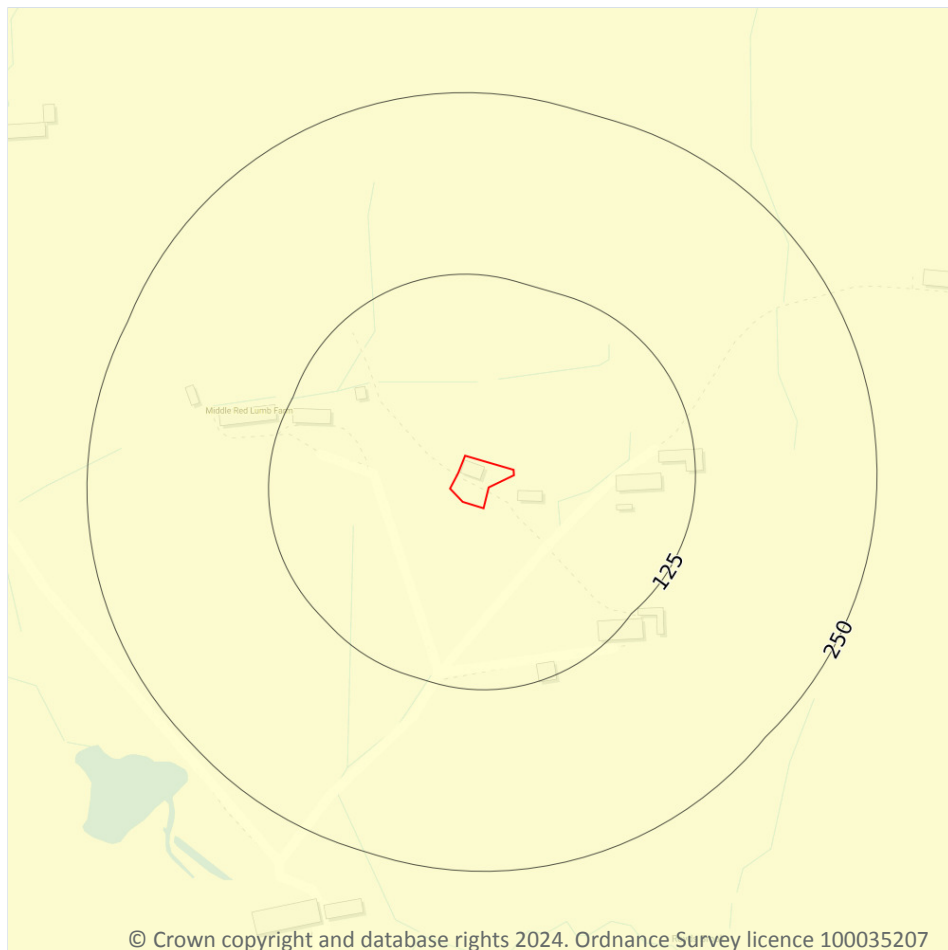
Features are displayed on the Natural ground subsidence - Landslides map on [page 90](#) >

Location	Hazard rating	Details
On site	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



- 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 91](#) >

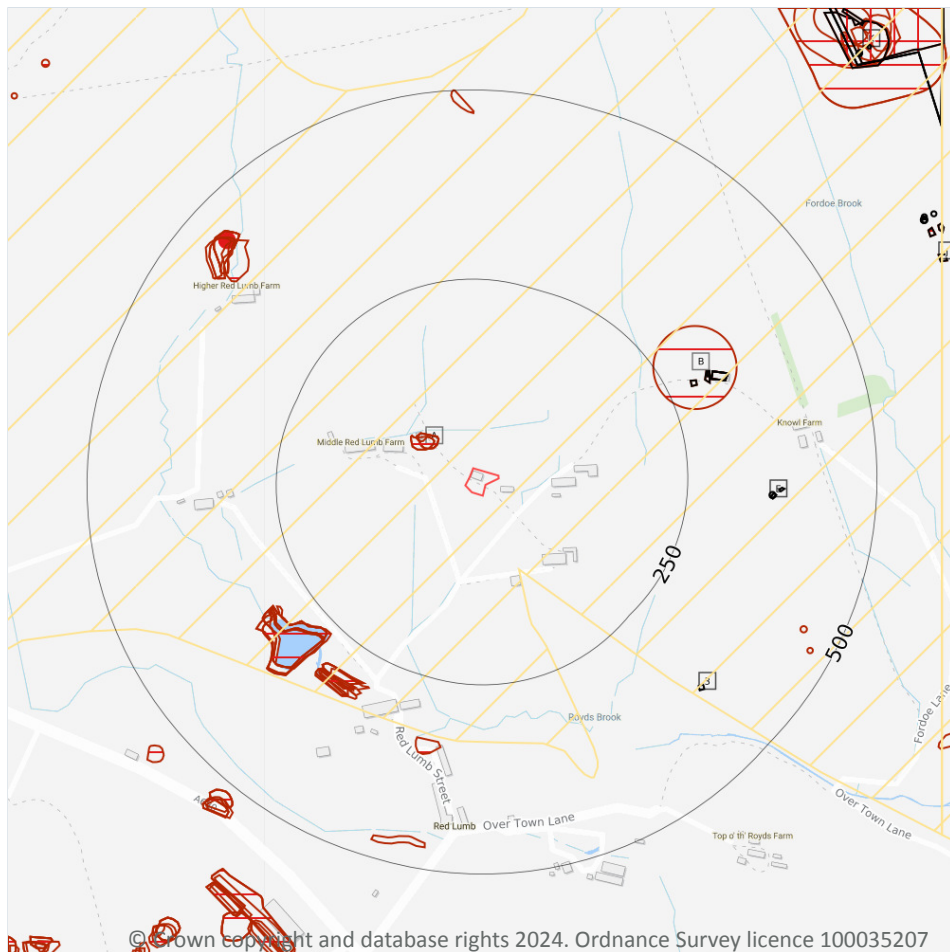
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



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

1

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 93](#) >

ID	Location	Details	Description
F	443m NW	Name: Higher Red Lumb Address: Red Lumb, ROCHDALE, Lancashire Commodity: Sandstone Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site Status description: Site which, at date of entry, has ceased to extract minerals. May be considered as Closed by operator. May be considered to have Active, Dormant or Expired planning permissions by Mineral Planning Authority

This data is sourced from the British Geological Survey.

18.2 Surface ground workings

Records within 250m	6
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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 93 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
A	57m NW	Unspecified Heap	1992	1:10000
A	57m NW	Unspecified Heap	1967	1:10560
A	57m NW	Unspecified Heap	1987	1:10000
A	62m NW	Unspecified Heap	1928	1:10560
A	62m NW	Refuse Heap	1908	1:10560
B	241m NE	Unspecified Level	1949	1:10560

This data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m	36
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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 93 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
B	282m NE	Unspecified Level	1909	1:10560
B	301m NE	Unspecified Level	1938	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
B	305m NE	Unspecified Level	1928	1:10560
B	309m NE	Unspecified Level	1992	1:10000
B	309m NE	Unspecified Level	1967	1:10560
B	309m NE	Unspecified Level	1987	1:10000
E	359m E	Air Shaft	1938	1:10560
E	360m E	Air Shaft	1928	1:10560
E	360m E	Air Shaft	1909	1:10560
E	371m E	Air Shaft	1949	1:10560
3	380m SE	Unspecified Shaft	1890	1:10560
J	649m NE	Unspecified Old Drift	1928	1:10560
J	652m NE	Air Shaft	1938	1:10560
J	652m NE	Air Shaft	1890	1:10560
J	652m NE	Unspecified Old Drift	1938	1:10560
J	653m NE	Air Shaft	1909	1:10560
J	655m NE	Air Shaft	1928	1:10560
J	667m NE	Unspecified Old Drift	1949	1:10560
J	668m NE	Air Shaft	1949	1:10560
-	670m S	Unspecified Old Shaft	1891	1:10560
-	675m S	Old Coal Shaft	1928	1:10560
-	675m S	Old Coal Shaft	1908	1:10560
K	713m NE	Colliery	1938	1:10560
K	721m NE	Unspecified Disused Mine	1992	1:10000
K	721m NE	Unspecified Disused Mine	1967	1:10560
K	721m NE	Unspecified Disused Mine	1987	1:10000
K	727m NE	Colliery	1949	1:10560
K	730m NE	Air Shaft	1938	1:10560
K	731m NE	Air Shaft	1909	1:10560
K	733m NE	Air Shaft	1928	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
K	747m NE	Air Shaft	1949	1:10560
K	764m NE	Drift	1949	1:10560
-	857m S	Disused Colliery	1908	1:10560
-	878m S	Unspecified Old Shaft	1949	1:10560
-	907m S	Unspecified Old Shaft	1928	1:10560
-	909m S	Unspecified Old Shaft	1938	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

3

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 93 >](#)



ID	Location	Name	Commodity	Class	Likelihood
1	On site	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
7	586m E	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.
-	821m SE	Not available	Vein Mineral	A	Underground mine workings are uncommon, although the geology is similar to that worked elsewhere. Potential for difficult ground conditions are unlikely and are at a level where they need not be considered.

This data is sourced from the British Geological Survey.

18.7 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

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.



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

0

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.

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
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

Records on site	0
-----------------	---

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

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

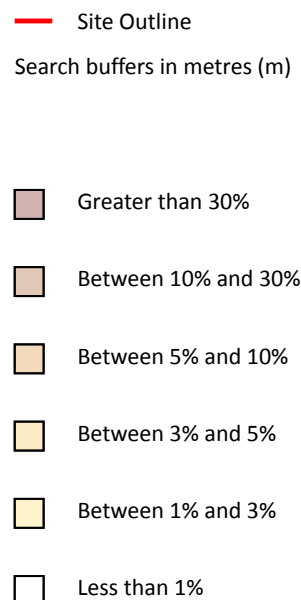
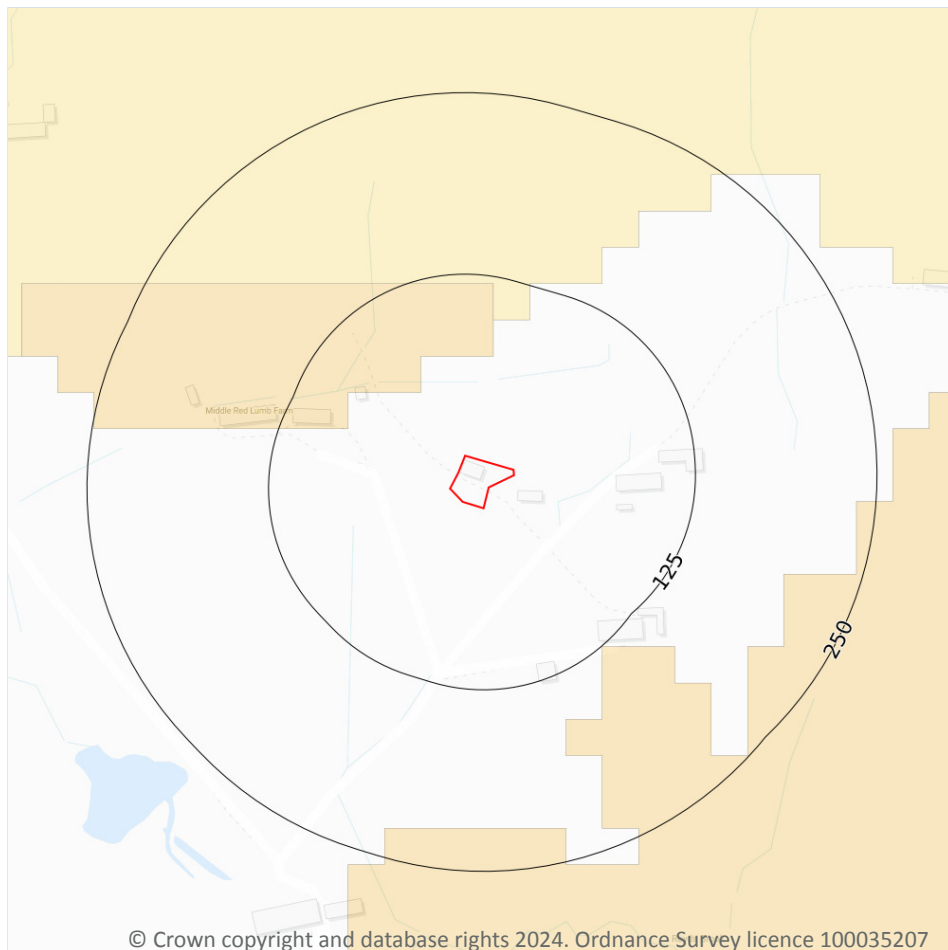
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over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

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

This data is sourced from the British Geological Survey.



20 Radon



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 102](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	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

1

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 km². 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 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

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

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

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 km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects

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**0**

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.

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m

0

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

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m

0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

22.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

22.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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OL12 7TX

Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1890-1891

Scale: 1:2,500

Printed at: 1:2,500



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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1910

Scale: 1:2,500

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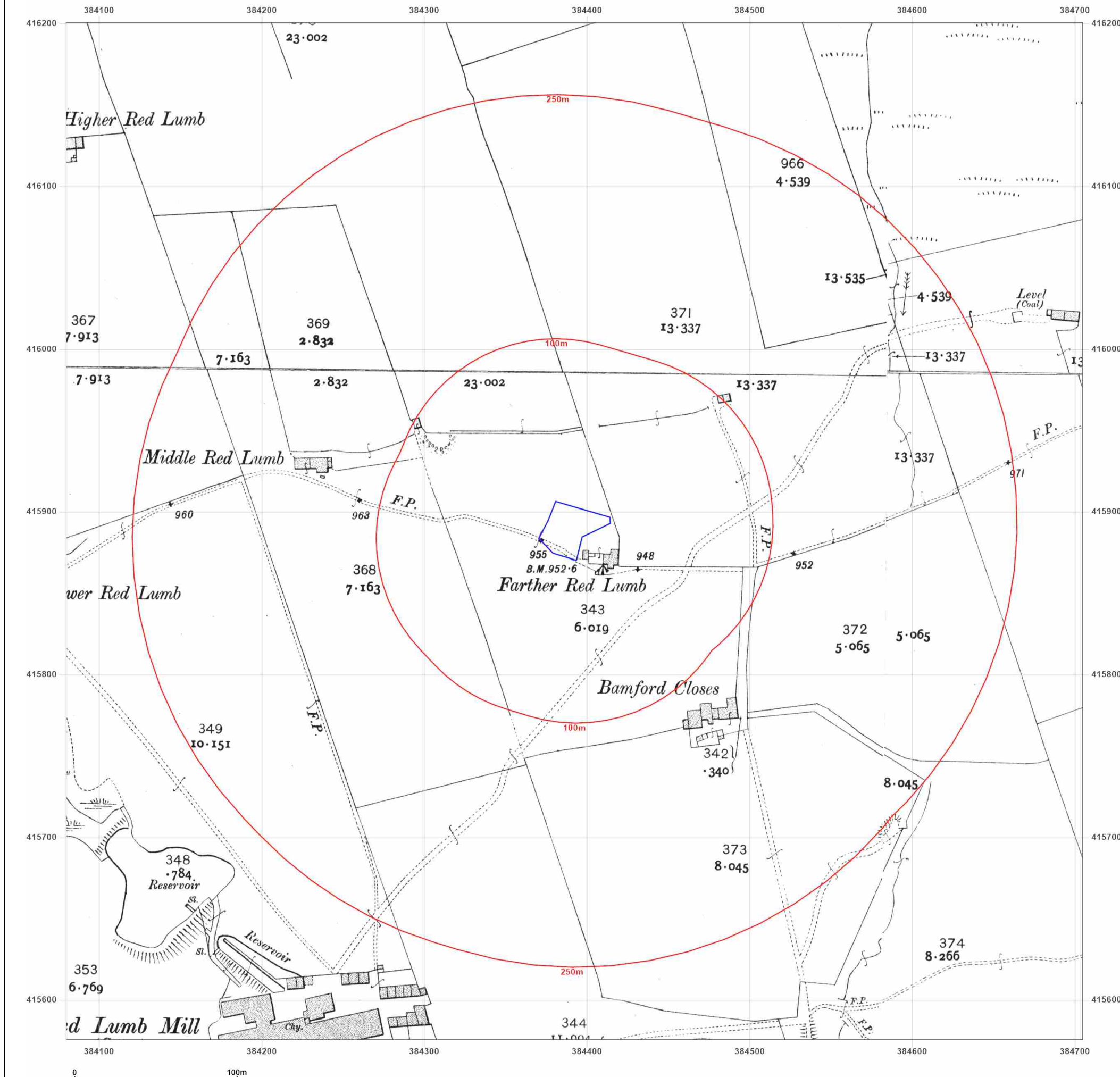


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1929

Scale: 1:2,500

Printed at: 1:2,500



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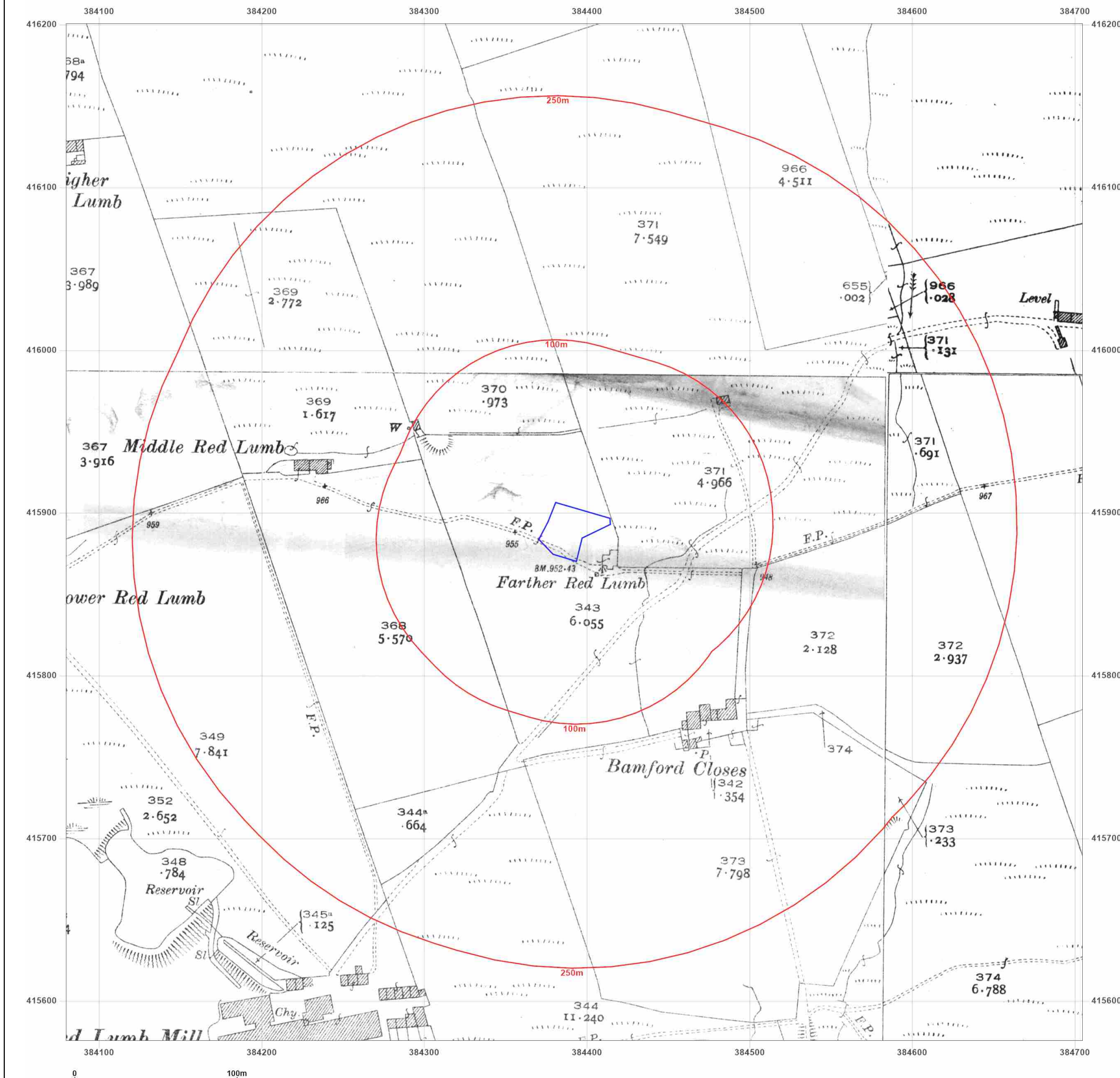


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Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 1962

Scale: 1:2,500

Printed at: 1:2,500



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Copyright 1963
Levelled 1956

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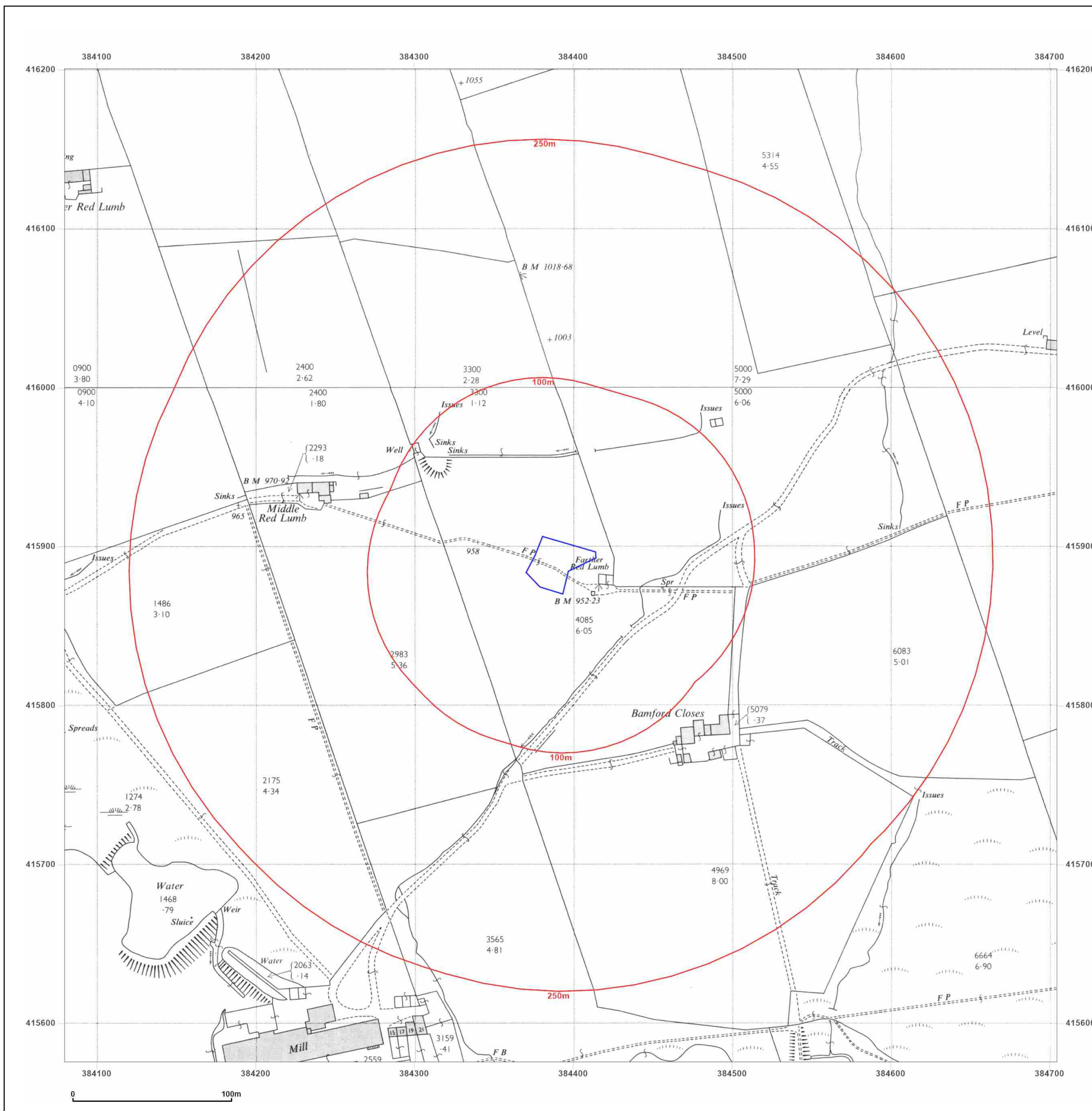


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 1969

Scale: 1:2,500

Printed at: 1:2,500



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Revised N/A
Edition N/A
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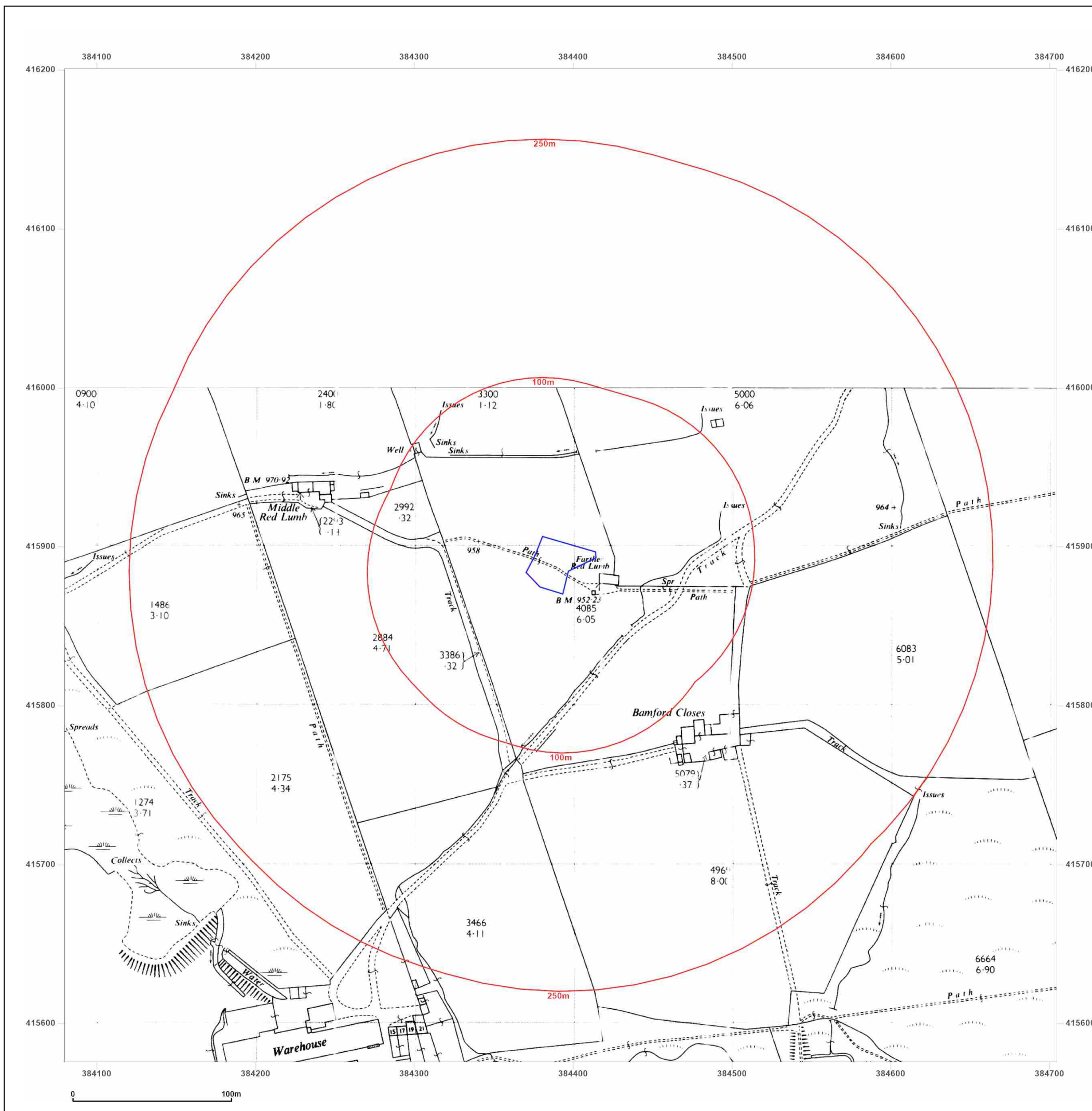


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

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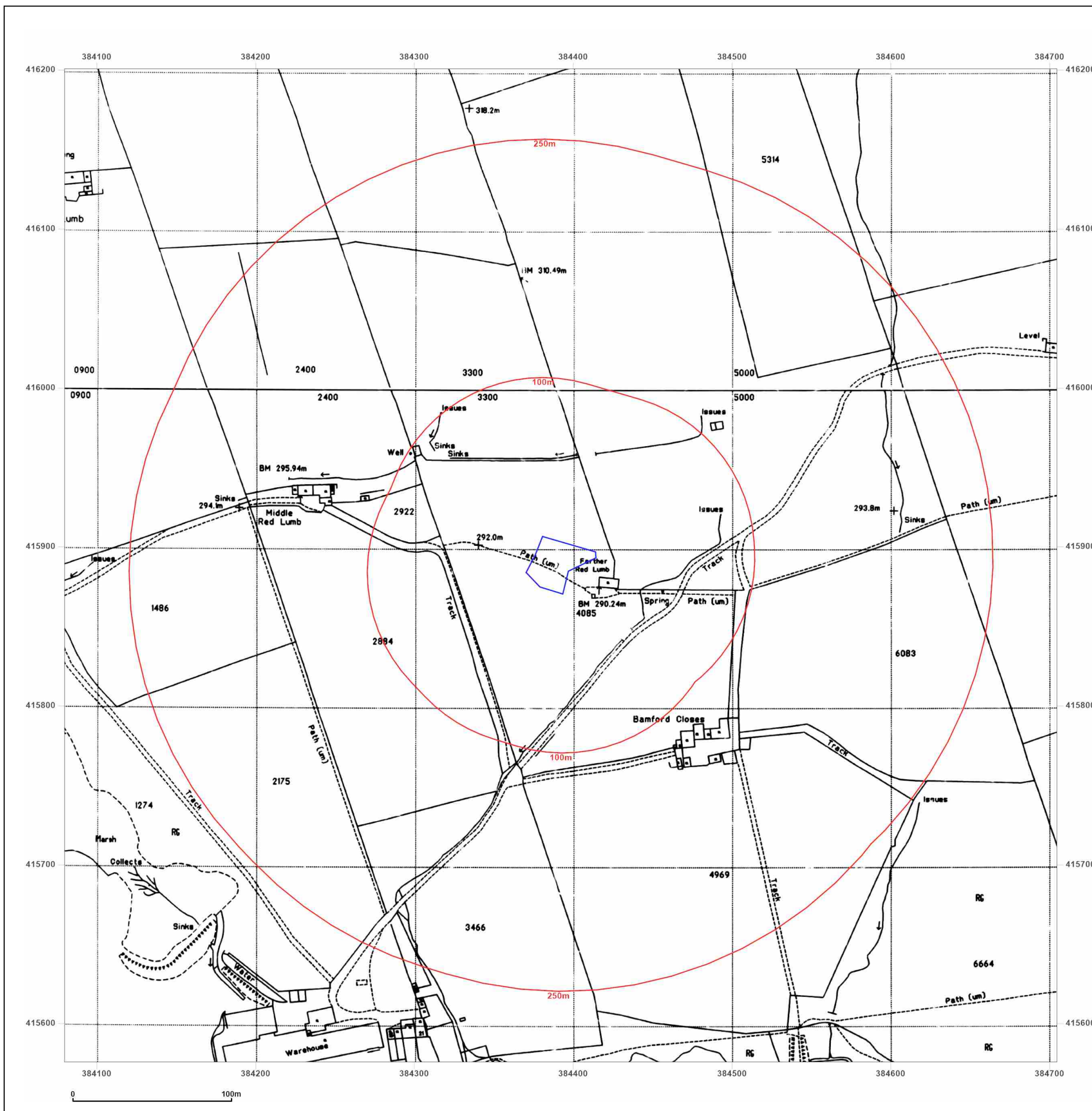


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

Printed at: 1:2,500



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Edition N/A
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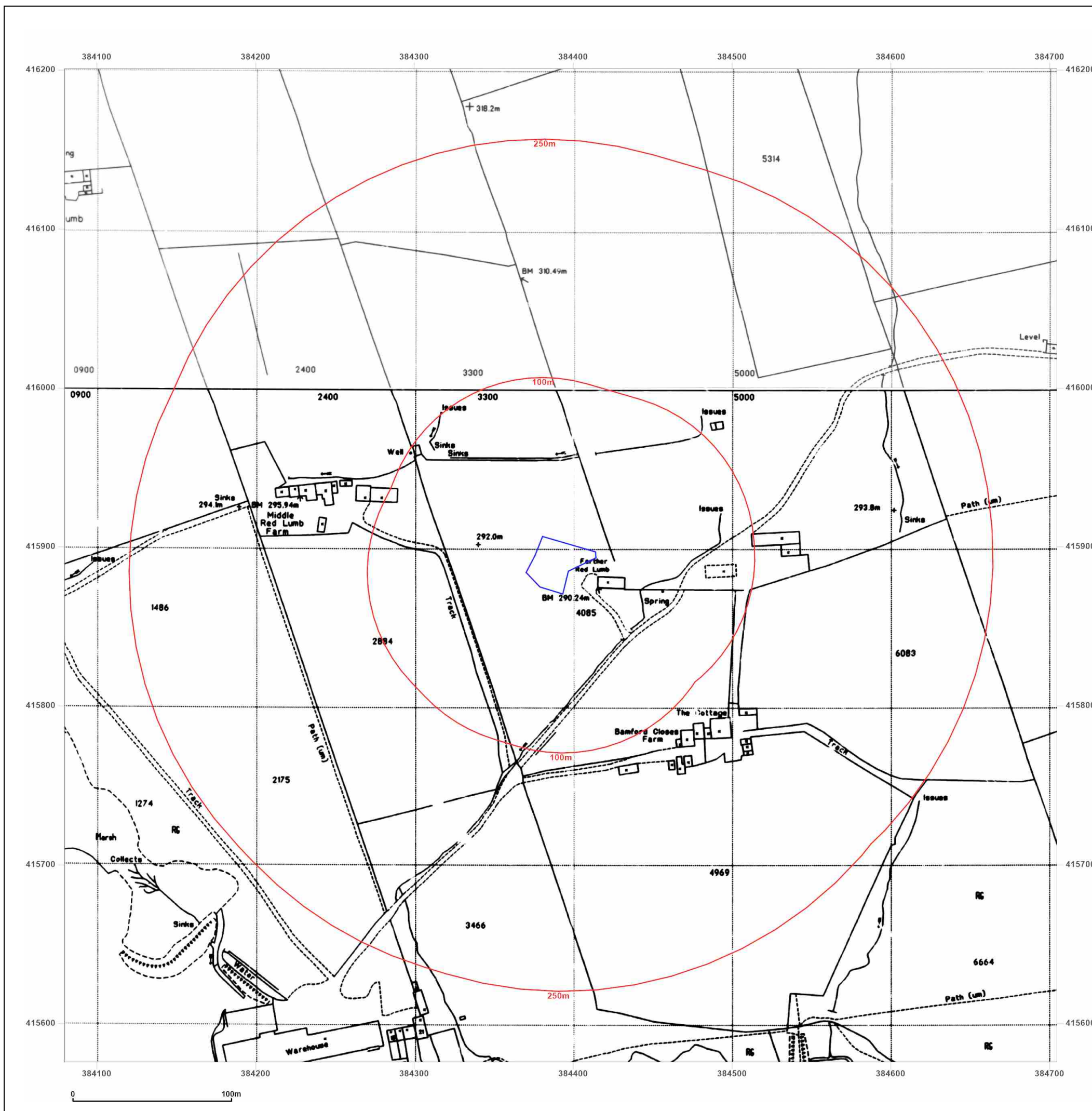


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 1992

Scale: 1:2,500

Printed at: 1:2,500



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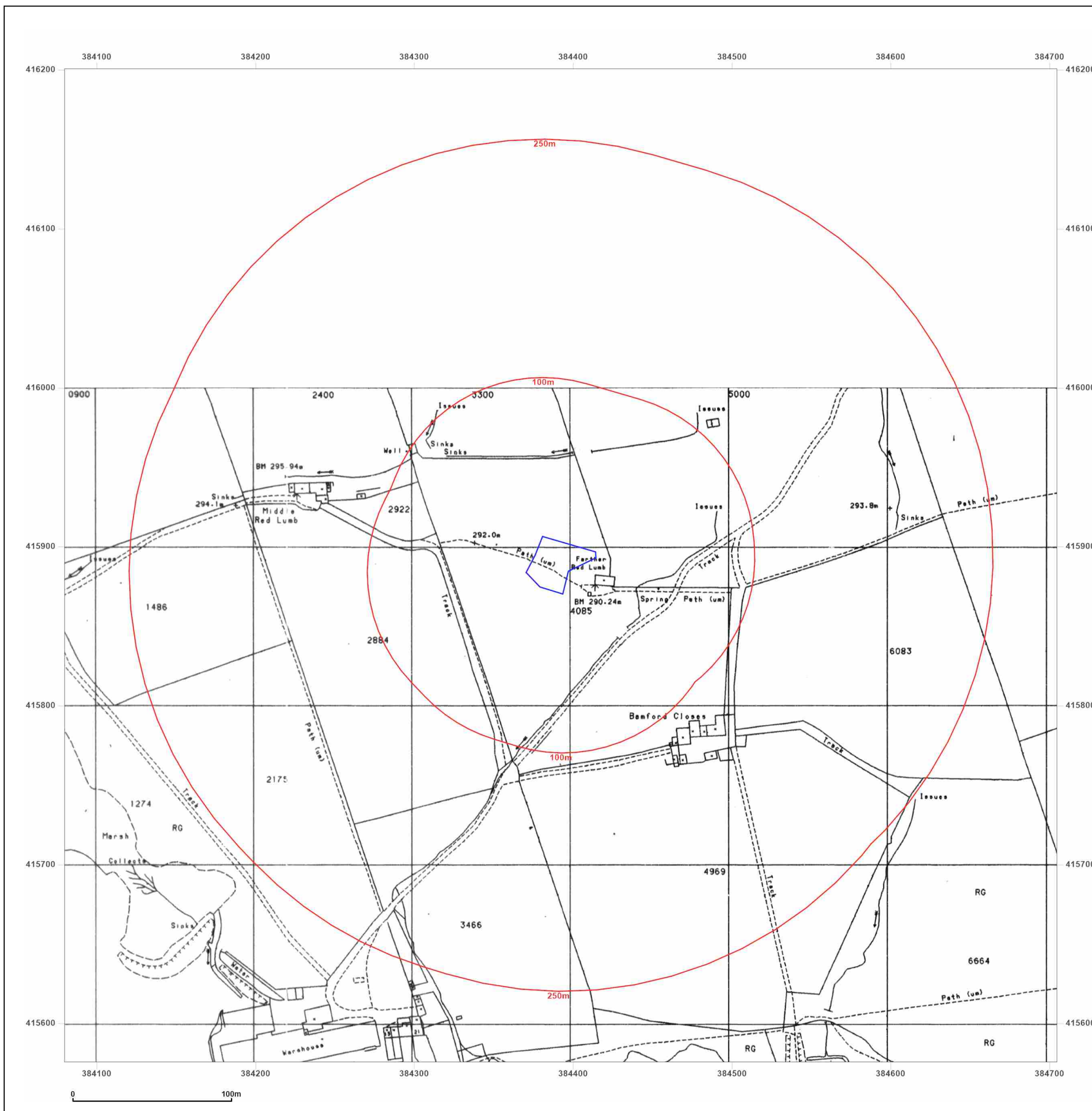


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

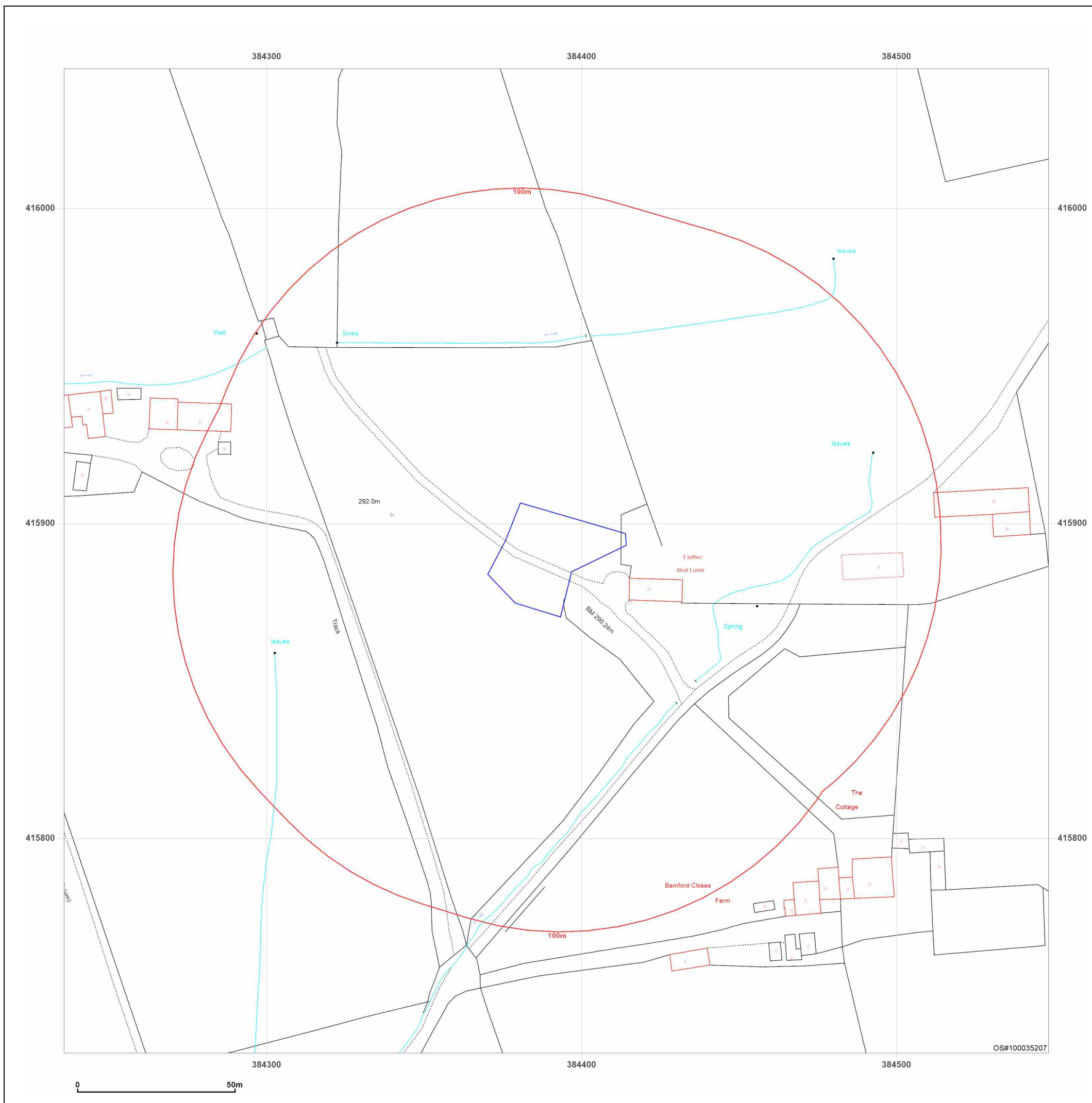


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1890-1891

Scale: 1:10,560

Printed at: 1:10,560



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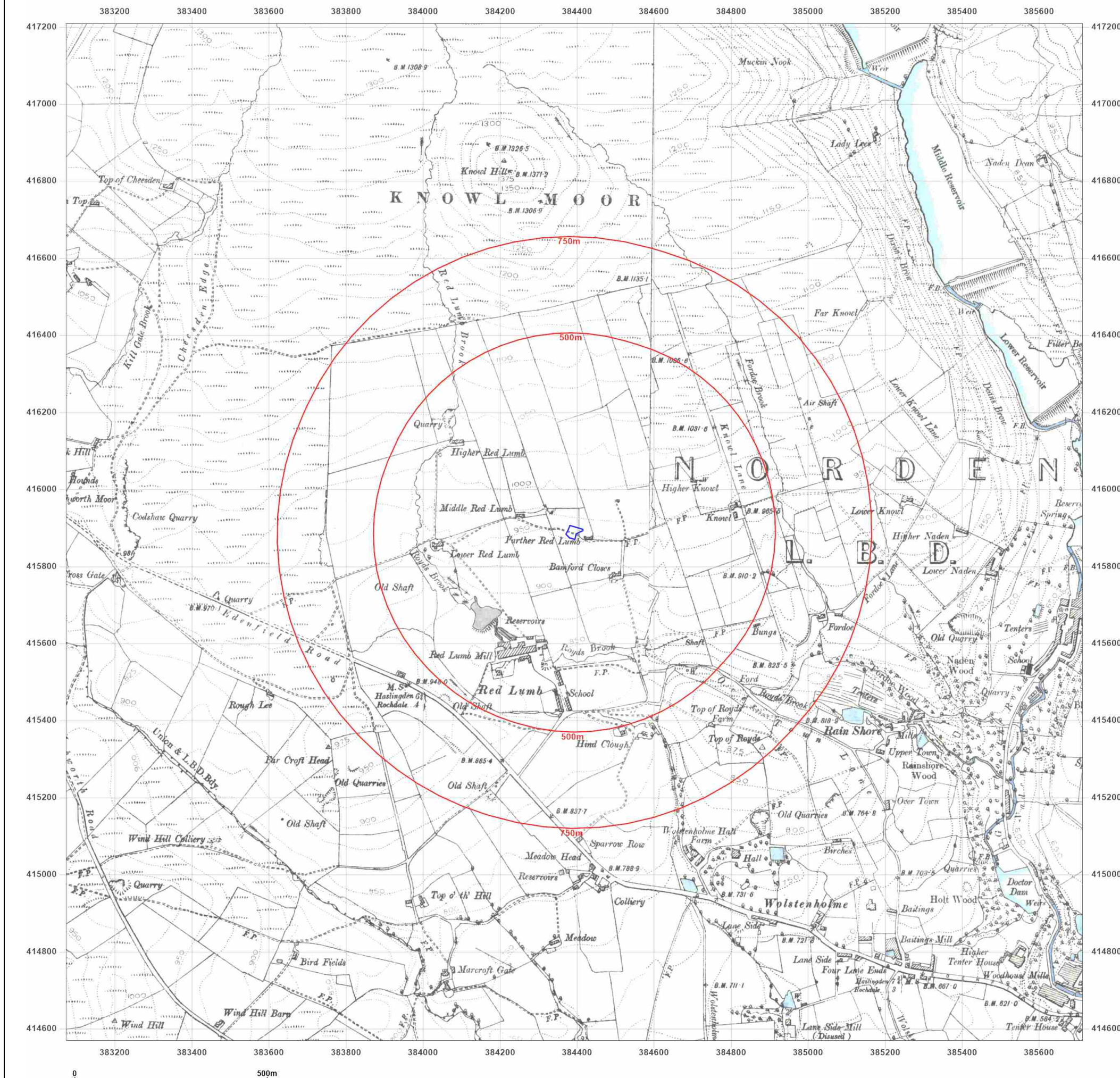


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1908-1909

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1909
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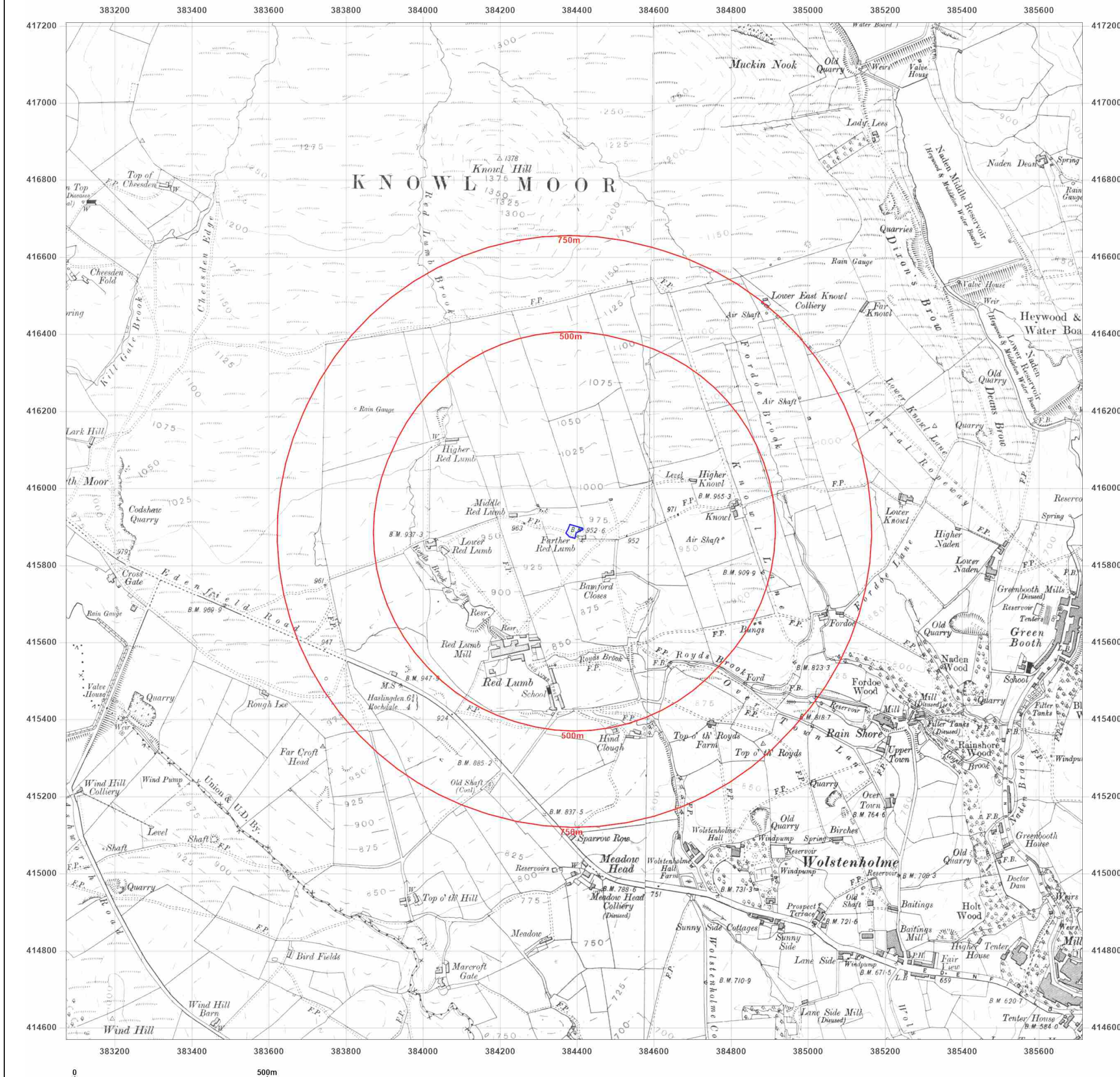


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1928

Scale: 1:10,560

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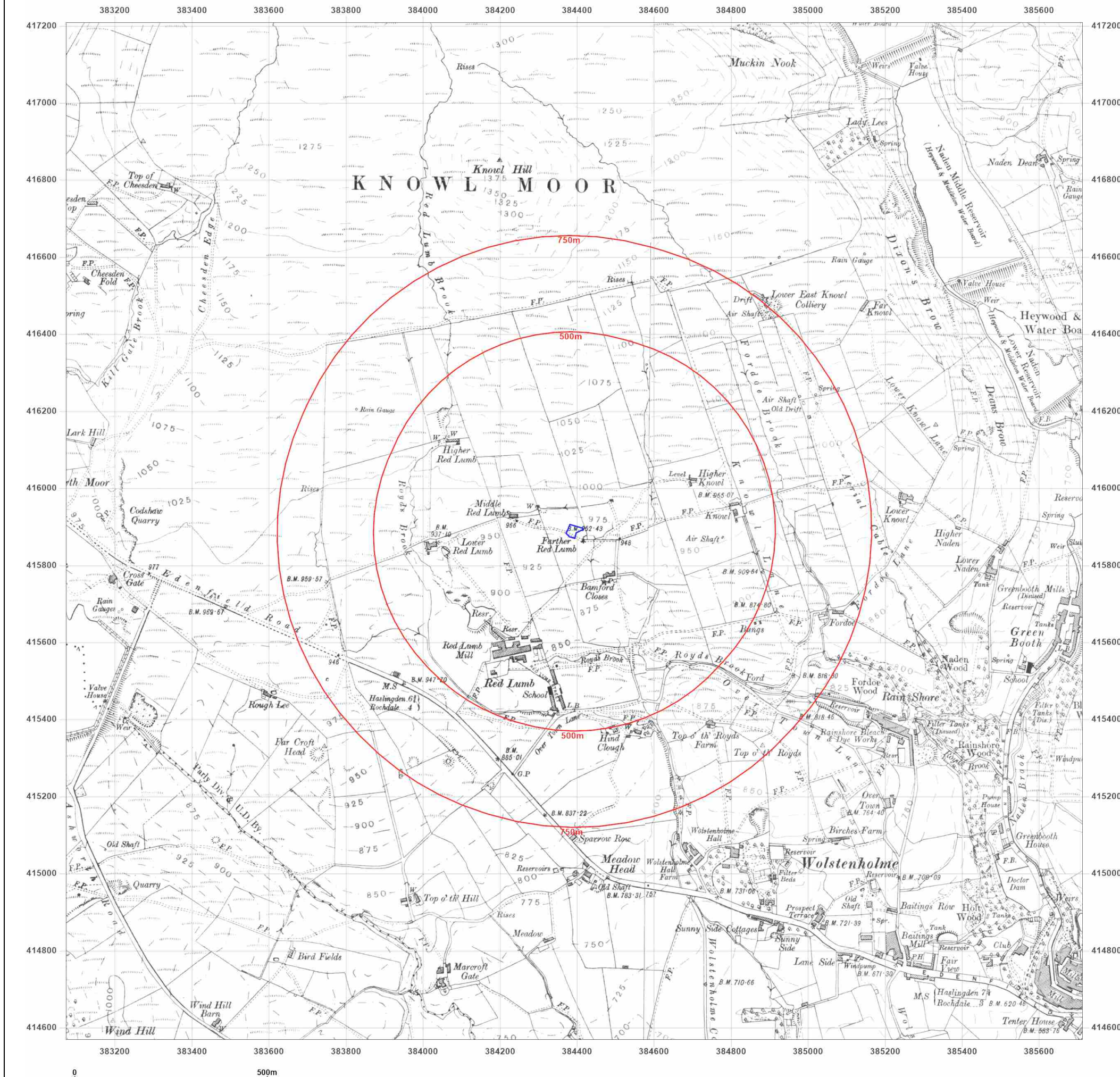


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: County Series

Map date: 1938

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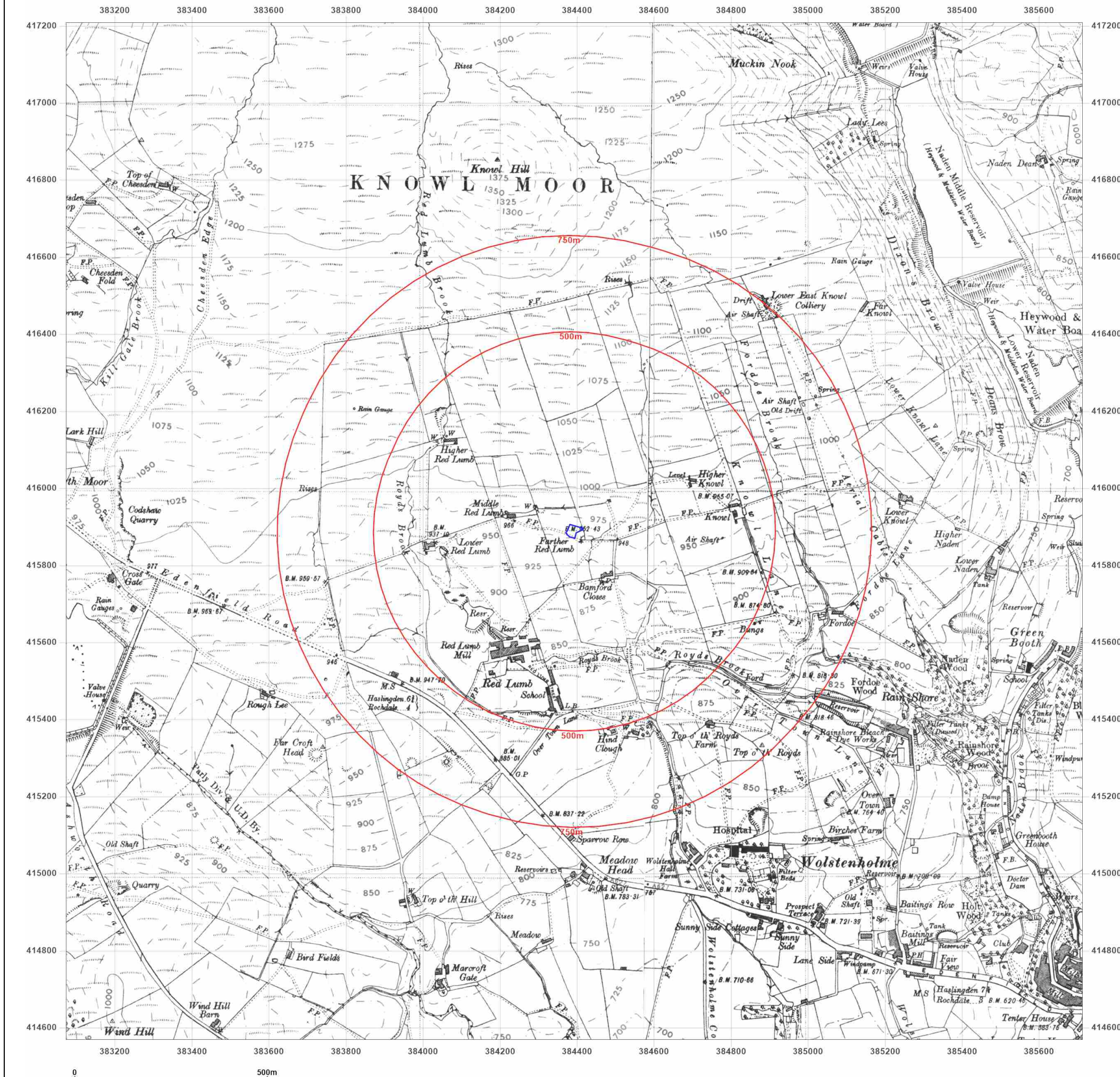


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Report Ref:

GS-TXM-TL6-36C-56Q

Grid Ref:

384392, 415888

Map Name:

Provisional

Map date:

1956

Scale:

1:10,560

Printed at:

1:10,560

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Surveyed 1949 Revised 1949 Edition N/A Copyright 1956 Levelled N/A	Surveyed N/A Revised 1955 Edition 1956 Copyright N/A Levelled N/A

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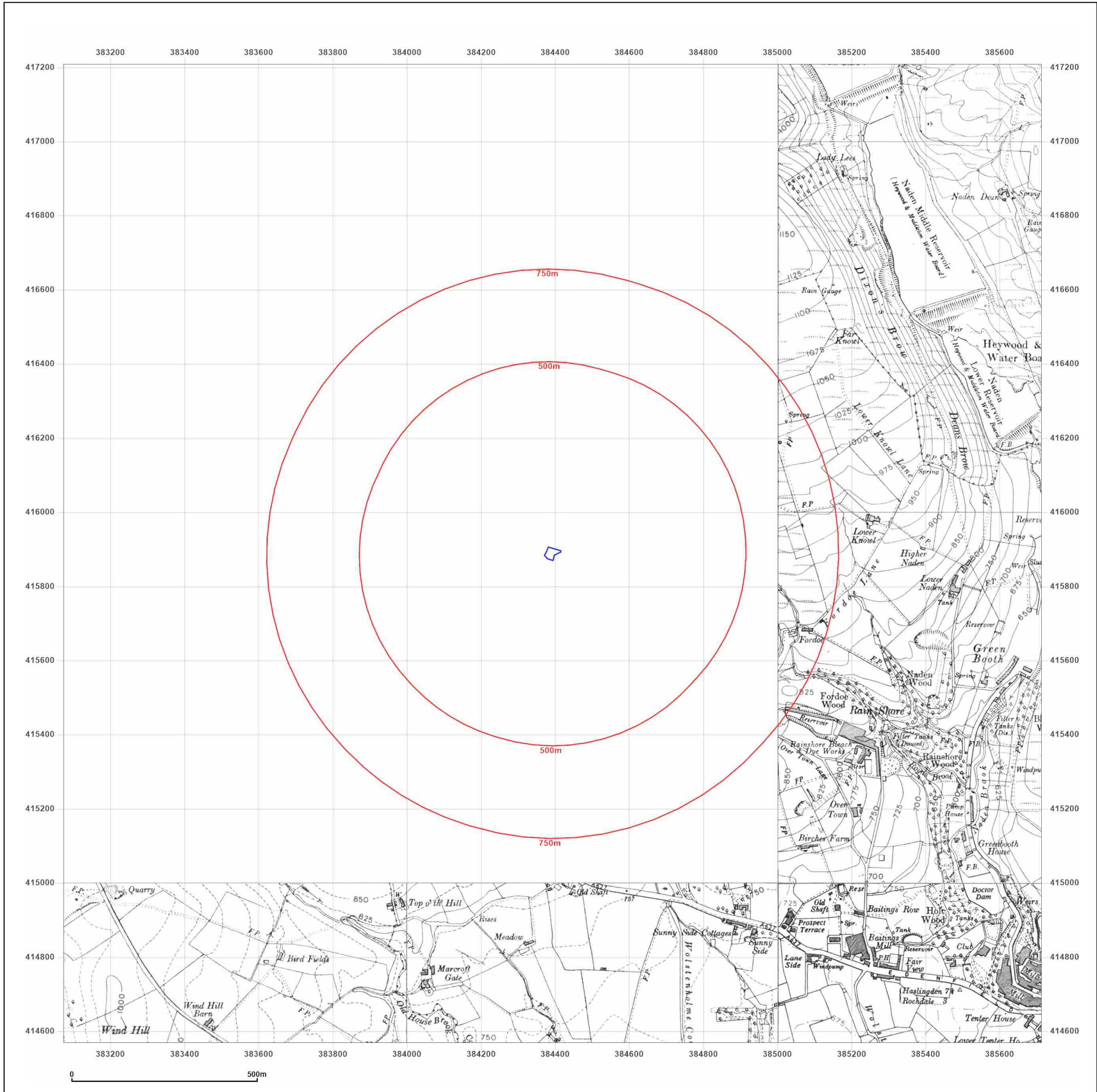
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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: Provisional

Map date: 1967-1968

Scale: 1:10,560

Printed at: 1:10,560



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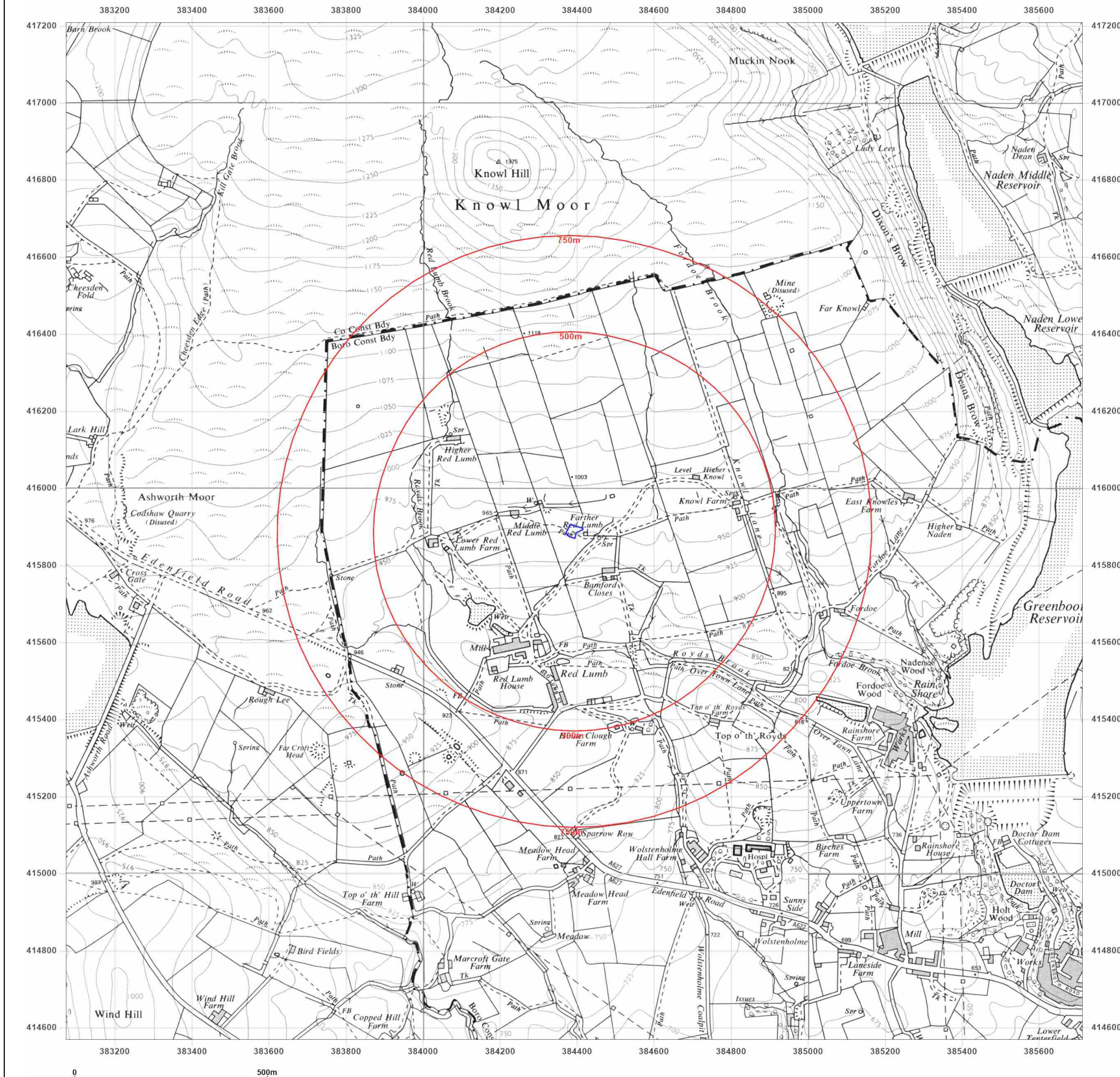


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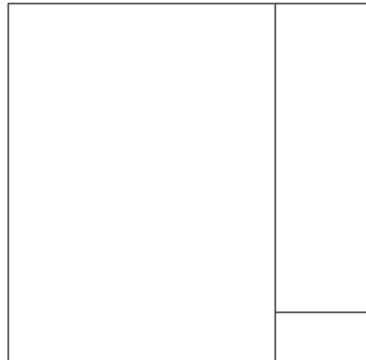
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FURTHER RED LUMB, RED LUMB STREET, ROCHDALE, OL12 7TX

Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid
Map date: 1975-1979
Scale: 1:10,000
Printed at: 1:10,000





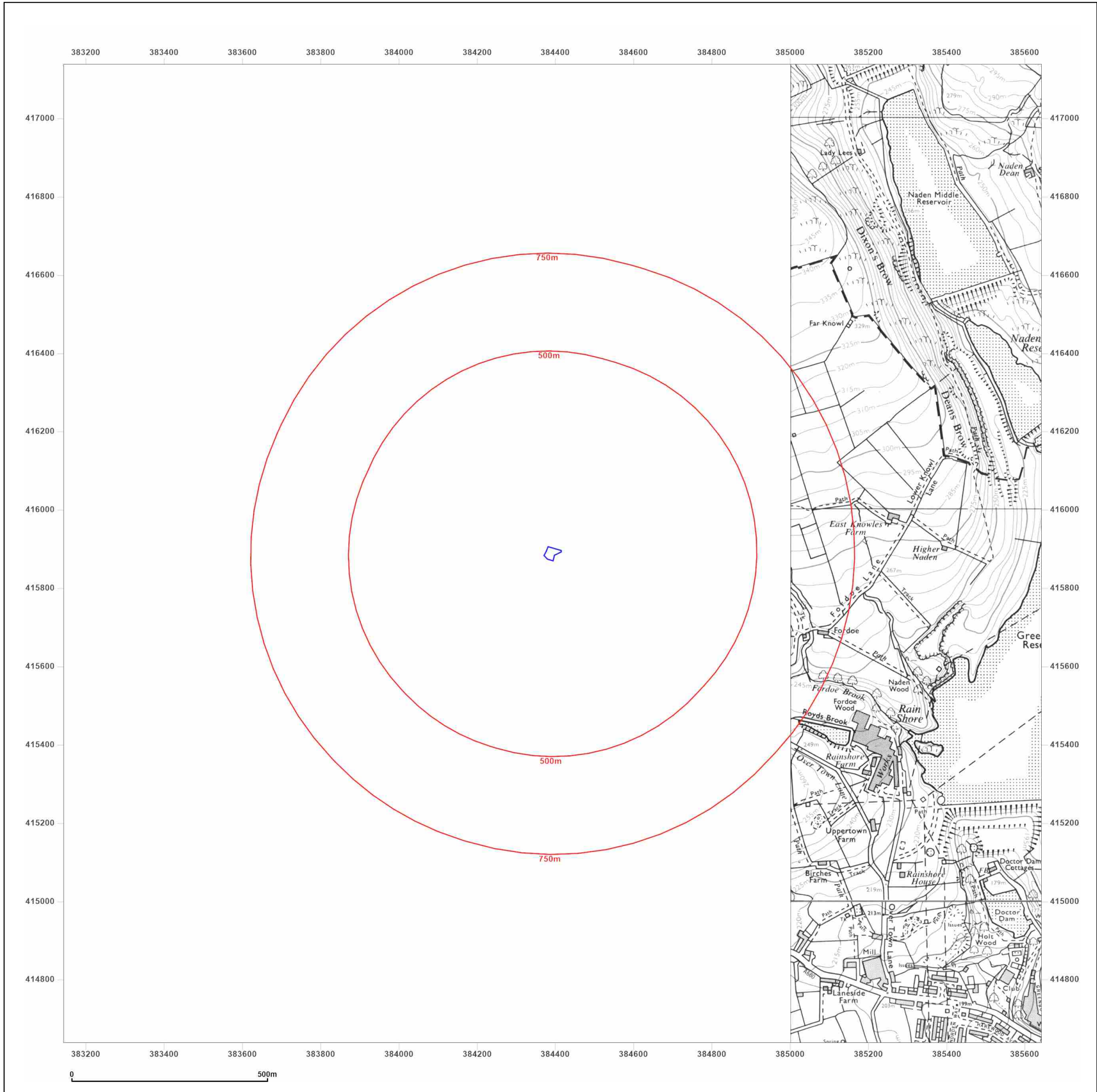
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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid
Map date: 1983-1987
Scale: 1:10,000
Printed at: 1:10,000

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The map shows a topographic view of the Knowl Moor area in Rochdale. It features contour lines indicating elevation, with a prominent peak at Knowl Hill (419m). A red circle highlights a specific area of interest, likely the site of the Further Red Lumb. The map includes various geographical features such as Knowl Moor, Ashworth Moor, and several farms and houses. Roads like Edensfield Road and Knowl Brook are also shown. The map is overlaid with a coordinate grid ranging from 383200 to 385600 on the x-axis and 414800 to 417000 on the y-axis. A scale bar at the bottom left indicates a distance of 500m.

Site Details:

FURTHER RED LUMB, RED LUMB STREET, ROCHDALE, OL12 7TX

Client Ref: M0981/GS/CS

Report Ref: GS-TXM-TL6-36C-56Q

Grid Ref: 384392, 415888

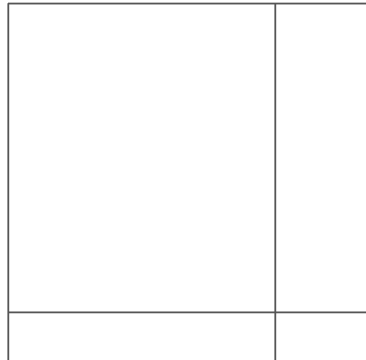
Map Name: National Grid

Map date: 1992

Scale: 1:10,000

Printed at: 1:10,000

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Revised 1992
Edition N/A
Copyright N/A
Levelled N/A

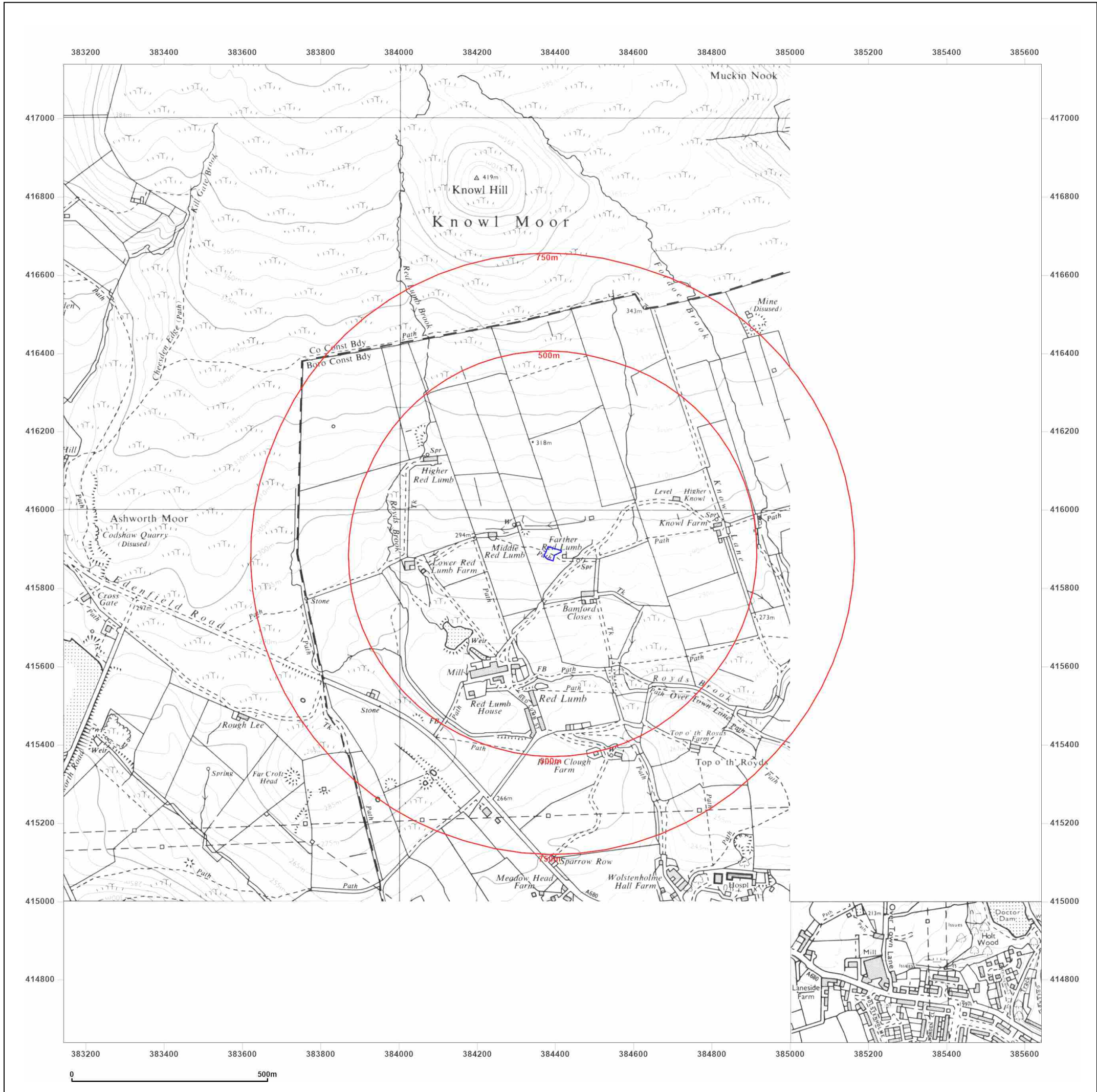


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Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001

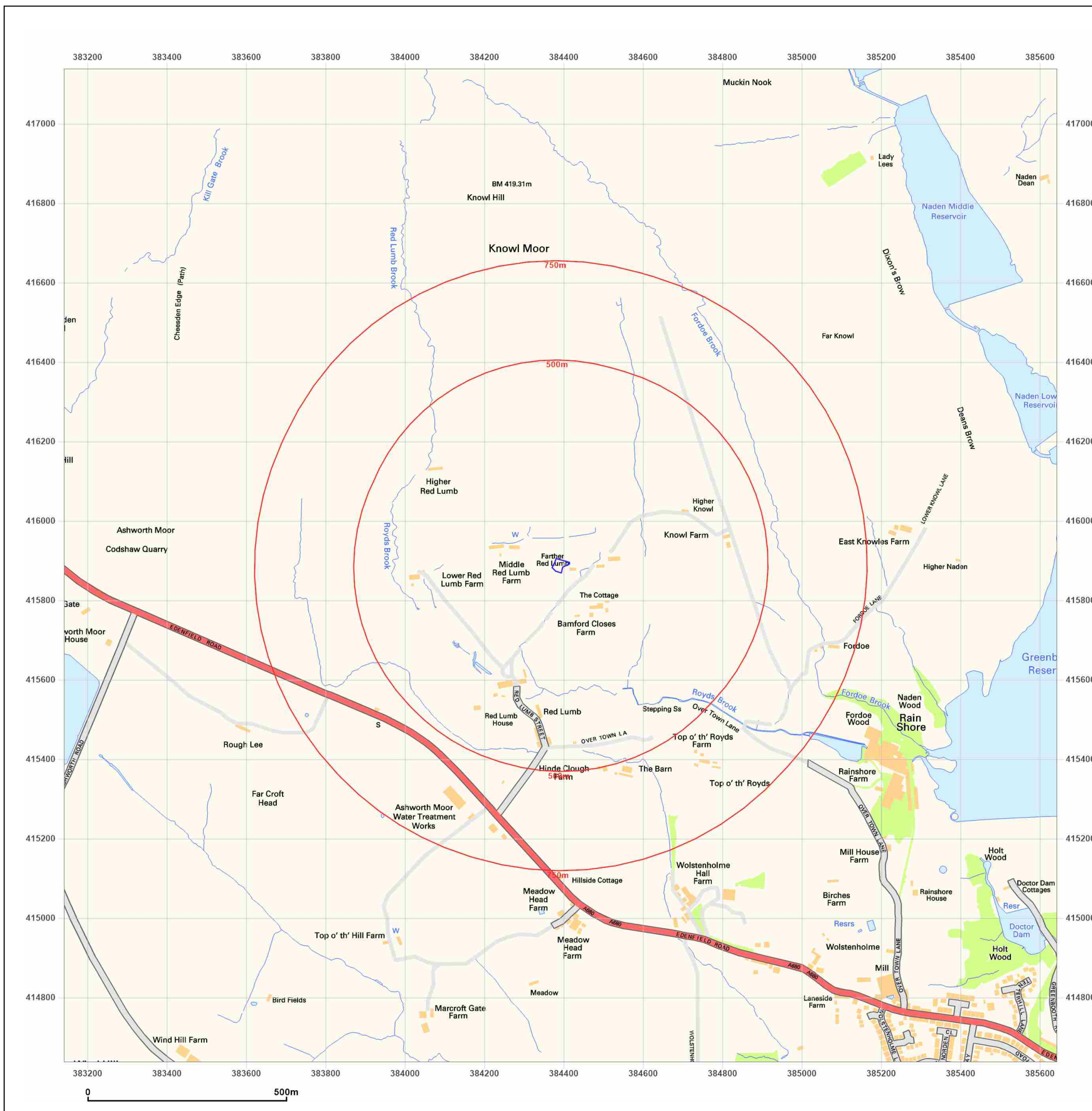


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Production date: 09 May 2024

Map legend available at:
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Site Details:

FURTHER RED LUMB, RED LUMB STREET, ROCHDALE, OL12 7TX

Client Ref: M0981/GS/CS
Report Ref: GS-TXM-TL6-36C-56Q
Grid Ref: 384392, 415888

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

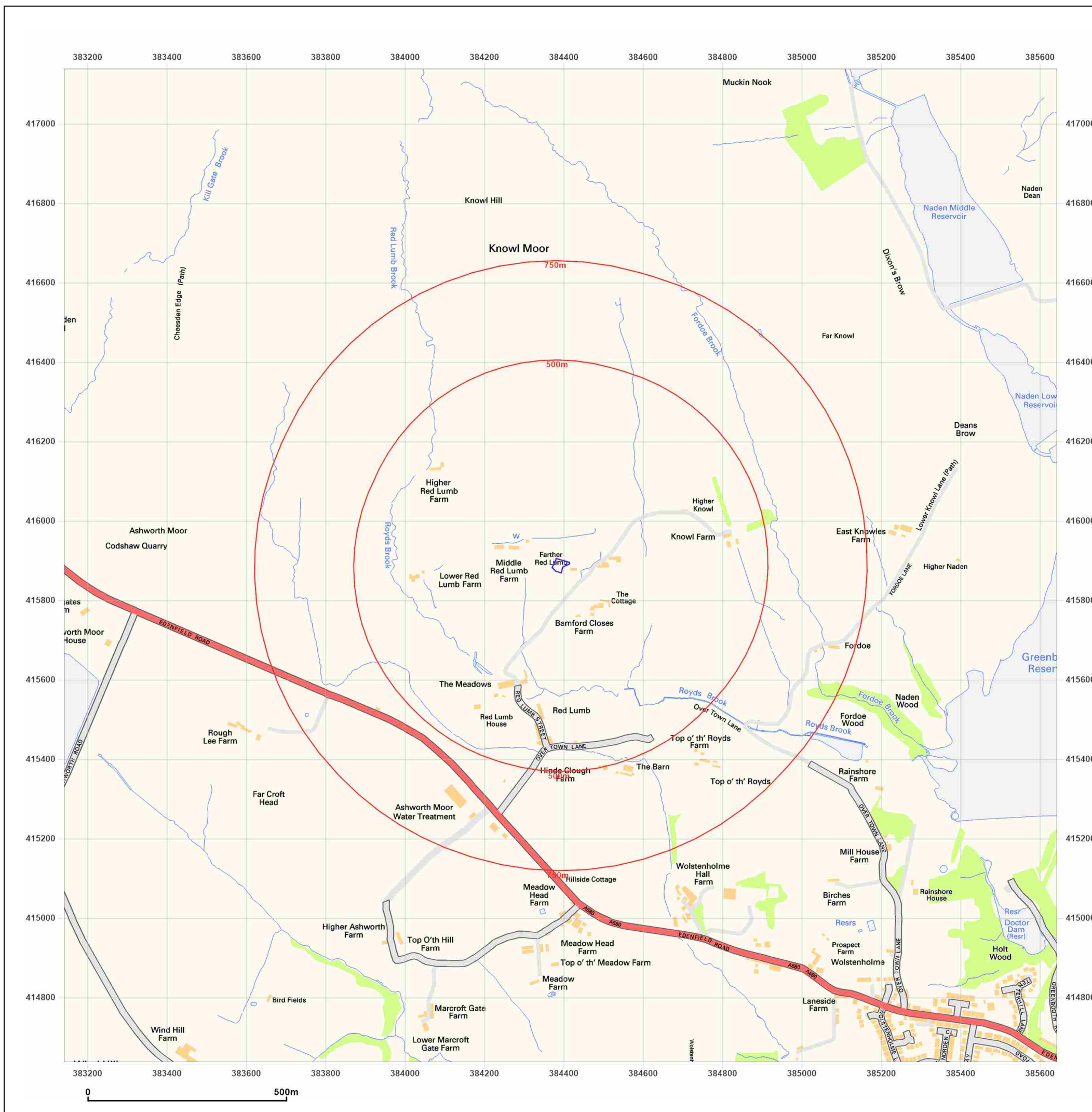


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Site Details:

FURTHER RED LUMB, RED
LUMB STREET, ROCHDALE,
OL12 7TX

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Map date: 2024

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Printed at: 1:10,000



2024

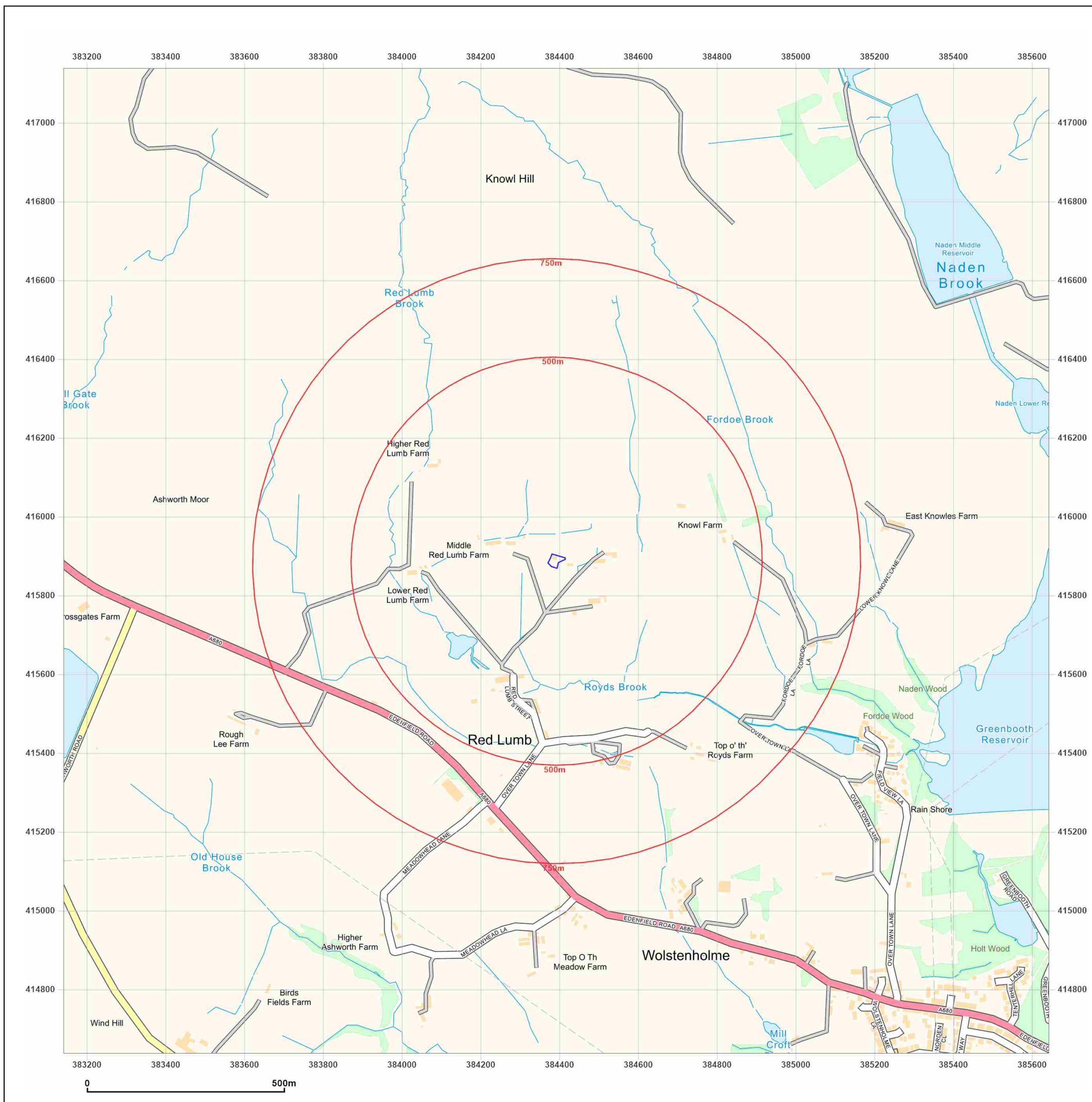


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APPENDIX 2

ZETICA UXO RISK MAP

UNEXPLODED BOMB RISK MAP



SITE LOCATION

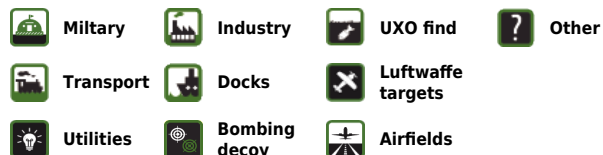
Location: OL12 7TL,
Map Centre: 384811,415963



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

LEGEND

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



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

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

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

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

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

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

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

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

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44201993886682) email: uxo@zetica.com web: www.zeticauxo.com

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

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

APPENDIX 3

REPORT

LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

Other than that expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2024 and should be read in light of any subsequent changes in legislation, statutory requirements, and industry best practices. Ground conditions can also change over time and further investigations, or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

REPORT LIMITATIONS

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.